



## Maximizing Technology on Campus: Will There Ever Truly Be a 100 Percent Paperless Student?

### In This Report

- **Paperless campuses.** Does the future hold a dramatic move away from paper on campus? Where are changes taking place most rapidly, and what does it mean in terms of institutional planning?
- **Student Trends.** A 2015 survey conducted by Harris Poll on behalf of Ricoh shows a split in how important most Americans feel paper is to the learning process in higher education. What do students think about the role of paper and technology in learning, and how does a school's use of technology impact their opinion of an institution?

In a recent survey conducted online by Harris Poll on behalf of Ricoh<sup>1</sup>, about two in three Americans (65%) said it's impossible for students to fulfill their academic requirements without using paper every day. On the other hand, the same survey found that 48 percent of Americans think it's realistic for colleges and universities to go paperless within a few years. Given that split, what does the future hold for higher education and its use of paper?

Clearly, students generate enormous amounts of data on the administrative side throughout their college careers. Much of that is still stored on paper at many institutions, although that is changing. Elsewhere on campus, in contrast -- in classrooms, libraries, labs and resident halls -- students at colleges and universities are moving away from paper. They are embracing e-textbooks, digital whiteboards, widespread use of tablets and laptops, smart phones in the classroom, learning management systems that stress electronic delivery of content, and more.

In this report, we examine where higher education students stand today-- both in the classroom and in administrative offices, with student records and admissions paperwork -- on the move away from using paper. We look at what current trends mean for students -- and the faculty, staff and administrators that serve them -- as well as adoption of supporting hardware and software.

In short, paper will continue to have a place in this new world of learning. However, smart IT leaders and decision makers will make strategic choices about where paper still makes sense and where it doesn't. They will choose how their institution can most effectively capture, manage, distribute and transform information across all of its many departments, functions and users. Here, we unpack what that future of paper on campus looks like -- starting right now.



## Paper vs. electronics: Two visions of the future

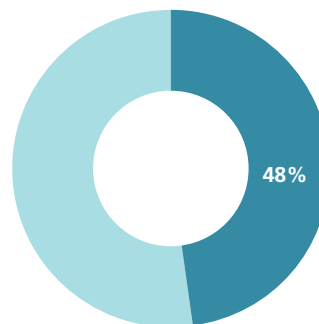
We're at a watershed moment in the use of technology on campus. There is no clear consensus among Americans on whether paper is required or optional for college achievement over the next few years. The survey found mixed opinions on the use of paper in higher education.

Nearly one in two adults (48%) believe campuses could become paperless, but nearly two-thirds (65%) say paper remains essential for fulfilling academic requirements. Also, seven in 10 (71%) cited the benefits of free printing – clearly realizing that paper continues to play a role for most students. In fact, current college students (almost 9 in 10, 89%) see the benefit of free printing more than non-students (almost 7 in 10, 69%), according to the survey.

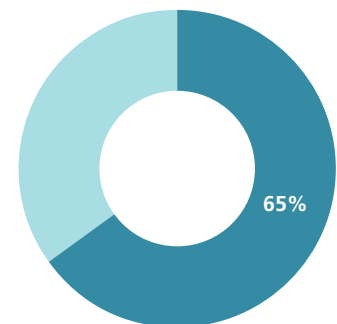
With college costs continuing to escalate, reducing paper is seen as a way for colleges and universities to help keep expenses down. In the survey, nearly half of adults (46%) said that colleges and universities use electronic textbooks to help control those costs; a third (35%) felt that electronic assignments that do away with paper help students with expenses.

### *Watershed Moment*

48% Americans believe campuses could become paperless



65% Americans believe paper is still essential



Source: A recent survey by Harris Poll on behalf of Ricoh. Ricoh/Harris Poll. August 31-September 2, 2015.

# I. Students: Clear on the Value of Technology

Although Americans in general may be split on whether college students need paper to achieve, students themselves are clearer: technology provides a big boost to their learning process. Most find it essential.

Students embrace technology for many reasons. According to McGraw-Hill Education's 2015-2016 Digital Study Trends in Higher Education Survey fielded by Hanover Research<sup>2</sup> students say technology helps them learn more effectively by delivering continual feedback. In the survey, which questioned more than 2,600 U.S. college students, 87 percent report that having access to data analytics regarding academic performance can have a positive impact on their learning experience.

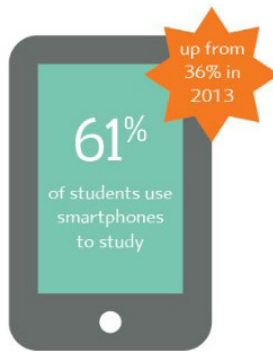
The McGraw-Hill survey is traditionally closely watched by educators. According to Peter Cohen, McGraw-Hill Education's

group president of U.S. education, the numbers show that "students today have an almost insatiable hunger for instant and continual feedback. By using technology to deliver learning experiences that leverage those motivations, we can capitalize on an enormous opportunity to improve learning outcomes."

As anyone who has been on a college campus lately can attest, smartphones are ubiquitous. In the McGraw-Hill survey, nearly two-thirds (61 percent) of college students report using their smartphones to study. McGraw-Hill Education says that represents a 20 percent increase in smartphone study use since 2014 – and a whopping 69 percent increase since 2013.



## The rise of mobile learning



Which devices do students use "often" or "all the time"?



85%

of preferred study spaces would be impossible to study in if not for technology



95%

of students who study at home report it would be impossible to study if not for technology



64%

of students report that mobility is the #1 advantage of technology

Source: McGraw-Hill Education's 2015-2016 Digital Study Trends in Higher Education Survey, fielded by Hanover Research.

## II. Technology in Classroom, on Campus is Soaring

Students embrace technology in its many forms. Institutions, in turn, are rushing to keep up with the influx of new devices. The average student carries three to four connected mobile devices at once according to an Educause Report on the consumerization of technology and Bring-Your-Own-Everything<sup>3</sup>, which might include a smart phone, tablet, and notebook computer. And – a crucial point for institutions – according to the 2015 Ricoh survey, more than 4 in 5 Americans (81%) say knowing a college or university uses the latest technology improves their opinion of the school. These technologies could include things like universal Wi-Fi throughout campus, teaching and learning technologies such as video conferencing and interactive whiteboards, and document and workflow technologies used in the administration and admissions.

Technology also plays a role throughout the student lifecycle, in terms of student retention. According to University of Southern California researchers<sup>4</sup>, technological attributes received high satisfaction votes from students”. Clearly, colleges and universities need to ensure that their planning and budgets can meet the needs of incoming students and all of their devices and expectations.

Students are embracing technology at a record rate, both in the classroom and outside it, according to a [November 2015 infographic](#) by Ilana Cohen in EdTech Times<sup>5</sup>.” Cohen reports that most students (70 percent)

now use keyboards and electronic devices, not pens and paper, to take notes, and almost all students used email to communicate with professors (91 percent). Audio recorders and cameras are popular in the classroom too, sometimes helping to displace note-taking, according to the infographic.

Video conferencing via solutions like Unified Communication Systems (UCS) of the burgeoning use of technology in classrooms. UCS typically includes one or more interactive whiteboards at the front or sides of the classroom, along with a large screen display and a video conferencing system with the instructor controlling cameras, microphones and software. UCS use can help boost integrated, participatory learning, and allow telecommuting students to join from home in a multimedia setting. As older, non-traditional students become more and more a part of a typical community college according to National Center for Education Statistics<sup>6</sup>, enabling non-traditional ways of learning has become more critical.

Whether students attend classes in a face-to-face setting, online as distance learners, or in a blended mix, smart use of technology leads not only to better grades, but to improvements throughout their academic lives. According to the McGraw-Hill study, 67 percent of students say study technology makes them feel better prepared for class, and 57 percent report that it helps improve study efficiency.



# Next-Generation Digital Learning Environments

Student reliance on technology helps explain the fact that virtually every institution, large or small, now has some sort of learning management system, or LMS, in place. According to Educause, “LMSs have become integral to students’ learning experiences, faculty teaching experiences, and institutional communication plans since they first emerged on higher education campuses in the 1990s. Their presence is ubiquitous in higher education, with 99 percent of American colleges and universities currently reporting they have an LMS in place<sup>7</sup>.”

An LMS helps professors and students both to manage document distribution and submission, attendance, grading and more. Moving beyond the LMS is at the root of an important new trend that Educause calls the “next generation digital learning environment,” or NGDLE<sup>8</sup>. In an Educause Learning Initiative report, the authors explain that NGDLEs will move beyond individual technologies such as the LMS. NGDLEs will instead serve as an ecosystem, the report explains, consisting of learning tools and components that adhere to common standards. “The NGDLE concept seeks a balance between the openness of learning and the need for coherence in the environment. The concept emphasizes personalization, collaboration, and accessibility/universal design—all essential to learning.” From an IT perspective, this digital learning environment ecosystem presents an opportunity to help improve the student experience, giving them easier ways to move information into and out of the LMS and other learning platforms they use every day. Adapting this implementation to the realities of current paper use – like students’ need to get hardcopy content into and out of the LMS – is also a key opportunity.

## Florida International University Embraces a Gen Y Approach to Paper

At Florida International University, 54,000 students come to soak up information and prepare for careers in the new world of work.

- Students needed easy access to technology tools that makes their work shine—along with nearby resources to print documents from the sources they use every day: smartphones, tablets, and cloud accounts. Previously, there was no mobile printing capability whatsoever, even though a growing number of faculty and students routinely prepared assignments and worked on mobile devices.
- As part of a multifaceted overhaul of print facilities by FIU and the Ricoh team, students can now use an app to send documents to printers remotely, or walk up to printers and quickly choose their desired document via mobile device or cloud storage account.

The results so far are impressive: the overhaul has received accolades from students and print facilities reflect the FIU brand.





### III. Student Experience with Paper for Administration

As colleges move toward better, more holistic ways of assessing whether a particular student will be a good fit, there is an increasing move toward making it easy for new students to submit their applications electronically, as well as digitizing past student records. Although for many institutions, years or decades of student records are stored on paper in filing cabinets, making it a headache for students to access them – that is changing. Universities that have scanned and digitized their records – an increasingly common decision – present significant benefits to students. They can request digital documents from their university and receive them far faster than a set of mailed paper documents. According to Ricoh’s 2016 Trend Report: Streamlining Information Flow to Improve Admissions Processes, mobile capture helps close the gap between file cabinets and the smartphones and tablets that students use, and enable two-way communications with administration contacts. Document transfers between institutions can also be handled much more quickly. Security, and the peace of mind that it yields for students, is another benefit: reducing the

volume of physical files left sitting out and moving personally identifiable information such as social security numbers through the transfer process as part of encrypted documents.

Today’s students, not surprisingly, prefer submitting applications electronically rather than on paper, along with letters of recommendation and SAT and ACT scores. Audio or video submissions are now common, according to a recent article in *University Parent*<sup>9</sup>, and the admissions process continues to rapidly evolve, further reducing the role of paper.

Along with standardizing equipment and introducing a department-based price per impression plan, the university now uses an approved list of products for departments to choose from. The system includes authentication controls for chargeback management and to prevent unauthorized use. Devices are networked so that IT can track device use remotely and expedite maintenance.

# Key Takeaways:

- Americans are split on the importance of paper, but student views are clear: they are moving to technology at a rapid rate.
- Institutions need to continue to aggressively plan for students' demand for technology with supporting solutions and services on the IT side.
- Colleges that present themselves as technology-smart can attract students in a highly competitive market.
- Offering students tools that help them share the paper content they still depend on, while using the LMS and the cloud for easy document storage and access, allows institutions to meet student needs while preserving the institution's need for security and control of documents and the network.
- Embracing technology and new approaches to paper now positions institutions for "next generation digital learning environments," or NGDLE, in which a wide range of interconnected software and components outside a traditional LMS, many in the cloud, are available to students.

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## Sources

- 1 This survey was conducted online within the United States between August 31-September 2, 2015 among 2,053 adults (aged 18 and over), among whom 170 are college students, by Harris Poll on behalf of Ricoh via its Quick Query omnibus product. Figures for age, sex, race/ethnicity, education, region and household income were weighted where necessary to bring them into line with their actual proportions in the population. Propensity score weighting was used to adjust for respondents' propensity to be online.
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- 3 "[The Consumerization of Technology and the Bring-Your-Own-Everything \(BYOE\) Era of Higher Education.](#)" EDUCAUSE Center for Applied Research; Eden Dahlstrom and Stephen diFilipo. Mar. 25, 2013.
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- 6 "[6 Facts About College Students and Tech \(Infographic\),](#)" EdTech Times, Ilana Cohen. Nov. 4, 2015.
- 7 "[Fast Facts: What are the new back to school statistics for 2015?](#)" U.S. Department of Education. Aug. 11, 2015.
- 8 "[The Current Ecosystem of Learning Management Systems in Higher Education: Student, Faculty, and IT Perspectives.](#)" EDUCAUSE Center for Analysis and Research. Sept. 2014.
- 9 "[7 Things You Should Know About NGDLE.](#)" EDUCAUSE Learning Initiative. Dec. 2015.
- 10 "[The latest college application trends.](#)" University Parent, Suzanne Shaffer. Aug. 24, 2015.

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