

by Arthur Levine and Diane R. Dean

It's Only Technology If It Happens After You Are Born



We asked a focus group of undergraduates at a university in the western US about how they were coping with the digital revolution, the tidal wave of new apps, devices, and communication choices. One student seemingly glibly dismissed our questions, saying, “It’s only technology if it happens after you are born.” While we then believed this observation had the potential to someday grace a car bumper or t-shirt, we now realize it was actually a brilliant statement. It goes to the heart of the challenges facing higher education today. After all, it would be absurd to ask how we are coping with the light bulb, telephone or refrigerator.

In this regard, traditional undergraduates (18–25 years of age who largely attend college full time) and nontraditional students (older and more likely to be working full-time while attending college part-time) pose dramatically different challenges for colleges and universities. To benchmark the digital habits of today’s traditional and non-traditional students, we conducted a study of undergraduates between the 2006 and 2012 academic years, including a survey of a nationally representative sample of 5,000 undergraduates, two national surveys of chief student affairs officers and focus group interviews on 33 campuses with diverse student groups, as well as meetings with student affairs staff and student leaders (modeled on similar studies from the late 1970s and early 1990s).

Traditional College Students: The First Generation of Digital Natives

The students who will enter college in fall 2013 were born in 1995, when Apple, Microsoft and AOL already existed. There were personal computers, CDs, mobile phones, email, instant messaging, texting, DVDs, Yahoo, smartphones, and the Internet. By the time they completed elementary school, there were Google, Napster, music file sharing, iPod, Skype, YouTube, MySpace, Twitter, and Facebook. They had to wait until middle school for the iPhone. Today’s undergraduates are the first generation of digital natives. They expect to communicate and learn using these technologies.

As they enter college, where they expect to advance intellectually and technologically, they hit an analog snag—they are being taught by a faculty composed principally of digital immigrants, many of whom are not assimilated. We found that, while current undergraduates were very satisfied with college (79 percent) and were more satisfied with the quality of teaching at their colleges (87 percent) than their predecessors (Undergraduate Surveys, 1993, 2009), they still wanted more technology in their classes. Four out of five students said undergraduate education would be improved if their classes made greater use of technology (78 percent) and if their professors knew more about how to use it (78 percent). A majority (52 percent) wanted more blended instruction, combining online and in-person classes. A third (33 percent) went even further,

asking for more courses to be completely online (Undergraduate Survey, 2009). Indeed, 80 percent of senior student affairs officers surveyed said their campuses are experiencing increasing demand for enhanced technology by students (Student Affairs Survey, 2008)

The differential experience of students and faculty with technology was causing friction. Research was a prime example. Professors consistently criticized undergraduates for the poverty of their research skills and their attitudes about research. They were chastised for thinking Wikipedia or Google searches were adequate. They were disparaged for not using the library, for not reading books, for not consulting journals, and for being just plain lazy. When these criticisms were presented to students, they tended to smile, or sometimes rolled their eyes, acknowledging the problem or at least the conflict. Often, they shrugged off the criticism or told us that faculty were out of step with the times. “They [professors]... go to the library instead of going to Google.” “I have had a few classes where professors have openly encouraged students to go to the library and flip through books...” “I still use the journals. [I’m] just not walking the halls [of the library].”

Similarly, professors seemed content to let in-class PowerPoint presentations suffice as an infusion of classroom “technology.” Some students commented that they found this helpful, particularly when the professor distributed the presentation notes after class. “It lets me listen to lectures instead of getting distracted taking notes,” one student observed. Other students said they were “just tired” of PowerPoint, saying professors “summarize everything you read the night before, and just read directly off the slides.” Students found this strategy boring and unhelpful. What professors largely overlooked was that PowerPoint technology was created 14 years before this generation of students was born. To students, it was dated technology... akin to the overhead projector in classrooms of previous generations.

More troubling were the rising rates of academic dishonesty, plagiarism and classroom disruption on campus. Senior student affairs officers reported that the number of cheating or plagiarism incidents

were up at 57 percent of their campuses, more at four-year colleges (59 percent) than two-year schools (54 percent), and that student understanding of plagiarism had declined at 46 percent of baccalaureate institutions and 25 percent of community colleges (Student Affairs Survey, 2009). The real conundrum, according to senior student affairs officers, was that a growing number of students didn't understand why plagiarism was wrong. One nonplussed dean told us about a student who came to his office, having been caught red-handed, and had "no clue" what the problem was. After all, students commonly collaborate with friends online and share with them the content they find on the Internet. So why is it wrong at college?

Not only was there a problem regarding the use of content from the Internet, there was the issue of where and when students should appropriately use their devices. Senior student affairs officers on a majority of campuses surveyed (53 percent) reported increases in inappropriate or disruptive classroom behaviors since 2001 (Student Affairs Survey, 2008). Between 2008 and 2011, nearly half of the campuses surveyed reported rises in technology-based infractions and misbehaviors, such as texting, leaving cell phones on ring or vibrate, instant messaging, and watching movies during class (Student Affairs Survey, 2011). Not surprisingly, faculty comfort with students and their behavior had decreased on nearly half of all campuses surveyed (49 percent) and faculty complaints on these topics had increased at a majority of colleges and universities (54 percent) since 2001 (Student Affairs Survey, 2008).

We found that "What to do about inappropriate digital classroom behavior" was increasingly part of new faculty orientation programs. Professors were much more apt to explain to their students what constitutes acceptable classroom behavior. More and more often, admonitions and codes of conduct were making their way onto syllabi. One dean told us that what used to be common sense now had to be "spelled out for students, regarding what we expect in terms of their behavior in the classroom." In the spirit of "trust but verify," plagiarism detecting software is becoming a staple on college campuses.

Social Life: The New Tribalism

What was fundamentally different about social life for current undergraduates was that, via social media, most had created their own communities—small towns or tribes of family, friends and others with shared interests and experiences on- and off-campus. Sites such as Facebook, MySpace and LinkedIn made it possible to find, connect and communicate with friends 24/7.

For close friends students saw every day, Facebook and texting were ways to continue their interactions. The scenario was reminiscent of their parents' youths, when teenagers called up friends directly

after school and then talked all evening long. For friends further away, social networking took the place of the long-distance phone call—at larger scale that requires far less time. In this way, social networking enabled students to build tribes and to keep informed and involved. In the past, students commonly lost high school friends when they went to college and lost college friends when they got jobs; today's students said this was no longer the case.

Student affairs staff told us that social networking and the proliferation of digital devices had costs as well as benefits. They isolated users. One senior student affairs officer captured the feelings of many of her peers, saying, "Students are more connected with others as in their known associates, but less connected than ever to those immediately around them." Student after student told us of whipping out their cell phones as soon as they left class and walking across campus chatting, sometimes in groups with each person on their own phone. They were alone together.

A consistent complaint from student affairs staff was that current undergraduates do less well at face-to-face than electronic communication. They told us, "Students appear to be in greater communication with others, but not in a face-to-face environment." On nearly every campus with residential housing, we were told about roommates having an argument back-to-back in the same room, not speaking but furiously texting. Deans told of undergraduates coming to their offices to ask them to fix a roommate problem. When the dean asked what the student had done about the problem so far, the answer was often nothing. He or she had not spoken to the roommate about it and expected the dean to take care of it. A number of students said they preferred to text rather than calling people because they felt less vulnerable that way.

An interesting and unrelated phenomenon was that different means of communication were used for different audiences. Texts were for friends and emails were for other adults. Email was the equivalent of what letter writing was to their parents and the students used texting the same way their parents used email. This situation showed again how digital immigrants were a generation behind in communications technology.

One consequence of digital communication has been a growing expectation of immediacy—instant information, immediate contact and split-second responses. We found that today's college students were an impatient lot. Senior student affairs officers told of receiving emails from students, saying they would be available for the next 20 minutes to receive a response. Twenty-one minutes later, the deans said, they could count on a miffed phone call. One dean characterized current college students as the "I want it now generation."

The impact of technology went far beyond the classroom. It changed student communications and relationships with peers, parents and colleges. One dean explained that his office no longer knew how to contact students living on campus. They either didn't have or didn't use room phones—they had cell phones. They didn't answer email coming to their college accounts. They had several other accounts and often didn't check those regularly, preferring to text. They did, however, expect immediate responses to the communications they sent out. Faculty chafed at the student expectation that they would sit at their computers 24 hours a day or remain tethered to their smartphones waiting to respond to student inquiries "because, you know, Amazon does it."

"Diphobe," someone with the fear of being without a digital device, seemed a fitting term for most students. Time was being wasted if a digital device wasn't being used. Time for contemplation had all but disappeared. We also learned that this, combined with the immediacy and the poverty of student social skills, were catalysts for "flaming"—sending scorching, injudicious and inappropriate messages. The boundaries between what was permissible and what was not, between what was public and what was private, had blurred.

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New technologies changed the way students met, entertained, protested, got their news, shopped, participated in politics, spent their time, and used the campus. They changed the rules for how people conducted their lives, established new standards of decorum and create new opportunities for incivility. Between 2008 and 2011, 46 percent of campuses surveyed reported increased levels of technology-based infractions/misbehavior and 44 percent had increases in technology-based incivility (Student Affairs Survey, 2011).

Parents

When we interviewed senior student affairs officers and asked what were the most significant changes that have occurred on their campuses since 2001, their overwhelming answer (37 percent) was that parents were more involved. None of the other changes they mentioned came close in frequency. Between 2001 and 2008, three-quarters of all the colleges and universities surveyed reported increases in the frequency of parent involvement and intervention.

Half said that the frequency of parent visits had increased. Between 2008 and 2011, seven out of 10 (68 percent) of the institutions visited told us that parent involvement in student lives had increased and a majority (58 percent) reported more parent contacts with administrators and faculty (Student Affairs Surveys, 2008, 2011). Supporting this trend were the vast array of terms created to categorize parents: "helicopter," "Chinook" and "Blackhawk" parents hovered over their children; "lawnmower" and "snowplow" parents rolled over everything in their paths to defend their cubs; "stealth" parents swooped in to protect their offspring; and "umbrella" and "nest" parents shielded their progeny. These phenomena are far more common at four-year schools than community colleges.

Undergraduates and their parents were also in frequent contact. Two out of five students (41 percent) were in touch with parents by phone, email, text, or visited at least once a day. One in five (19 percent) were in contact three or more times a day (Undergraduate Survey, 2009). The frequency of contact caused several difficulties for campus administrators. First, parents came to expect daily contact, so it wasn't unusual for administrators to get phone calls from worried parents asking them to check on students who had not

called home in a day or two. Second, because students were calling in real time to vent, parents overreacted. One dean at a Midwest liberal arts college said, "It's not unheard of for... students to tell parents just how unhappy [they are]. The parent then gets alarmed, calls one of us and says, 'Would you check in on my child?' You go and check on this child. [They say] 'What? I'm fine. That was yesterday.'" Third, because children were more likely to contact parents than administrators, parents often knew about college problems before the university did. This tended to complicate problems that could have been easily solved.

Students and their parents discussed just about everything, including topics that would have been considered taboo in the past. Significant numbers said they always consult their parents before making academic (37 percent) and social decisions (20 percent). At least a third (33 percent) told their parents intimate details of their lives, about their social and romantic relationships (58 percent) and

experiences with alcohol and drugs (34 percent). The differences between two- and four-year colleges were generally small and went in both directions (Undergraduate Survey, 2009). Most undergraduates asked their parents for advice on college matters—roommates and friends, college courses and assignments, majors and careers, and other aspects of college life. At least one in five have gone even further, asking their parents to intervene in problems with professors (27 percent), employers (27 percent), college administrators, (21 percent) and roommates (20 percent) (Undergraduate Survey, 2009).

There was no single reason for the rise in parent involvement in the lives of their children and their colleges, but the smartphone was part of the answer. Smartphones made it easy to call someone immediately after class or even text and email while in class. Students constantly reached out to their tribes and parents were high on the list of tribe-members for many. Undergraduates were close to their parents and held them in higher esteem than their predecessors. When students were asked whether they had heroes, half (51 percent) said yes and more than half (54 percent) named their parents (Undergraduate Survey, 2009).

A third factor—as dean of students after dean of students told us—was that undergraduates had “a delayed sense of independence and being a grown-up.” They have “a very extended adolescence.” The dean at an Eastern liberal arts college said, “The same way that some people say ‘60 is the new 40,’ 21 is the new 16.” Another commented, “Their mothers make their doctor’s appointments and do their laundry and write their papers and...” There is “almost an expectation because the parents have been involved so much all through their lives that this is normal for them. They don’t really question their parents being involved in their college life, which they are.”

This generation has been well protected by their parents—“coddled” as one student newspaper editor stated. The vice president for student affairs at a Western research university described parenting today: “We don’t want our kids to suffer and so we get involved. So they don’t learn how to deal with disappointment and frustration... So that when they come to college, when they’re hurt, they don’t know what to do with it because they have never had to walk through the pain.” “We have a big population of students that haven’t grown up with the coping skills, the problem-solving skills because of the parent involvement growing up.” Worse yet, deans frequently described current undergraduates as “very needy.” The recent numbers using psychological counseling services soared across the country, as students were coming to counseling with deeper and longer-term problems. Between 2008 and 2011, 77 percent of the colleges and universities surveyed had increased use of psychological counseling (Student Affairs Survey, 2011).

A consequence of the lack of experience with failure and concomitant need to develop coping skills was that this generation has “done very little wrong and made very few mistakes.” Current undergraduates have been characterized by several deans as the generation in which “everyone won a trophy or ribbon.” The vice president of student affairs for a Midwestern regional university characterized current students as “the You Generation—you are great, you are wonderful.” This produced a sense of entitlement and a need for constant reaffirmation.

A final factor was consumerism. Deans reported that parents and students increasingly treated colleges as they would businesses. A Pacific Coast vice president for student affairs said they acted as if “they were the customer and it’s kind of, ‘I’m paying for this so I’m entitled to this.’ I actually had a student tell me that because they paid for it and they were going to class, they deserved an A.” A Western research university peer agreed, saying parents have shifted the sense of higher education from the educational mission to a consumer model... I think it’s easier for them to think about us as a hotel or business.” There was an expectation that as prices increased, so should product quality—half of the undergraduates surveyed were not happy with the way in which they were being treated. They did not believe colleges were “giving adequate respect to the people paying tuition” (Undergraduate Survey, 2009).

The Bottom Line

We found that for this generation, no change was larger or had a greater impact on higher education than the use of digital technology. It differentiated current undergraduates from the students who came before them and separated them from the older adults on campus and at home. The reasons went far beyond the hardware and software they owned, the applications they used, the websites they flocked to, and the social media that were nearly universal.

There were fundamental differences between today’s undergraduates and their colleges, rooted in the new technologies:

- Digital technologies made college students a 24/7 generation, operating around the clock, any time, any place. However, they attended colleges with fixed locations and fixed calendars—semesters, course schedules and office hours.
- Digital technologies accented learning, group activity, shared work products, and consumer-driven content, but undergraduates were enrolled in universities where the emphasis was on teaching, students created individual work products and content was university- or producer-driven.
- Digital technologies permitted multitasking, individualized and interactive learning. The content and modes of learning were concrete and active, but professors favored serial tasking and passive and abstract learning.

- Digital media produced a shallow ocean of information and encouraged students to gather and sift. Of course, they could have gone deeper if they wished, but they matriculated into analog universities, populated by academics who were hunters, whose interests and work generally emphasized depth over breadth. (See Table 1).

take them, and classes and office hours to be provided at convenient times. They were looking for good customer services—admission officers, financial aid staff and registrars committed to helping students. They wanted high-quality instruction relevant to the real world, with up-to-date professors who knew how to teach and return assignments and tests quickly with comments... and they wanted

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Table 1: Traditional Universities and Digital Students

| Traditional Universities | Digital Natives |
|---|----------------------|
| Fixed time (semesters, credits, office hours) | Variable time—24/7 |
| Location-bound | Anyplace, cyberspace |
| Provider-driven | Consumer-driven |
| Passive learning | Active learning |
| Abstract | Concrete |
| Analog media | Digital media |
| Teaching | Learning |
| Individual | Group |
| Depth/hunters | Breadth/gatherers |

Nontraditional Students: Prime Candidates for Digital Education

Traditional students differed from their nontraditional, older peers, most of whom were women who worked, attended college part time and juggled a host of responsibilities—families, spouses, jobs, friends, and college. Often college was not the principal priority in their lives, being overshadowed by family and jobs. As the fastest-growing population in higher education, we interviewed many in the course of our study, though they were not the focus of our surveys.

They told us they were seeking relationships with college much like those they have with all the other service providers in their lives—their banks, their Internet providers and their supermarkets. They were looking for the same four things from each of them: convenience, service, quality, and low prices. Nontraditional students said they want their colleges to be conveniently located, parking to be available near classrooms, courses to be offered when they need to

low tuitions and fees. They were willing to shop around, though a goodly number had more money than time.

They did not want to pay for what they were not using. This group tended to come to campus just for classes—ride in, ride out. They did not want to pay for the athletic center, the elective courses or the student activities they weren't using/attending. They asked for a stripped-down version of higher education. In this respect, they were dramatically different from traditional students. Most of the nontraditional students were digital immigrants who told us they did not live in the all-enveloping digital world of their younger classmates. However, because their schedules were so full and they tended to come to campus just to take classes, convenience loomed large in their priorities. They preferred to take college classes located near their workplaces and homes.

They were the prime candidates for digital instruction, which provided the stripped-down education they sought. For these reasons, proprietary institutions like University of Phoenix and Kaplan targeted them—hoping that traditional higher education was not meeting their needs. A leader of one of the larger proprietary chains, who asked that neither his name nor his institutional affiliation be disclosed, said his company and others in the field were moving out of the campus business to blended programs and online education. These programs, which offer nontraditional populations classes 24/7, were booming in enrollment at his institution. He believed in the years ahead they will mushroom, because the half-life of knowledge is getting shorter and shorter, jobs require continuous up-skilling, new career fields are emerging quickly, and the population is becoming increasingly digitally literate.

Implications for Admission

The first and perhaps the most important implication for admission is that colleges and universities must define clearly the student body they are seeking to enroll. Traditional and nontraditional students, both highly consumer-oriented, are making polar demands on colleges; one group wants all the bells and whistles and the other is asking for a no-frills version of higher education. This is reflected in their digital desires as well. The challenge for higher education is that traditional and nontraditional students gravitate toward different colleges. Traditional students would find a state-of-the-art fitness center and condominium-quality, digitally-loaded dorm rooms appealing, while nontraditional students would be more likely to choose instruction in the workplace with schedules consistent with their work and personal lives. Each population calls for different investment strategies for colleges and universities in a time in which resources are limited. For this reason, it is critical that institutions establish a deliberate student profile.

Second, colleges and universities must decide what type of institution they wish to be: brick (physical campus), click (virtual campus) or brick-and-click. Each is very different in digital design and use. On brick campuses, the focus must be on the intimacy and personal quality of education, with digital media primarily used to enrich the experience. Virtual campuses are rooted in digital media—academics, services and social interaction.

Third, social media and websites, such as Facebook, are the most effective, though not the exclusive way to reach traditional students, digital natives. For nontraditional students and digital immigrants, increased traditional media are critical.

Fourth, given the dependence of traditional undergraduates on their parents, the frequency of their communication and parental involvement in their decision-making, parents must be targeted as their children during recruitment.

Fifth and most difficult, analog colleges and universities need to close the gap with their digital students. This includes their faculty, staff, curriculum, co-curriculum, instructional methods, support, services, calendars, and all other aspects of their operations. They need to do this because the world is moving in the direction of the students. If they don't, they risk becoming irrelevant. Institutions that fail to close the digital gap will be at a competitive disadvantage in attracting students.

The US is making a transition from a national, analog, industrial economy to a global, digital, information economy. The pace of change is accelerating. The digital characteristics of the current generation will only deepen in their successors. In focus groups, when we expressed

surprise at the level at which undergraduates use technology, students often remarked, "You should see my younger sister/brother!"

Among adults 18 to 34 years of age, 95 percent have cell phones; 74 percent have iPods or other MP3 players; 70 percent have laptop computers; 63 percent have game consoles; and five percent have iPads or other tablets. Only one percent had none of these devices. No age group had a higher percentage in any of these categories (Pew Internet and American Life Project, 2011), except their younger brothers and sisters, who have more iPods (79 percent) and game consoles (80 percent) (Project, 2011). These girls and boys text more often (104 versus 62 daily) and have more personal blogs (60 percent versus 43 percent) (The Digital Future Project, 2011) than traditional-aged college students.

These are the young people coming to college next.



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