



# Create future innovators.

Discover how Adobe supports student success in the age of AI.





AI tools continue to redefine the education landscape, offering leaders and faculty unprecedented opportunities for positive change across the system.

Engaging with the fast-paced world of technology can be both exhilarating and daunting for universities. **AI tools** are writing university essays, solving science and maths problems, and universities are witnessing their transformative power first-hand. The current consensus is that knowledge workers won't necessarily be replaced by AI, but these workers will be replaced by those who understand how to use tools such as AI to create, produce and shape ideas productively and **ethically**. Addressing AI in education is therefore crucial for realising key opportunities, mitigating risks, and managing unintended consequences.

This publication aims to provide a starting point for conversations around the possibilities of AI in education, leveraging the current discussions and highlighting the importance of cooperation between software developers such as Adobe and the education sector.

## ■ UK government recommendations for AI in education

The UK government recognizes the positive impact of artificial intelligence (AI) in education and is actively exploring its potential. Initiatives include a call for evidence on generative AI in education, a hackathon addressing teacher workload, and a £2 million investment in AI tools for **Oak National Academy**. The government aims to use AI to assist, not replace, teachers, emphasizing their irreplaceable role. Safety measures prioritize protecting students from harmful content. Efforts to prevent AI misuse, such as cheating, are underway, with future policies informed by the outcomes of the call for evidence and **hackathon**.

— A software application that uses algorithms to perform specific tasks and solve problems.

— Sidney Fels, Kyo-ungwon Seo, Joice Tang, Ido Roll and Dongwook Yoon: "The impact of artificial intelligence on learner-instructor interaction in online learning", October 26, 2021.

— An independent public platform for teaching resources.

— Department for Education: "The Education Hub: Artificial intelligence in schools", October 26, 2023.

## ■ Balancing caution and innovation: the imperative for universities to embrace AI.

A lecturer typically works around **54 hours** a week, while only half that time is usually devoted to directly teaching students. Many say that if they could spend less time on administrative work, they'd have more time to connect with, empathise with and mentor individual students. Educators can use automated systems to help reduce the repetitive aspects of grading papers, generating lesson plans, creating early drafts of reports and letters, and providing basic feedback.

An example of the potential is given in numbers by John Jay College: In a two-year span, they witnessed a 32-point surge in the graduation rate, reaching 86 percent. Dara Byrne, the associate provost at the time, attributed this success to AI-powered software, which scrutinised factors such as declining grades and course selection to generate a "risk score" for each student. The software, developed by **DataKind**, identified approximately 200 students in need of extra support, including personalised coaching, based on their risk scores. Despite its efficacy, Byrne emphasised that the AI system cannot delve into the student experience or formulate strategies, emphasising the continued vital role of academic advisers in **these aspects**.

## ■ Create more time for human connection and authentic assessment.

Human connection is irreplaceable in any learning process. The role of the educator extends beyond the transmission of knowledge; it involves fostering curiosity, critical thinking and emotional well-being. As such, educators always need to strike a balance between technology and human interaction. It's therefore essential to involve college faculty in the integration of AI tools, ensuring that these technologies align with their needs and empower them to create engaging and inclusive learning environments.

Adobe's campus partners around the globe are increasingly interested in authentic assessment as a forward-thinking and future-facing approach to the integration of AI technologies across the curriculum. The term *authentic assessment* is sometimes also called "experiential learning", "active learning",

Rebecca Allen, Asma Benhenda, John Jerrim and Sam Sims: "New evidence on teachers' working hours in England. An empirical analysis of four datasets", March 16, 2020.

DataKind is a global non-profit organization with the aim to help social impact organizations use data science and AI.

James Barron: "How A.I. Increased the Graduation Rate at John Jay College by 32 Points", September 20, 2023.

and “project-based learning”, — and what these approaches have in common is the principle that students learn best when they're asked to produce and share their own ideas rather than merely consume other people's content.

Adobe tools enable authentic assessments for every student everywhere along the learning curve, from novice to expert. Authentic ways to assess students include asking them to create a video, a podcast, an infographic or a website to circulate their knowledge. Educators have been discussing the need to change the way they assess students for a long time, but the advent of AI in higher education will ideally accelerate authentic assessment as a best practise.

### ■ Building creative and digital confidence.

While it's essential to acknowledge the challenges and ethical considerations surrounding AI, it's equally crucial to explore the myriad advantages it offers in enhancing student learning experiences. To prepare students for the digital world they'll enter upon graduation, universities should embrace the latest advancements, equipping students with the necessary skills and fostering their creativity.

**“ In a world brimming with new products, technologies and evolving work practices, students are embracing digital literacy and creativity as vital assets to thrive and succeed amidst constant change.**



## ■ A trusted solution.

Adobe has implemented credential measures through the **Content Authenticity Initiative**, allowing students to attach information such as names, dates, and tools used to their content. There are different techniques to embed or identify watermarks or signatures to prove authenticity, indicating ownership and protecting against counterfeiting. These watermarks and fingerprints, although not immune to attack, enhance the ability to efficiently track both AI-generated and human-recorded content, making it more challenging to create convincing fakes and easier to verify the integrity of **real content**. The initiative collaborates with over 900 members to make this solution accessible for all.

In the pursuit of accessible and efficient creative processes, Adobe further developed Adobe Sensei. This AI technology, integrated into Adobe apps since 2017, has emerged as a trusted solution. By powering features like automated video captions in Adobe Premiere Pro, accurate sketch tracing in Adobe Illustrator, neural filters in Adobe Photoshop, content-aware tools, and AI-powered body and emotion tracking in Adobe Animate, Adobe Sensei takes care of complex and time-consuming tasks. This way, students can focus more on creative expression, ideation and outcomes. Adobe Firefly, a new family of **generative AI models**, is designed to jump-start creativity and accelerate workflows in Adobe tools like Photoshop and Adobe Express.

Adobe Firefly stands as an ethically safe AI tool for higher education. To address generative AI-related copyright concerns, Adobe carefully trained the initial Firefly model on Adobe Stock images, openly licensed content and public domain materials.

AI supports the democratisation of creativity, inspiring students to engage more deeply and develop essential skills for future success.

CAI is a group of creators, technologists, journalists, and activists leading the global effort to address digital misinformation and content authenticity.

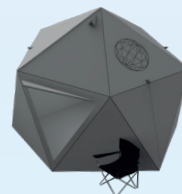
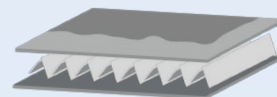
Hany Farid: "Passive versus active photo forensics in the age of AI and social media", September 26, 2023.

Generative AI is a type of artificial intelligence that can translate text prompts into imagery, text, audio, and synthetic data.

“ Cool ideas aren't enough. To make them travel further, you need the ability to explain your ideas to non-technical audiences.



— Kiran S., winner of the Adobe Digital Edge Awards 2022



GWP LIQUIDGUARD  
Water resistant coating (completely biodegradable and recyclable), RFID Transponder and Recycled PET fabric

## Building hands-on digital skills.

Visual communication plays a pivotal role in any field, particularly when people need to convey complex technical concepts to a non-technical audience. For their Design Engineering degree, Imperial College London student Kiran S. and his team developed a sustainable solution for the events' industry — the Afterparty Global Festival Service. By using different Adobe tools, the team skillfully created a presentation that demonstrated their ideas visually and clearly.

View his full project here:





## ■ Creativity made easier and more accessible.

Adobe's AI technologies can help students initiate the creative process with inspirational starting points that reduce the anxiety of staring at a blank page. When they have an easier time creating images, graphics, videos and websites, students build their holistic communication skills as they explore new ways to share their thinking. All the while, they build critical analysis skills as they reflect on their choices and processes, especially when integrating data, evidence and research into their work.

## ■ Navigating the AI landscape together.

Given that over **47%** of learning management tools will be powered by AI in the next three years, it's clear that we need to talk about AI. By carefully evaluating its advantages and potential challenges, we can harness its power to unlock the full potential of universities, fostering a generation of lifelong learners who are prepared for the demands of our digital-first world.

Nikita Verma, "How Effective is AI in Education? 10 Case Studies and Examples," February 8, 2023.

## ■ Centring educators in the age of AI.

To succeed in leveraging AI as an enhancement to learning and teaching, many argue for "Always Centering Educators (ACE) in AI." This approach emphasises keeping a humanistic view of teaching at the forefront. This concept is built around these key loops: making moment-to-moment decisions; preparing, planning, and reflecting on teaching; and participating in decisions about the design and evaluation of AI-enabled technologies. The goal is not just to make teachers' jobs easier but to empower them to understand their students deeply and respond creatively to **teachable moments**.

Miguel A. Cardona, Roberto J. Rodríguez, and Kristina Ishmael: "Artificial Intelligence and the Future of Teaching and Learning", May 2023.

## ■ AI resources for teachers.

There are countless resources for educators who want to level up on AI in a hurry. The **Adobe Education Exchange** team has built a collection of generative AI teaching resources on their site. In addition to the before mentioned **Oak National Academy**, there's also the **International Society for Technology in Education**. In a nutshell, teachers should see this academic year, the initial one post-ChatGPT, as a chance to learn and not expect perfection on the first go.

The resource collection can be found here: [edex.adobe.com/ai](https://edex.adobe.com/ai)  
[www.thenational.academy/#ai](https://www.thenational.academy/#ai)  
[iste.org/ai](https://iste.org/ai)

**By fostering a culture of innovation, higher education institutions can strengthen students' creativity and encourage them to be forward-thinking.**

**Let's start a conversation about your institution's opportunities and needs so we can explore solutions tailored to your vision.**

