

How Digital Products Can Inspire Creativity in Classes and Careers



A study shows that Adobe tools boost students' persistence and success — while also spurring their imaginations

Creativity is an elusive quality that we associate with lightbulbs and artistic brilliance. It is also a quality increasingly prized in organizations, where business leaders acknowledge its role in innovation, problem-solving and other processes crucial to longevity and success. Yet it is something colleges and universities have struggled to define and teach. For years, an argument has persisted over whether creativity [can even be taught at all](#).

That's what makes recent research into the role of digital tools that nurture and support creativity so illuminating. The research, conducted by Adobe, explored how the use of Adobe Creative Cloud can foster innovation on campus, while also equipping students with marketable skills. Chase Mitchell, a

professor of multimedia production and strategic communication at East Tennessee State University (ETSU), was responsible for monitoring how the use of such tools influenced student outcomes on his campus. The software was deployed in a range of different subjects, from writing instruction to physics, he said. Encouraging students to engage in new ways with the material gave them a sense of ownership, even mastery.

"You don't really know something until you have to teach it yourself," Mitchell suggests. "If you're a physics student and you're trying to explain quantum mechanics to somebody—which is really difficult to do—it only increases comprehension and retention when you have to create content and effectively communicate or teach that subject to another person."

A platform that builds and nurtures creativity in learning

With rising tuition prices and fallout from the pandemic, the value of higher education has increasingly been re-examined. However, when institutions invest in tools that teach creative and digital literacies, measurable results can be achieved. The study was designed by Civitas Learning, an organization that evaluates student success. It found that the increased use of Adobe Creative Cloud in classrooms can yield better outcomes—leading to higher grades for minority students and also improving other vital measures, like persistence rates for first-year students (the extent to which they are likely to continue their studies).

Under a professor's direction, in carefully designed projects, students could draw on a multitude of diverse digital tools to generate ideas, innovate and circulate their work. This could mean using Photoshop to create visual narratives and produce flyers or posters for a college event; InDesign to publish an undergraduate research journal; Premiere Rush or Premiere Pro to edit videos or podcasts to raise awareness about issues

they are studying in a course — and having access to [dozens](#) of other Adobe products.

The tools place an emphasis on audio-visual and interactive communication and help students develop multimedia capabilities, giving them new avenues for sharing their ideas — moving them away from being passive consumers toward becoming active producers of digital content. In other words, the Adobe Creative Cloud platform enables students to develop their critical abilities and become better communicators, versed in consuming and producing digital content. In the process, it helps them become digitally literate—a vital stepping stone towards a [productive career](#).

Indeed, Adobe Creative Cloud is much more than a box of tools or even a suite of applications, say those who work with the technology. When deeply integrated into a higher ed curriculum, it is a knowledge-making and sharing platform. Vincent Fu deployed Creative Cloud throughout his undergraduate degree in biology, and is now an [emergency physician](#) at Loyola University Medical Center. Digital literacy offered a new way of thinking about science, he [has said](#). It also created opportunities. [“Having access to](#) Adobe Creative Cloud throughout college opened doors for me in ways that I never could have imagined.”



Bringing digital fluency to the classroom

The Civitas study probed the impact of Adobe Creative Cloud on student learning. When the researchers assessed outcomes in course mastery, course grades, GPA and persistence, the results were promising, said those involved in its design. “Each school saw some positive impact in distinct ways,” says Melissa Vito, interim vice provost for academic innovation at the University of Texas at San Antonio (UTSA), one of three colleges that took part.

Three colleges participated in the research program, each with a different profile. East Tennessee State University, a public research university serving more than 14,000 students; California State, Fullerton, a large diverse campus with over 41,000 students; and UT San Antonio, an urban Hispanic-serving institution with more than 34,000 students.

The study analyzed data over three semesters, from fall 2019 to fall 2020. Students at colleges that fostered creative skills were 8% more likely to return the next term. Courses in which Adobe’s creative tools were integrated into learning outcomes saw a significant rise in student mastery of the subject. In all three schools

the study showed that bringing Adobe products into the classroom had a positive effect on the student experience.

Teaching and communicating in creative ways that inspire students is an increasingly important matter for leaders in higher education. So is the need to bridge the digital divide, especially for first-generation and minority students who may not have access to powerful computing tools, or even basic computing resources at home, as the pandemic [has shown](#). Bringing Adobe’s Creative Cloud into the classroom manages to achieve both at once, according to the experts who assessed the tools’ impact.

“We want our students to graduate with the skills that make them get jobs, and we want students to leave with a sense of digital fluency,” says Vito. “We know that employers seek both skills and personal qualities like creative thinking and creative problem-solving—these are really key for students joining the job market—and being able to use tools that engage them and inspire their creativity or allow them to look at something in different ways is really important.”



A natural fit for some subjects; a uniquely creative lens on others

Vito, who led the program at UTSA, said that the tools improved outcomes across the board but particularly for the students who need support the most. Overall, UTSA students who took part in the program saw an 8% increase in their course grades; the grades of Black students rose by 16%, and those of new students by 16%.

"It makes even more of a difference for some of the populations that we know higher ed is really focused on — first-time students and how you improve freshman retention," Vito explained. "Then we saw the highest impact for increasing mastery — which is rates of A and B grades — for students who were predicted, based on their academic criteria, to be in the bottom quartile: in other words, least likely to earn an A or B."

The study looked at the grades of students taking classes in which Adobe products were used and compared them to sections of the same class in which a professor did not ask them to use the software. In one UTSA history course — American history focusing on the pre-Columbus period up to the Civil War, taught by a professor who had won an award for distinguished teaching — rates of A and B grades of students using Adobe Creative Cloud shot up by 7% compared with the grades of those in non-Creative Cloud sections of the course. Although it is not entirely clear why the improvements occurred, those involved suggest the process of closely engaging with content using new technology gave the students a

sense of ownership over the material. It also allowed the students to express their creativity in fresh ways.

Programs that already involve multimedia lend themselves naturally to this sort of innovation. For instance, Eastern Tennessee is famed for its blue-grass and country music courses and has been a leader in the field [since 1982](#). Bluegrass students using Creative Cloud had persistence rates 14.7% higher than those who did not use Adobe products, the research study found.

"Music is already a mediated thing and it's creative," Mitchell says. "The feedback was very positive; it kind of naturally went with this type of program." Other professors at ETSU asked students to convey arguments using images and video, incorporating live interviews with a traditional written paper. One instructor asked the class to lay the essays out in magazine format, requiring students to think up a magazine title, plan the layout and identify pull-quotes, captions and images.

It was crucial that the new presentational methods were complementary to the content of assignments and did not take away from research and writing. "We still grade them according to the quality of their writing," Mitchell explained. "It needed to be integrated in such a way that the process of using Creative Cloud supplements the actual subject matter that they're trying to learn. It can't be just a flashy add-on."

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Preparing for career success

In addition to Adobe's role in more typically visual and creative fields, institutions found that the software had relevance to many different courses. Megan Martinez teaches business at California State University, Fullerton. Her Business 300 class offers an introduction to professional life, preparing students—many of whom are juniors or have transferred from two-year schools—to manage life after college. It covers topics such as career exploration, leadership, critical thinking, conflict management and how to stay focused, prioritize and be productive.

The students used Adobe Creative Cloud in a number of different class assignments after receiving a demonstration and training from Martinez's colleagues in IT. In a class of 161 business administration students using the software, mastery improved by 8.3%, with students earning higher A and B grades on average overall, compared with those who did not use Creative Cloud.

The project adds another dimension to focusing on the do's and don'ts of resumes and covering letters, Martinez says. "Some of the class can be a little bit prescriptive. With a creative assignment like this the students get to express themselves in a way that they don't always in a career setting."

In one assignment, they created an online portfolio using Adobe Express, linking to examples of work they had completed relevant to the industry they hoped to join. It gave students a flexible way to organize and present their skillset, Martinez says.

"They'll have their background; they'll have a video of their elevator pitch where they're telling something about themselves. They can also link out to projects that they've done; or they might even include or embed them. It depends on the student so they look vastly different from one to another based on what the student wants to include," she says. "It looks like a more creative spin on a resume."

In another assignment, the students used Adobe Illustrator to envision life after graduation—creating a roadmap for their adult selves. But Martinez also wanted the students to develop something tangible that they could take with them, so she asked them to design their own personal business cards, choosing colors, layout and graphics. And although she did not grade creativity in this assignment—the focus was on the learning experience—it allowed for creative expression. "Some of them will play with fonts or colors or design so it's really up to them," Martinez said. "If they wanted to go above and beyond I welcomed that."

The assignments enabled students to begin reflecting on the possibilities of professional life. And employers like looking at their online portfolio and the examples of their work, Martinez says. The business cards give the students a concrete product to take with them and use at job fairs and on campus. Budding entrepreneurs often include information about their business ideas. "We have a printing service on campus so they can even have a business card as they walk away from that class."

An equity issue

Learning to use a new software tool can be challenging for students, so in Martinez's business class, members of the IT department offered support. If they seemed daunted, Martinez told the students that learning a new skill was a revealing and important experience because it gave them an opportunity to move outside their comfort zones. "I think it pushes them a little bit to learn something new and it gives them confidence that it might seem foreign to them but with enough support they're going to be able to do it."

This chimes with the experience of Chase Mitchell at Eastern Tennessee. Not all Gen Z students are as confident with technology as we might assume, he argued. "It provides them with technical troubleshooting skills that are difficult to replicate in other cases," he says. "Just the nature of the technology is that they have to develop these trouble-shooting skills that are applicable across content."

These trouble-shooting skills can be repurposed in a professional environment. At Fullerton, the program forms part of a broader strategy that aims to reduce the digital divide some graduates face when they enter the workforce. Matt Badal is associate director of innovation within IT at the university and says that improving digital literacy among students is central

to the department's mission. Fullerton has set up a Center for Equitable Digital Access, which, Badal says, aims to level the playing field for graduates when they leave the university and embark on their careers.

Many Fullerton students take out loans or receive grants to pay for their education—about 50% of students are Pell grant recipients. The Center aims to "empower all students, through equitable access, to become digital citizens," and offering access to Adobe Creative Cloud forms one step in this process, he said. Every student on campus has access to the desktop, mobile applications and services included with Adobe Creative Cloud on any of the devices they bring to school or use at home. This ensures they can access the platform whenever they want and wherever they are, making it easy for them to develop ideas, collaborate with peers and hone in-demand and transferable skills.

Badal says it became clear to the university's IT leaders that employers wanted graduates who were able to use multimedia tools and who were confident using sophisticated digital solutions. For students like those in Professor Martinez's business class, he says, "Some of those students are going to be marketing majors in the future. This is the software they're going to be utilizing in their careers."

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Megan Martinez
California State University Fullerton

Other research supports these findings. Numerous studies have found that creativity is increasingly valued in the workplace. Across all sectors, [businesses prize](#) qualities like innovation and the ability to find inventive solutions to problems, which experts describe as an [“in-demand skill.”](#) This is borne out of a study Adobe conducted in collaboration with LinkedIn to assess how employers viewed students’ proficiency in these tools. It found that recent graduates who listed creative skills on their LinkedIn profiles commanded starting salaries of up to 16% higher than those who did not. Across multiple industries, professionals who listed creative skills on their profiles saw their salaries rise at two-to-three times the rate of those who did not.

The trend for creative skills applied not only in traditionally creative sectors, but also across aviation, aerospace, hospitality, healthcare and civil engineering and other sectors. Simply put, demand for creativity in the workplace has risen exponentially in recent years,

the study found. A majority of professionals surveyed—as many as 90%—said that soft skills were as important as technical know-how, if not more so, in the workplace.

This makes equipping students with such skills an equity issue. Melissa Vito says that’s why many schools become Adobe Creative Campuses—schools that make teaching digital literacy a priority across all disciplines and offer Adobe Creative Cloud unencumbered to all students, along with training and support. When she interviewed faculty to get their input on how the program was working, they spoke passionately about its potential to improve equity. “People talked about the digital divide and how the pandemic really exposed who had access to both tools and Wifi,” Vito explains. “Faculty were really clear that it was important that all students be able to have access to these tools. That’s why UTSA made them available to all students, so that there wasn’t a situation where one student who could afford this tool could use it but somebody else couldn’t.”



Measurable impact

Knowing what creativity is, and how to measure it, is an important and challenging question in contemporary higher education. Creativity has been described as “one of the crucial skills in the toolkit of the 21st-century learner,” in a recent [study](#) by a group of researchers published in the International Journal of Educational Research. But creativity is notoriously hard to nurture and tricky to assess, the group added.

Vito says Adobe’s work with colleges opens up new ways to approach this issue by offering novel methods for supporting students academically. It also gives administrators different avenues for assessing the student success, she argues. “From a higher ed perspective, where we’ve all made so many investments in technology and tools, this study helps us think about different ways to measure impact and what we are helping our students use.”

“As we’re going forward in higher ed, there’s a lot of interest and a lot of desire on the part of both faculty and students to move back to more face-to-face courses; and yet, online courses created an opportunity for more flexibility,” she points out. “And actually for some students and faculty it is really a great learning experience if you do them well. I think that the mix of modalities is going to continue to grow

over time, so seeing that there’s an impact regardless of modality is important.”

What seems clear is that the software can help the most vulnerable students and develop their innate abilities. It also ensures that, when they graduate, they are familiar with the newest, most powerful software tools and the challenge of figuring out how to use them. This ability to engage creatively with new technologies positions them for success both in college and beyond.

For Chase Mitchell, the software improves learning outcomes at an institutional level at ETSU, and it transforms the learning experience for each individual, enhancing what college is all about. “It’s not just pen and paper, it’s not even typing out a document on a word processor,” he said. “It’s receiving the information on the subject matter they’re supposed to know and then translating that to different audiences according to whatever the rhetorical context it is.”

This deeper engagement with the material has a clear impact, he explained. “Being able to synthesize the information in these ways not only ensures that they understand it, but also that they can help somebody else understand it. And in that process it helps them to remember and understand it better.”

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