

## The implementation of artificial intelligence in university classrooms: perspectives and applications

ERIKA GRODZKI

ORCID: 0009-0008-5241-9635

STEFANIE POWERS

ORCID: 0009-0002-2115-6912

GARY CARLIN

ORCID: 0009-0005-2200-3346

HUNG CHUM (KEVIN) KAO

ORCID: 0009-0009-8275-3885

Lynn University

**Abstract:** The incorporation of artificial intelligence (AI) within university classrooms has emerged as both a revolutionary prospect and a controversial subject, resulting in diverse viewpoints among academic faculty. This paper examines the intricate landscape of AI's implementation in higher education, focusing on the differing attitudes of professors and its application in various fields. While some educators advocate for AI as an innovative tool that enhances learning experiences and optimizes educational methodologies, others argue that it may undermine critical thinking and creative problem-solving skills, leading to an ongoing debate about its appropriate role in academia. In the context of certain disciplines such as animation and design, AI has been seamlessly integrated for years, demonstrating significant advancements in creative processes and efficiency gains. The adaptability and acceptance of AI in these domains contrast with the cautious approach observed in more traditional fields of study. This panel will discuss the varied viewpoints on AI across disciplines in higher education, approaches in the implementation of AI in the classroom, and future implications of AI usage in the modern world.

**Abstrakt:** Wprowadzenie sztucznej inteligencji (SI) do sal uniwersyteckich jawi się zarówno jako rewolucyjna perspektywa, jak i kontrowersyjny temat, co skutkuje zróżnicowanymi opiniami wśród kadry akademickiej. Artykuł analizuje złożony krajobraz wdrażania SI w szkolnictwie wyższym, koncentrując się na zróżnicowanych postawach wykładowców oraz na zastosowaniach tej technologii w różnych dziedzinach. Podczas gdy niektórzy pedagodzy postrzegają SI jako nowatorskie narzędzie wzbogacające proces nauczania i optymalizujące metody dydaktyczne, inni obawiają się, że może ono osłabić krytyczne myślenie i kreatywne rozwiązywanie problemów, co prowadzi do trwającej debaty na temat właściwej roli SI w akademii. W niektórych dyscyplinach, takich jak animacja czy projek-

towanie, SI została z powodzeniem zintegrowana już od lat, przynosząc istotne postępy w procesach twórczych i wydajności. Elastyczność i akceptacja SI w tych dziedzinach kontrastują z ostrożnym podejściem obserwowanym w bardziej tradycyjnych obszarach nauki. Panel omawia różne stanowiska wobec SI w szkolnictwie wyższym, sposoby jej wdrażania w klasie oraz przyszłe konsekwencje stosowania tej technologii we współczesnym świecie.

**Słowa kluczowe:** SI w szkolnictwie wyższym, rozwój sztucznej inteligencji, zastosowanie SI w dydaktyce

**Key words:** AI in higher education, Advancements in AI, AI approaches in the classroom

## 1. Overview

Artificial intelligence is becoming a household name, changing how industries operate, and people go about their daily lives. The U.S. National Artificial Intelligence Act of 2020 defines AI as “a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments” (International Journal of Educational Technology in Higher Education, 2024). From improving hospital care to streamlining business operations, AI has quickly developed into a powerful tool for solving problems. It also transforms creative fields, playing a significant role in everything from design and public relations to full advertising campaigns. With this kind of growth, colleges and universities are being challenged to think differently about how to prepare students for a future shaped by AI. This paper looks at how AI is changing how people work, how learning happens, and what education needs to become.

## 2. Purpose

This paper aims to explore the shift happening in higher education as AI becomes more integrated into teaching, learning, and everyday academic life. As AI tools become more accessible, institutions are asked to reconsider long-standing practices. The International Journal of Educational Technology in Higher Education (2024) notes that AI is already shaping teaching, technology, and data security policies. A recent study found that 95 percent of universities report that AI has already begun influencing or will soon impact their teaching and learning strategies. The trend highlights the pressure on higher education to keep up with technology while maintaining academic standards.

At the same time, the ethical concerns around AI are becoming harder to ignore. A recent article in *The Times* revealed that AI-driven cheating is becoming common at top universities in the UK. About 90 percent of students said they had used AI tools, and almost 20 percent admitted copying answers directly from

a chatbot. Yet fewer than one in 400 students were penalized, showing how hard it is for schools to keep up with academic honesty in this tech-heavy environment (The Times, 2025). Whether students are using ChatGPT to write papers or building projects using platforms like Canvas, the way assignments are completed is shifting, and educators are being asked to rethink how learning is measured. Some believe these tools offer opportunities to boost learning and engagement, while others raise concerns about fairness, equity, and the changing role of faculty.

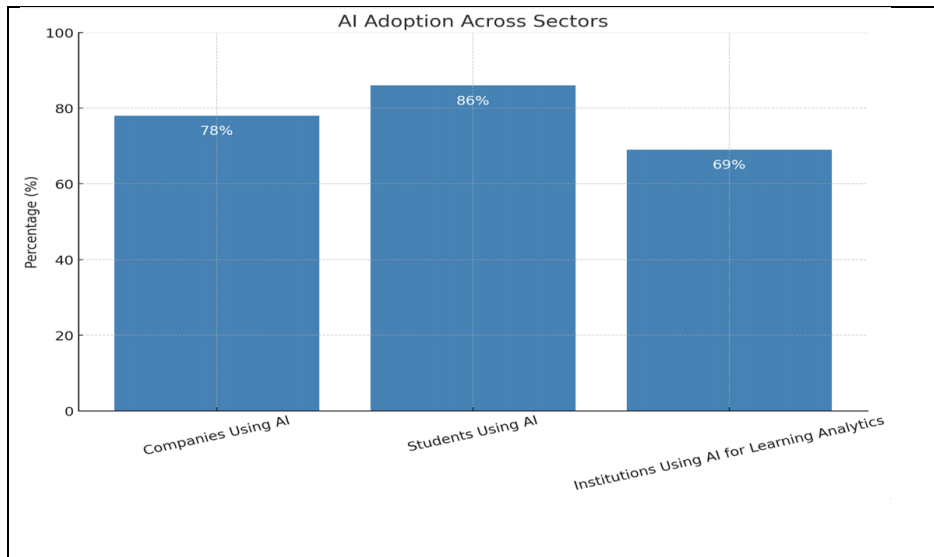
### **3. Current applications of AI across various sectors**

Beyond the classroom, AI transforms work across almost every industry. In healthcare, it helps doctors diagnose issues earlier by analyzing scans and predicting outcomes. In finance, AI is used to identify fraud. Manufacturers rely on it to improve supply chains and automate production, and retailers use AI to customize shopping experiences and manage inventory more efficiently. Simplilearn (2025) states, “AI applications have revolutionized the way industries function by offering real-time solutions, improving accuracy, and increasing overall productivity.”

AI is also changing industries like transportation, agriculture, and energy. Self-driving technology, better traffic forecasting, and faster delivery systems are all powered by AI. Farmers use it to track crops, predict harvests, and automate equipment. In the energy field, AI helps operate power grids, reduce waste, and make energy storage more efficient. According to the World Economic Forum (2025), AI fuels innovation and growth across consumer industries, setting new standards for how organizations work and adapt.

The paradigm shift is happening across every sector. As of 2025, 78 percent of global companies are using AI to improve their operations, whether automating tasks, analyzing data, or creating better customer experiences (Exploding Topics, 2025). The impact on education is just as strong. A recent survey found that 86 percent of students already use AI tools like ChatGPT or Grammarly as part of their regular study habits (Campus Technology, 2024). Colleges and universities are working to respond, with 69 percent planning to use AI to track student progress and provide more personalized support (EDUCAUSE, 2024). These numbers make it clear that AI is not a future trend. It is happening now. Figure 1 below highlights how widespread this adoption has become across industries and education.

As artificial intelligence continues to expand across industries, its role in higher education creates excitement and concern. The paper explores how colleges and universities respond to AI's growing presence, focusing on how it is used in the classroom, how faculty across disciplines are reacting, and what this means for students. Lynn University, a private institution in Boca Raton, Florida, has taken a proactive approach by forming a task force of faculty, instructional designers,



**Figure 1** shows how common AI use has become across different sectors

and librarians. The group meets regularly to provide professional development and share strategies for using AI in teaching. They aim to embrace AI's potential while ensuring students are prepared for a future where AI is already shaping the workplace (Lynn University, 2023). The paper also highlights how creative fields like animation have been early adopters of AI while more traditional areas are still adjusting. By looking at diverse faculty perspectives and real examples from universities worldwide, the paper aims to understand how education can evolve with this technology.

While most agree that AI is not going away, the ways it is being used, and its reactions are all over the map. In creative fields like animation, film, and design, AI is already used to support motion capture, rendering, and other visual tools that streamline production. Faculty see AI as a tool to boost creativity and results. On the other hand, some professors worry that depending too much on AI could hurt students' ability to think independently or solve problems. Case studies from Georgia Tech, Australia, and other institutions show how AI tools can change classroom operations, from grading and tutoring to real-time feedback. Animation offers a clear example of how perceptions of AI have shifted over time, with tools once seen as experimental now considered essential. As Etherington (2023) explains, the key is not avoiding AI but helping students learn how to use it responsibly while developing original thinking and strong communication skills. Recognizing these broader shifts in perception and use of AI in education, Lynn University has taken a proactive and structured approach to integrating AI into its academic environment.

#### **4. Lynn University's approach to AI**

In August 2023, Lynn University launched a cross-functional artificial intelligence (AI) Task Force to proactively address the opportunities and challenges presented by generative AI in higher education. This initiative was driven by the recognition that AI technologies, particularly tools like ChatGPT, were rapidly reshaping the academic landscape. The Task Force comprises faculty and staff from all six of the university's colleges, ensuring diverse disciplinary perspectives and wide-ranging input. The primary goals of the Task Force are to embrace the educational potential of AI while establishing ethical, pedagogical, and practical frameworks to guide its use. Rather than reacting punitively or prohibitively, Lynn University has adopted a forward-thinking posture aimed at helping faculty integrate AI tools into their classrooms in meaningful ways. Monthly meetings of the Task Force have served as venues for dialogue, policy development, and sharing of emerging best practices. To support faculty, the university has offered a series of hands-on training sessions. These have included workshops on topics such as "Faculty Favorite Uses of AI," ethical considerations in generative AI, and discipline-specific applications. The emphasis has been not only on how to use the tools, but also on fostering critical awareness of their limitations, biases, and implications for teaching and learning.

#### **5. AI in the Classroom at Lynn University**

The adoption of AI in Lynn University classrooms has been characterized by variation and experimentation. Faculty members have been given the autonomy to determine how—or whether—AI should be used in their courses. To accommodate this, the university has provided four suggested syllabus statements (Figure 2) that faculty can choose from, reflecting positions ranging from full prohibition to full integration. This flexible approach recognizes both disciplinary differences and individual instructors' pedagogical goals. A common theme emerging across departments is the increasing comfort faculty express with incorporating AI into their courses. Training sessions and peer discussions have helped normalize AI use and alleviate concerns, particularly around academic integrity and originality. Rather than framing AI use as inherently dishonest, faculty are encouraged to teach students how to use these tools transparently, ethically, and critically. Figure 2 below provides examples of suggested syllabi statements from Lynn University.

Student response to AI has been overwhelmingly positive. Even in courses where policies are restrictive, students report using tools like ChatGPT to brainstorm, revise, or better understand course material. As one faculty member noted, "Students are using AI whether we like it or not. Our responsibility is to help them learn how to use it wisely." This acknowledgment underscores the importance of

<b>Full Embrace (Encouraged and Integrated Use)</b> <p>"In this course, students are encouraged to use generative AI tools (such as ChatGPT, DALL-E, Grammarly, etc.) as part of the learning process. You may use AI to brainstorm, organize, or revise your work, but you must document your use and be prepared to explain and critically evaluate the output. All final work must represent your understanding and thought process. Misuse—such as submitting AI-generated content without review or attribution—may constitute academic dishonesty."</p>
<b>Permitted with Conditions (Guided and Transparent Use)</b> <p>"Generative AI tools may be used in this course, but only for specific assignments or phases of the creative process (e.g., idea generation, editing, summarizing). You are required to clearly cite and explain how AI tools were used. Unacknowledged or inappropriate use of AI will be treated as a breach of academic integrity. If you are unsure whether AI use is acceptable for a task, please ask in advance."</p>
<b>Discouraged but Not Banned (Cautionary Use)</b> <p>"Students are advised to use caution when using AI tools. While you are not strictly prohibited from using them, reliance on AI may compromise your learning and development of essential skills. If AI is used in any part of an assignment, you must disclose it fully. Assignments must still demonstrate your own original thought, and AI-generated content will be evaluated critically."</p>
<b>Fully Prohibited (Not Allowed)</b> <p>"Use of generative AI tools (e.g., ChatGPT, Copilot, etc.) is not permitted in this course. All submitted work must be entirely your own. Any unauthorized use of AI will be considered a violation of Lynn University's Academic Integrity Policy and subject to disciplinary action. If you have questions about acceptable tools, please consult with me."</p>

**Figure 2** shows suggested syllabi statements from Lynn University.

preparing students for a future in which AI will play a significant role across professions. Assignment design at Lynn has begun to reflect this evolving reality. In communication and advertising courses, for example, students might be asked to prompt ChatGPT for five campaign theme ideas for a real client. However, instead of simply selecting from those ideas, students are then required to critique and reject each suggestion—explaining why the ideas lack originality, fail to meet the client's needs, or do not align with the target audience. This type of assignment not only engages students with the technology but also fosters critical thinking, creativity, and strategic communication skills.

Institutionally, Lynn University maintains an academic integrity policy that prohibits the use of outside work without proper attribution. Within that framework, faculty retain discretion over how AI should be addressed in their courses. This balanced approach allows academic freedom while encouraging alignment with ethical standards and learning outcomes. Lynn University's integration of AI into classroom practices is grounded in collaboration, experimentation, and a commitment to student readiness. By equipping faculty and students with the tools and understanding needed to navigate the age of AI, the university is positioning itself at the forefront of thoughtful, ethical innovation in higher education.

## 6. Case studies of AI implementation at Universities Worldwide

Several case studies have documented the successful implementation of artificial intelligence (AI) technologies within university settings across the globe. Stanford University, located in California, United States, offers a range of artificial intelligence (AI) programs through its Stanford Online platform (Stanford University, n.d.). Among the programs available are the *AI Professional Program*, the *Generative AI: Technology, Business, and Society Program*, the *Applications of Machine Learning in Medicine Program*, and the *AI Graduate Certificate*. Some of the courses incorporate AI-driven components that enable students to engage in self-paced learning and revisit course materials as necessary. Chadha (2024) has characterized Stanford's integration of AI within its educational offerings as highly effective. According to Chadha, the university's approach represents a significant advancement in educational technology by "replicating aspects of personalized teaching and improving educational outcomes by promptly addressing individual learning difficulties" (p. 59). In addition to its academic programs, Stanford has recently introduced a publicly accessible AI research tool known as Stanford's STORM (Synthesis of Topic Outlines through Retrieval and Multi-perspective Question Asking). The platform is designed to support researchers and content creators by generating Wikipedia-style summaries on a wide range of topics within minutes, regardless of a user's affiliation with the university. Stanford has implemented AI platforms such as STORM into their curricula; other universities have also realized the enormous potential of AI to further foster student learning.

One notable example is the use of an AI teaching assistant at the Georgia Institute of Technology in Atlanta, Georgia, United States. The case involved the development of "Jill Watson," an AI teaching assistant created to support student learning in a course titled *Knowledge-Based Artificial Intelligence (KBAI)*, taught by Professor Ashok Goel (Meet Jill Watson: Georgia Tech's First AI Teaching Assistant, 2016). The primary motivation for developing Jill Watson was to provide students with rapid and accurate responses to their queries, thereby enhancing their learning experience. Professor Goel along with his team of graduate students, designed the AI assistant using IBM's Watson platform (Wang, 2016). Jill Watson could respond to students' questions in a timely manner, and notably, many students in the course were unaware that the assistant was not a human instructor. This case illustrates the potential of AI to support educational processes in higher education. AI systems, such as Jill Watson, demonstrate the capacity to assist diverse student populations by delivering accessible, responsive, and scalable academic support.

The University of Alicante, located in Alicante, Spain, has implemented artificial intelligence technologies to support visually impaired students. Specifically, the institution adopted an application known as *Help Me See*, which integrates computer vision and machine learning to assist individuals with visual

impairments (Saadioui, 2025). The primary objective of this initiative was to facilitate independent navigation across the university campus. According to DigitalDefynd (2025), “Help Me See” has notably enhanced campus accessibility for visually impaired students, allowing for greater independence and confidence in navigating academic spaces” (para 11). *Help Me See* achieves this goal by providing real-time audio guidance derived from visual data captured through the application. AI platforms can be extremely useful if used to assist diverse populations, however, all universities need to address AI issues regarding learning behaviors in the classroom.

A case study examining student learning behaviors by Thuy Nhu, Nam, and Quyet (2024) underscores the importance of a balanced integration of ChatGPT into classroom settings. Researchers from the Ho Chi Minh City University of Technology and Education (HCMUTE) in Vietnam sought to evaluate the potential of ChatGPT in supporting educational objectives while also addressing its ethical implications. The study employed a mixed-methods research design, incorporating surveys and semi-structured interviews to obtain comprehensive insights. The findings revealed that students frequently rely on ChatGPT as a learning tool. However, many students expressed concerns about becoming overly dependent on the technology, noting that such reliance could inhibit their creativity and critical thinking skills. The results suggest that while students are actively using artificial intelligence platforms to support their learning, careful consideration is needed to address the challenges associated with their use. Specifically, issues related to creativity, critical thinking, and academic integrity—such as plagiarism—should be explicitly addressed in the classroom. To this end, educators can develop strategies for the responsible and effective integration of AI into university courses.

## **7. Strategies for AI implementation in the classroom**

Bonnie Etherington, a lecturer in literary and creative communication at Te Herenga Waka–Victoria University in New Zealand, explored effective strategies for integrating artificial intelligence into educational settings. In her 2023 article titled *AI in the English Classroom*, Etherington emphasized the need for educators to thoughtfully engage with AI technologies, asserting that “as teachers, regardless of our teaching context, we want to prepare students for today and tomorrow, whatever tomorrow brings” (p. 36). She argued that open dialogue about AI is essential and that educators should not feel pressured to have all the answers. Rather, fostering classroom environments where students can critically examine the role and implications of AI encourages transparency and helps mitigate misconceptions surrounding the technology (Etherington, 2023).

In her article, Etherington underscores the need to address the inherent biases present in AI systems, urging instructors to make students aware of the potential

for biased outputs produced by AI platforms. In addition, Etherington highlights the continued importance of teaching writing as a process. She advocates for instructional practices that cultivate students' critical and evaluative thinking skills. Experiential learning within the classroom, according to Etherington, should remain a central priority, as it allows students to actively engage with content and concepts. Finally, she stresses the importance of teaching proper citation and referencing practices, particularly in relation to AI-generated content, to maintain academic integrity and ethical scholarship.

While Etherington emphasizes the pedagogical implications of AI in education—particularly its potential biases, the need for critical thinking, and the importance of academic integrity—the influence of AI extends well beyond the classroom. One prominent domain where AI has significantly shaped both practice and perception is the field of animation. Understanding how AI has evolved in this context offers a valuable parallel to its integration in educational settings. Examining the trajectory of AI in animation not only reveals shifting technological capabilities but also reflects broader societal attitudes toward automation and creativity. The historical perspective begins with early innovations in computer graphics and reaches a milestone with the groundbreaking release of *Toy Story* in 1995.

## 8. Changing perceptions of AI in animation over time

The concept of artificial intelligence (AI) in animation emerged alongside developments in early computer graphics in the 20th century. Though rudimentary at first, the integration of computers into the creative process foreshadowed the future of automated, intelligent animation. A major turning point came with the release of *Toy Story* in 1995, the first fully 3D-animated feature film. Created by Pixar, *Toy Story* was a critical and commercial milestone, grossing over \$363 million globally and showcasing the potential of computer-generated imagery (CGI) as a legitimate medium for storytelling and visual art (Nash Information Services, LLC, n.d.). Before this digital shift, animation relied almost entirely on manual craftsmanship. Artists painstakingly drew each frame by hand or used stop-motion techniques. These methods, while artistically significant, had severe limitations in scalability, realism, and production speed. The introduction of CGI—coupled with AI capabilities such as deep learning and image recognition—began to transform the animation landscape. Key figures like William Fetter and Ivan Sutherland played foundational roles in this transformation. Fetter's early human figure renderings and Sutherland's Sketchpad system (Association for Computing Machinery, n.d.; Spalter Digital, n.d.) laid the groundwork for modern visual effects (VFX). Their innovations led to breakthroughs in rendering, motion graphics, and the development of animation algorithms. These advances empowered animators to depict subtle details like facial expressions and gestures with unprecedented accuracy.

Prior to AI integration, full-length animated films required years of labor-intensive work. Each character's movement—be it walking, jumping, or emoting—was manually keyframed, often by large teams of animators. Despite the meticulous effort, such animations were frequently constrained by a lack of realism and flexibility. Studios relied on video references to enhance believability, but the results still fell short of lifelike motion. Moreover, the high cost and time demands of traditional animation limited storytelling scope. Studios often favored simple narratives due to budget constraints. Only major production houses with vast resources could afford to experiment with complex plots and nuanced characters.

By the late 20th century, AI-driven technologies began revolutionizing animation. Deep learning algorithms enabled machines to generate realistic movement patterns based on training data, accelerating production timelines. AI-powered image recognition allowed for automatic reconstruction of visual elements based on user inputs, democratizing content creation for non-experts. Neural networks further improved rendering processes by optimizing output quality through iterative feedback. This shift not only enhanced technical efficiency but also broadened creative access. Artists no longer needed extensive training in complex software; instead, they could use AI tools to visualize their concepts with professional-level polish. AI has also lowered the entry barrier for aspiring animators. Individuals from diverse backgrounds can now create high-quality content without formal training, contributing to a broader and more inclusive creative ecosystem.

*Toy Story* represents a seminal moment in animation history. Its production involved over 800,000 machine hours and 114,240 frames, with the character Woody alone requiring 723 distinct motion controls (EW Staff, 2010; Henne, Hickel, Johnson, & Konishi, 1996). Twenty-seven animators worked with 400 computers to bring the film to life. The movie was both a commercial hit and a critical triumph (Snider, 1995). It became the highest-grossing film in the United States in 1995. It also earned an Academy Award nomination for Best Screenplay and garnered a Special Achievement Oscar for director John Lasseter. Beyond box office metrics, *Toy Story* catalyzed interest in 3D animation within both industry and academia. Universities launched dedicated programs in CGI and computer animation, recognizing the growing need for technical and creative expertise in the field. It also underscored the limitations of manual animation, prompting wider adoption of AI tools like motion capture to streamline workflows and improve realism.

AI has significantly enhanced the capabilities of animation studios. Neural networks and deep learning models now assist in generating realistic characters, dynamic environments, and intricate VFX. AI tools can synthesize detailed models from textual descriptions, replicate complex natural phenomena such as fire or snowfall, and construct rich landscapes from minimal user input. These tools often operate on cloud-based systems, allowing creators to access them 24/7 without being limited by local hardware. As a result, production timelines are shortened, costs are reduced, and creative teams can focus more on artistic vision

than technical execution. Motion capture, one of AI's most influential applications, enables the conversion of human performance into animation data. This not only expedites character animation but also adds a level of emotional realism previously unattainable through manual methods. Today, motion capture is a staple in high-end productions, including Hollywood films and immersive installations like the Las Vegas Sphere.

## **9. Challenges and limitations**

Despite its many benefits, AI in animation presents several challenges. Technically, AI systems still struggle with spontaneous or dynamic scenarios and often require human oversight for fine-tuning. Ethically, concerns about data privacy, job displacement, and creative authorship persist. There is ongoing debate about whether AI-generated work constitutes true art, given that these systems operate on existing datasets rather than original inspiration. AI also faces limitations in emotional depth and narrative improvisation. While it can mimic expressions and structure coherent stories, it lacks the ability to conceive ideas with the emotional intelligence and cultural awareness intrinsic to human creators.

AI's growing role in animation has had far-reaching cultural and social effects. It has democratized digital art creation, enabling anyone with an idea to become a content creator. Platforms like YouTube and TikTok have seen an influx of user-generated animations that would have required years of training just a decade ago. Beyond entertainment, AI-assisted animation has found utility in sectors like healthcare, where animated visualizations aid in patient education and diagnostics. Importantly, while AI enhances the creative process, it does not replace the need for human imagination. The true power of AI lies in its capacity to assist—not substitute—the artist. It is the human spirit that breathes life into characters, crafts meaningful stories, and infuses digital creations with emotional resonance.

The evolving role of AI in animation exemplifies the broader transformations AI is driving across multiple sectors. As creative tools become more accessible and powerful, they not only redefine artistic practices but also reflect a larger shift in how technology supports human expression and problem-solving. These changes mirror similar developments in education, where AI is prompting instructors and institutions to reconsider traditional approaches to teaching and learning. Just as AI in animation amplifies human creativity without replacing it, AI in education has the potential to enhance learning experiences while preserving the critical role of human insight and judgment. This connection underscores the urgency for educators to thoughtfully integrate AI in ways that support—not supplant—core academic values. As such, the broader implications of AI across disciplines set the stage for a deeper reflection on how education must adapt to this rapidly changing landscape.

## 10. Conclusion

Artificial intelligence is creating a fundamental paradigm shift in education across every primary sector. From healthcare and business to transportation and the creative fields, AI is changing how people work, make decisions, and solve problems. Higher education is feeling this shift, too, as classrooms adapt to new tools, new expectations, and new challenges. The paper has explored how faculty across disciplines respond to AI, how creative programs like animation have led the way, and how Lynn University is helping guide thoughtful and practical use. From concerns about academic integrity to designing assignments that promote critical thinking, AI is already challenging long-established practices. As this shift continues, the focus must stay on building knowledge, encouraging reflection, and preparing students to think clearly in a world that AI already shapes. AI offers a powerful opportunity to rethink teaching and learning in ways that are more personalized, efficient, and meaningful (Getting Smart, 2024). AI is changing education, and how educators respond now will shape how students learn for years.

## References

- AimsTrue. (n.d.). From pixels to realism: The development of computer graphics. Retrieved from <https://www.aimstrue.com/post/from-pixels-to-realism-the-development-of-computer-graphics>
- Annenberg School for Communication and Journalism. (n.d.). Ethical dilemmas in AI. USC Annenberg. Retrieved June 6, 2025, from <https://annenberg.usc.edu/research/center-public-relations/usc-annenberg-relevance-report/ethical-dilemmas-ai>
- Association for Computing Machinery. (n.d.). Ivan Sutherland – A.M. Turing Award winner. A.M. Turing Award Winners. Retrieved from [https://amturing.acm.org/award\\_winners/sutherland\\_3467412.cfm](https://amturing.acm.org/award_winners/sutherland_3467412.cfm)
- Chadha, A. (2024). Transforming higher education for the digital age: Examining emerging technologies and pedagogical innovations. *Journal of Interdisciplinary Studies in Education*, 13(S1). <https://doi.org/10.32674/em2qsn46>
- Davidamazona, D. (n.d.). Toy Story: A case study in group dynamics (film analysis). Medium. Retrieved from <https://dandavidamazona.medium.com/toy-story-a-case-study-in-group-dynamics-film-analysis-8eb8d44c6a06>
- DigitalDefynd. (2025, January 18). Use of AI in schools [25 case studies]. DigitalDefynd IQ. Retrieved from <https://digitaldefynd.com/IQ/ai-in-schools-case-studies/>
- Etherington, B. (2023). AI in the English classroom. *English in Aotearoa*, 110, 36–41.
- Etherington, M. (2023). Artificial intelligence and the future of teaching and learning. Washington, DC: U.S. Department of Education. Retrieved from <https://www.ed.gov/sites/ed/files/documents/ai-report/ai-report.pdf>
- Exploding Topics. (2025). Companies using AI. Retrieved from <https://explodingtopics.com/blog/companies-using-ai>
- EW Staff. (2010, June 29). ‘Toy Story’: The inside buzz. *Entertainment Weekly*. Retrieved from <https://ew.com/article/2010/06/29/toy-story-inside-buzz/>

- Getting Smart. (2024, August 19). AI in education: Leading a paradigm shift. Retrieved from <https://www.gettingsmart.com/2024/08/19/ai-in-education-leading-a-paradigm-shift/>
- Henne, M., Hickel, H., Johnson, E., & Konishi, S. (1996, February 25–28). The making of Toy Story [Computer animation] (PDF). In COMPCON '96: Technologies for the Information Superhighway—Digest of Papers (pp. 463–468). Los Alamitos, CA: IEEE. <https://doi.org/10.1109/COMPCON.1996.501812>
- How a teapot changed the computer rendering industry. (2025, January 12). The Science Survey. Retrieved from <https://thesciencesurvey.com/spotlight/2025/01/12/how-a-teapot-changed-the-computer-rendering-industry/>
- International Journal of Educational Technology in Higher Education. (2024). The impact of artificial intelligence on institutional policies in higher education. Retrieved from <https://www.educause.edu/ecar/research-publications/2024/2024-educause-ai-landscape-study/introduction-and-key-findings>
- Korn, M. (2016, May 6). Imagine discovering that your teaching assistant really is a robot. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/imagine-discovering-that-your-teaching-assistant-really-is-a-robot-1462543200>
- Lynn University. (2023). The implementation of artificial intelligence in university classrooms. Boca Raton, FL: Lynn University. Retrieved from <https://spiral.lynn.edu/cgi/viewcontent.cgi?article=2919&context=facpubs>
- McCarthy, J. (2023, March 14). Deep 6 AI speeds up clinical trials by harnessing the power of big data. Forbes. Retrieved from <https://www.forbes.com/sites/forbestechcouncil/2023/03/14/deep-6-ai-speeds-up-clinical-trials-by-harnessing-the-power-of-big-data/>
- Meet Jill Watson: Georgia Tech's first AI teaching assistant. (2016, November 10). Georgia Tech Professional Education. Retrieved from <https://pe.gatech.edu/blog/meet-jill-watson-georgia-techs-first-ai-teaching-assistant>
- Nash Information Services, LLC. (n.d.). Toy Story. The Numbers. Retrieved January 18, 2022, from <https://www.the-numbers.com/movie/Toy-Story>
- Pixar. (2007, October 2). Toy Story – The claw scene [Video]. YouTube. Retrieved from <https://www.youtube.com/watch?v=gmwFOKDBCYU>
- Saadioui, Z. (2025, April 17). The future of AI in education: Leveraging local solutions. Arsturn. Retrieved from <https://www.arsturn.com/blog/the-future-of-ai-in-education-leveraging-local-solutions>
- Science Museum Group. (n.d.). William Fetter. Retrieved from <https://collection.sciencemuseum-group.org.uk/people/cp167300/william-fetter>
- Simplilearn. (2025). Top 24 applications of AI: Transforming industries today. Retrieved from <https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/artificial-intelligence-applications>
- Snider, B. (1995, December). The Toy Story story. *Wired*, 1–6. Archived October 17, 2013. Retrieved June 12, 2025, from <https://archive.ph/20131017031124/http://www.wired.com/wired/archive/3.12/toy.story.html>
- Spalter Digital. (n.d.). William Alan Fetter. The Anne + Michael Spalter Digital Art Collection. Retrieved from <https://spalterdigital.com/artists/william-alan-fetter/>
- Stanford University. (n.d.). Artificial intelligence for business professionals. Stanford Online. Retrieved June 3, 2025, from <https://online.stanford.edu/artificial-intelligence/ai-business-professionals>
- Stanford University. (n.d.). Artificial Intelligence Professional Program. Stanford Online. Retrieved June 3, 2025, from <https://online.stanford.edu/programs/artificial-intelligence-professional-program>

- The Science Survey. (2025, January 12). How a teapot changed the computer rendering industry. The Science Survey. Retrieved from <https://thesciencesurvey.com/spotlight/2025/01/12/how-a-teapot-changed-the-computer-rendering-industry/>
- The Times. (2025, April 6). AI cheats ‘slip under radar’ as few university students penalised. The Times. Retrieved from <https://www.thetimes.co.uk/article/ai-cheats-slip-under-radar-as-few-university-students-penalised-56kpcv6pp>
- Thuy Nhu, T. N., Nam, V. L., & Quyet, T. N. (2024). Artificial intelligence (AI) in education: A case study on ChatGPT’s influence on student learning behaviors. *Educational Process: International Journal*, 13(2), 105–121. <https://doi.org/10.22521/edupij.2024.132.7>
- Wang, A. X. (2016, May 19). A professor built an AI bot to make teaching easier: Will it replace him someday? Quartz. Retrieved from <https://qz.com/688048/a-professor-built-an-ai-bot-to-make-teaching-easier-will-it-replace-him-someday>
- Wibowo, M. (2009, September 12). Toy Story. Michelle’s Case Study Blog. Retrieved from <https://michellectasestudy.wordpress.com/2009/09/20/toy-story/>
- World Economic Forum. (2025). Transforming consumer industries in the age of AI. Geneva, Switzerland: World Economic Forum. Retrieved from [https://reports.weforum.org/docs/WEF\\_Transforming\\_Consumer\\_Industries\\_in\\_the\\_Age\\_of\\_AI\\_2025.pdf](https://reports.weforum.org/docs/WEF_Transforming_Consumer_Industries_in_the_Age_of_AI_2025.pdf)