



The AI for Higher Education Blueprint: Preparing Universities for the Future

Published July 2023

Sponsored By

QuantPlus⁺

AI Driven Insights for Advertising Creative

Table of Contents

3	AI in Higher Education: A Paradigm Shift	
	What Is AI?	5
	Language, Vision, and Prediction	6
	The Capabilities and Limitations of AI Today	6
7	How AI Will Empower Administrators	
	Strategic Planning, Budgeting and Financial Management	7
	Academic Program Oversight and Policy Making	8
	AI Detectors: The Next-Gen Plagiarism	8
9	Student Affairs	
10	How AI Will Empower College Marketing and Admissions Teams	
	Enrollment	10
	Admissions and Administration	10
	The Role of International Student Counselors and Recruiters	11
	How Are Real-World Higher Ed Marketers Using AI?	12
13	How AI Will Empower Educators	
	AI-Optimized Curriculum	13
	AI-Assisted Assessments and Grading	13
	AI-Driven Research Assistance	14
	How Are Real-World Educators Using AI?	14
15	How AI Will Empower Students	
	Student Engagement	15
	Job Placement	16
	Engaging and Supporting Alumni	16
17	Implementing AI in Higher Education	
	AI Challenges and Risks	17
	AI Ethics, Developing an AI Strategy, and Responsible AI Usage	19
20	8 AI Considerations for Higher Education	
21	The Future of AI in Higher Education	

AI in Higher Education: A Paradigm Shift

“Education as we know it will never be the same.”

Those words come from Josh Antonuccio, the Director of the School of Media Arts and Studies at Ohio University.

We asked him—and more than a dozen other higher education leaders—to share with us how artificial intelligence was impacting their work.

Their responses inform the AI for Higher Education Blueprint you’re reading now.

Their perspectives are diverse. And not all agree that AI’s impact will be entirely positive in their classrooms and institutions. But, no matter their views on AI or use of the technology, they all agreed on one thing:

AI in higher education is here to stay—and every higher education leader must begin learning how to understand and harness the technology.

This goes way beyond ChatGPT. Powerful AI systems—of which ChatGPT is just one—are already fundamentally changing every aspect of the way we live, work, and learn.

For many, that’s an uncomfortable, or even terrifying, thought...

And understandably so. We are inundated with stories about the very real dangers of AI when the technology is thoughtlessly or maliciously applied. In higher education, leaders are losing sleep at night over many issues, many of which don’t have easy answers:

Powerful
AI systems
are already
fundamentally
changing
every aspect
of the way we
live, work, and
learn.

- **Cheating.** Will students simply use ChatGPT to undetectably cheat on every assignment? Will we have to throw out our standard lesson plans and assignments in response?
- **Factual accuracy.** Even when using AI tools responsibly, how do we ensure that we’re getting accurate, useful information from them? How do we prevent these tools from actively generating misinformation?
- **Bias.** How do we prevent AI outputs from producing and promoting harmful biases that contribute to systemic injustices and inequalities?
- **Impact on students.** Will students simply substitute AI-generated answers for critical thinking and creativity? Are we doomed to a future generation of students who can’t produce original work?
- **Copyright and ownership.** Who actually owns the outputs of AI tools? How do we generate AI outputs legally and responsibly?
- **Workplace readiness and rate of change.** How do we keep up with the blazing fast rate of technological change? How do we adequately prepare students for the workforce?
- **The role of higher education.** How do universities market their value when information becomes free, courses become irrelevant, and jobs change?

It is enough to make any higher education leader's head spin.

But don't worry, you're not alone...

Every leader in every organization in every industry is grappling with the same exact issues and questions surrounding AI. And it's important for every higher education leader to do the same—because the students they serve will graduate into a job market being rapidly impacted by AI.

(In fact, research from [Goldman Sachs](#) estimates AI could impact up to 300 million current full-time roles and create brand new roles that lead to an economic boom.)

That's a lot to take in, but here's the good news...

Plenty of higher education leaders are already starting to successfully and responsibly incorporate AI into their classrooms and institutions. As a result, they're beginning to see the enormous potential of AI in higher education.

Because, make no mistake, despite the fear and uncertainty, the AI paradigm shift in higher education can create *enormous opportunities* for administrators, university marketing teams, educators, and students. Opportunities to:

- **Create better student outcomes.** AI can better personalize curriculum for students and predict their needs, leading to lower dropout rates, increased academic performance, improved mental health, and higher post-graduation hiring rates.
- **Make educators more effective and efficient.** AI can serve as the ultimate teaching assistant and in-class tutor, helping unlock new teaching methods and freeing up the time that educators spend on tasks like grading and admin.
- **Make institutions more attractive and impactful.** AI can help institutions more effectively and efficiently attract new students, better attract a more diverse student population, and better engage with alumni, resulting in lower costs and better results.

Universities that embrace AI have a once-in-a-generation opportunity to empower students, educators, marketing teams and administrators to deliver unprecedented levels of personalization and performance in education. Those that don't will struggle to adapt to coming disruptions and retain their relevance in an AI-first world.

This guide is a resource to help you do just that.

“With a little effort (and willingness), we can do right by our students and the firms who rely on us to prepare their young professionals.”

- Mike Frechette,
Assistant Professor
of Marketing at
Sacred Heart
University

What Is AI?

If you ask 10 experts to define “AI,” you’ll get 10 different definitions given the complexity of the subject. Our favorite is a simple one from DeepMind CEO and Co-Founder Demis Hassabis: “AI is the science of making machines smart.”

By “being smart,” these machines, in turn, enhance human knowledge and capabilities.

So, what does “being smart” actually mean?

AI is smart because it can determine its own pathways to achieving an overall goal.

When we talk about AI, we’re really talking about a collection of technologies, tools, and techniques that make machines smart.

Combined, AI technologies are capable of ingesting massive amounts of structured and unstructured data, finding patterns within this data, and using it to generate outputs, make predictions, offer recommendations, and even take actions on behalf of the user. And, if you think about it, many of the tasks that higher education leaders do every day involve these exact capabilities:

- University marketing teams predict which images and words are most likely to appeal to prospective students when creating advertising and communications collateral.
- Educators predict which examples and approaches are most likely to connect with students, illustrate the curriculum, and enhance learning.
- Administrators predict which language, anecdotes, and statistics are most likely to reassure parents, engage alumni, or inspire donors.

These predictions may be founded on instinct, experience, educated guesses, and data. In many cases, AI can produce these types of predictions as well or better than humans, using immense amounts of data and compute.

Additionally, thanks to *machine learning*, a subset of AI, AI-powered technologies can often learn on their own and improve their performance over time based on new data.

This is fundamentally different from how traditional (non-AI) technology operates. With AI, you can unlock superpowers previously inaccessible, thanks to a smart machine’s ability to get better at tasks over time.

The easiest way to wrap your head around what AI can do in higher education is to understand AI’s three primary applications: language, vision, and prediction.

“AI is the science of making machines smart.”

- Demis Hassabis, CEO and Co-Founder, DeepMind

Language, Vision, and Prediction

As we wrote about in [Marketing Artificial Intelligence: AI, Marketing, and the Future of Business](#), the primary applications of AI are language, vision, and prediction.

- **Language:** The ability to understand and produce the written or spoken word. [ChatGPT](#) has received widespread attention for its ability to generate human-like writing based on a prompt.
- **Vision:** The ability to detect, analyze, and create elements in image or video formats. For example, [Midjourney](#) uses natural language descriptions to produce images in any imaginable style, while [QuantPlus](#) deconstructs ad performance to the elemental level and provides educators the ability to pre-optimize ad creatives before they launch into market.
- **Prediction:** The ability to predict outcomes based on historical data. AI companies like [Persado](#) can use past performance data to identify the language and messaging most likely to motivate prospective students to convert.

We'll cover more examples throughout this guide, but it's important to keep these broad applications in mind as you begin to uncover use cases for your organization and in your career.

The Capabilities and Limitations of AI Today

AI isn't the stuff of science fiction anymore—but that doesn't mean that it's omnipotent and infallible. Those in higher education must consider AI adoption with eyes wide open to its capabilities and its limitations today.

So, what can AI do? AI can:

- Pre-optimize advertising creative, using performance data down to the elemental level across any industry, enabling marketers to start campaigns with ads they know will work.
- Produce written, audio, image, and video content at massive scale and exponentially faster than any human could do so.
- Detect patterns, such as the words and phrases corresponding to the highest-converting alumni donation campaigns.
- Analyze and synthesize information, like reviewing student course surveys and summarizing the topics students are struggling to grasp.

That said:

- AI cannot make independent decisions, enforce ethics, or have opinions. Its abilities are limited to the data on which it was trained.
- AI cannot perform beyond what it is asked to do. Despite some speculation and misinformation, [AI will not teach itself chemistry without being asked](#)—but it can continue to execute a task indefinitely if not instructed otherwise.
- AI should not run unassisted. It can, and does, commonly produce false information and misguided findings, and requires oversight and guidance from human counterparts to produce high-quality outcomes.
- Today's AI is narrow AI: Even the most advanced AI technologies are executing tasks within specific use cases. Artificial general intelligence (AGI)—or AI capable of fully replicating human intelligence, doesn't exist yet. And even the leading minds in AI debate over what AGI will look like, and if or when it could ever be realized.

The fastest way to understand and reap the benefits of AI is to look at use cases within your organization. So let's get away from the theoretical and into the practical: In the following sections, we explore how AI can benefit administrators, marketing teams, educators, and students across the educational lifecycle.

How AI Will Empower Administrators

Strategic Planning, Budgeting and Financial Management

In a world of widespread AI adoption, where will higher education fit in? When skills, knowledge, and careers are changing and iterating at the pace of technology, how can colleges and universities keep up?

The answer, of course, is to evolve or to fade away. And so, these are the questions college administrators must address to ensure their institutions remain relevant and competitive in the years ahead. Consider, for example, a next-generation university:

- Formerly a place where students would acquire specific knowledge or a fixed set of skills, now one that promises the development of the critical thinking, problem-solving, and emotional intelligence necessary to succeed in an AI-first world.
- Once a brief stopover before undergraduates set out on a 40-year career, now a life-long destination where professionals return again and again to upskill and reinvent themselves at each stage of their many jobs and career paths.
- Where academics once struggled to juggle course loads with research, they're now revered as a hub of access to experts, mentors, cross-disciplinary collaboration, and networking.

Such a transformation, however, would have institution-wide implications: on staffing and hiring, on course offering and admissions, on marketing and messaging, on vision and values.

AI isn't just the catalyst for this change, though. AI can also be an aide in this process, assisting administrators to make better strategic and budgeting decisions. For example, AI's vast computing power can analyze data to:

- Identify and recommend proper enrollment numbers to inform acceptance rates and expected graduation rates.
- Determine which programs and schools to invest or divest funds.
- Optimize resources, everything from class sizes to on-campus electricity usage.
- Run complex financial modeling and enrollment forecasts for long-term strategic planning.
- Better predict the student profiles most likely to attend your school, informing course offerings, faculty decisions, and recruiting budgets.

Armed with this information, administrators will be empowered to reimagine their institutions and align resources with their renewed vision.

Administrators will be empowered to reimagine their institutions and align resources with their renewed vision.

Academic Program Oversight and Policy Making

Administrators are charged with presenting a top-down vision for their institutions. While this has always included decisions around technology purchases and policies, none have been as significant as AI.

Each institution's perspective on, adoption of, and policies around, AI will shape every aspect of the student and staff experience.

- Which degrees and courses will thrive? Which will be challenged, disrupted, or eliminated altogether?
- How well will the university's programs and curriculum keep pace with job market needs and student expectations?
- Will students and faculty be allowed, or encouraged, to use AI? What guidelines will be put in place to dictate its use, define cheating, etc.?
- How much will AI skills and knowledge be weighted in hiring decisions—from faculty to admissions to operations?

A [May 2023 report released by the U.S. Department of Education](#) underscores the urgency with which educators and administrators must develop policies around AI.

Make no mistake, your university's stance on AI adoption will determine how attractive it is to prospective students and staff alike.

"...it is imperative to address AI in education now to realize key opportunities, prevent and mitigate emergent risks, and tackle unintended consequences."

- [Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations](#), U.S. Department of Education, May 2023.

AI Detectors: The Next-Gen Plagiarism

Cheating. In education, it's the lightning rod of every AI conversation. And educators' concerns are warranted: In addition to all of AI's other use cases, AI-assisted cheating is here, and likely here to stay.

[Courseology](#), a Google Chrome extension, purports to offer an undetectable way for students to find answers to homework assignments. Meanwhile, platforms like [TurnItIn](#) claim to detect AI in student writing (though after testing, *The Washington Post* has [cautioned against its pattern of producing false positives](#)).

The question is, can AI detectors keep pace with advancements in AI? Or more directly, can AI solve a problem created by AI? And what are the risks and trade-offs of doing so?

For some educators, it's a battle not worth fighting. Instead, their focus is on incorporating AI into the classroom and rethinking their assessments and assignments to better align with an AI-first world.

"Some educators fear AI because they think it's going to help students cheat on assignments or exams, replace their jobs, etc.," said Sydney Chinchachokchai, Ph.D., Associate Professor of Marketing, Akron University. "[But] many (including myself) see it as an opportunity and that we cannot avoid or ban AI in higher education. We just have to embrace the technology and redesign the assignment/the way we teach/the curriculum to reflect this change."

Student Affairs

AI-led changes to careers and job markets will impact not just course offerings and curriculum requirements; they'll upend students' expectations around their education, career prospects, and futures.

In 2022, [PwC's annual global workforce survey](#) showed that nearly one-third of respondents fear that their job will be replaced by technology in the next three years. Thirty-nine percent worry about not getting sufficient training in digital and technology skills from their employer—and these concerns are even higher among younger respondents.

These anxieties are understandable. Perhaps more than any previous generation, college students are going to be confronted by existential questions like:

- What purpose do I serve?
- What should I do with my life and my career?
- How valuable are my skills? What are my contributions worth?
- What happens if, and when, my job is disrupted or replaced?

This means the role of student counselors and career counselors may take on even greater significance on college campuses, as students navigate these new challenges.

Nearly one-third of respondents fear that their job will be replaced by technology in the next three years.

How AI Will Empower College Marketing and Admissions Teams

In the U.S. alone, [roughly 20 million undergraduate students](#) will attend colleges and universities each year—and many more will tour, apply, and decide where to pursue postsecondary education.

Marketing and admissions teams have the massive task of wielding budgets and resources to target, recruit, and select students for their incoming class. AI can enable them to perform these functions with greater precision, personalization, and productivity.

Enrollment

AI can support college enrollment efforts by helping college marketing teams and international recruiters identify students most likely to choose their institution and nurture these prospective students with more targeted marketing campaigns.

Predictive Analytics for Targeted Marketing

Digital marketing efforts have already enabled college marketing teams to more precisely pinpoint students that are a fit for their organization, based on demographic and geographic factors. [For years, colleges have been using Big Data](#) to track prospective students. AI-powered analytics tools can up their game even more.

- Intelligently segment students to personalize information based on interests, area of study, geography, or financial aid needs.
- Identify new cross-sections of student populations to recruit.
- Hyper-target student populations based on complex criteria.

Personalized Communication and AI-Powered Recruitment

Once cohorts of prospective students have been identified, AI can improve targeting and personalization at every stage of the recruitment process. AI-powered marketing tools have the potential to:

- Identify the highest-performing creative elements, like images, color, and composition, in ad campaigns, marketing collateral, and communications.
- Personalize messaging to different students based on their profile, behaviors, and engagement.
- Tailor content to individual user preferences across different schools or majors.
- Adjust messaging across channels to prompt students to engage and take action.
- Make content recommendations to achieve specific goals, like increasing scholarship applicants.
- Alter user experiences for students, parents, alumni, and other key audiences.
- Proactively recommend content based on graduation date and other milestones or behaviors.

Admissions and Administration

University admissions processes today often look something like this:

- **Submission:** Students submit applications online or on paper, and include personal information, academic transcripts, standardized test scores, essays, and personal statements.
- **Review:** Admissions staff review applications and evaluate each student's academic achievements, extracurricular activities, test scores, and other factors to determine whether they are a good fit for the school.
- **Selection:** Based on the application review, admissions staff decide whether to admit the student, or place them on a waitlist.
- **Notification:** Once a decision has been made, the university notifies students of their admission status through a letter, email, or online portal.
- **Enrollment:** If the student is admitted, they will typically be required to submit additional paperwork to confirm their decision to attend the college.

Throughout the process, the admissions staff may also conduct interviews or request additional information from applicants. Even with digital applications, the process can still be manual, complex, and time-consuming for staff.

Now imagine an admissions process with AI technologies infused throughout:

Automated application processing sends notifications and follow-up communications to students across channels, and requests and collects supplemental application information. AI-based assessment scores and sorts hundreds of applications in seconds, surfaces insights, recommends follow-up questions, and ranks waitlist candidates. Every step along the way, the process is better, faster, and smarter.

The Role of International Student Counselors and Recruiters

It's common for higher education institutions to work with student counselors and recruiters abroad to attract international students to their colleges. These individuals support recruitment and admissions services for international students by building relationships with local high schools, colleges/universities, and study abroad advisors; advising on and implementing international marketing strategies; meeting in person with families to answer questions; reviewing international student applications; and more.

But as AI empowers students and their parents to conduct more research on their own about international opportunities, how does the recruiter's role evolve?

AI can match students with overseas opportunities that meet their academic and course requirements, qualifications, location preferences, and price point, among a myriad of other factors—likely better than a local agent could.

“Show me the three top-ranking undergraduate Biology programs in the United States. Rank them by price, proximity to the city and safety rating of the city they are in. Based on the above, provide recommendations for where my 18-year-old son should study Biology.”

It can also streamline routine tasks like answering common inquiries, document chasing or deadline reminders. And offer multi-lingual support and translation services, making the admissions process more accessible to global students.

International recruitment agents need to understand and embrace these technologies to offer the level of personalization and speed needed to compete. But, as Corey Snow, the director of Education Industry Solutions for Salesforce was quoted as saying in the [ICEF Monitor](#): “Technology only gets you so far. The best way to build meaningful and durable relationships is via one-to-one (one-to-few) real-time human interactions.”

And it is here that the recruiter will thrive. By working with technology to automate the mundane and the repetitive, recruiters, in turn, can focus efforts on having the meaningful conversations that can really set a school apart from the rest and give families peace of mind that they made the correct choice.

How Are Real-World Higher Ed Marketers Using AI?

TAFE Queensland is an Australian Government owned education institution with more than 125,000 students across 50+ locations. As they kicked off a major international recruitment campaign, the school asked themselves a fundamental question:

*Would the domestic campaign that had worked so well locally, have the same effect internationally?
Would the beautiful domestic images, that included many localized Australian situations, resonate with their potential students from Japan and South Korea?*

But how could the marketing team be sure their domestic creative would attract prospective students from these countries? And, how could they know that what works for a Japanese student would work for a South Korean one? (After all, students in different geographies react differently to the same creative.)

The TAFE Queensland had experienced marketers with some well formed views about what they believed would work in these markets. However, at its core they were still using only their collective knowledge, advertising experience and intuition in the creative development process.

It's a common problem. Higher education marketing teams often rely on intuition and guesswork to devise marketing campaigns - because, historically at least, there were no other resources that could deliver deeper insights without significant time and money investment. Even with multiple creatives and A/B split testing, they often lack the data to point to why something does or doesn't work.

TAFE Queensland was the same way. Until they turned to AI.

For their international recruitment campaign, TAFE Queensland turned to AI from [QuantPlus](#) to generate data-driven creative insights linked to performance metrics.

Unique to the ad industry, QuantPlus' AI evaluates trillions of data points from campaigns around the world to determine what text and image elements work best with a specific audience *before* you launch your campaign. Using QuantPlus, TAFE Queensland was able to gain confidence its campaign would produce results before spending a dime to launch and test in-market.

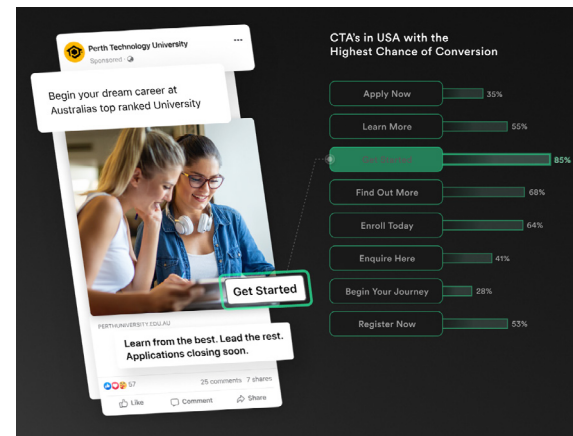
With QuantPlus, the marketing team was able to understand what calls to action, keywords, phrase combinations, imagery, colors, and other creative elements resonated most with each different markets, then proactively build ads that matched what was already statistically proven to perform well.

TAFE Queensland was able to determine the precise differences in visual elements and ad copy that Japanese and South Korean markets tended to prefer. It turned out each audience had different color, image, and text preferences, which the team was able to incorporate into unique campaigns for each country.

The result?

Across both markets, TAFE Queensland attracted a 90% lift in unique visitors to the landing pages and a 33% increase in ROI, when compared to previous campaigns. TAFE Queensland attributed this increase directly to the new creative informed by the QuantPlus insights.

"We are not afraid to challenge traditional thinking. Particularly if the end result can lead to better outcomes for our students or TAFE," says Marty Lock, Manager International Student Engagement at TAFE Queensland.



Click to learn more about how AI from QuantPlus can help you.

[GET STARTED](#)

How AI Will Empower Educators

It's no secret that most educators feel overworked—fighting to keep up with grading, to adapt to new standards and new technologies, to give each student the personal attention and instruction they need.

AI can help lighten the workload of teachers by automating tasks such as grading essays, providing feedback, and answering student questions. Better yet, it can unlock brand new ways of delivering content, engaging students, and assessing learning.

AI-Optimized Curriculum

Curriculum building, lesson planning, and vertical alignment are all time-intensive requirements of any course. But AI's ability to analyze, synthesize, research, and reorganize can increase productivity while producing more effective and engaging curriculum.

AI tools can:

- Find statistics on sources to support key concepts.
- Suggest examples and analogies to connect abstract concepts to real-world ideas.
- Review course outlines for multiple professors, and flag redundancies and topic gaps for greater vertical alignment.
- Provide alternative explanations to help illustrate key concepts, reinforce ideas, and help students learn.

AI-First Learning Experiences and Enhancing Teaching Methods with AI

AI can also provide alternative methods of teaching content and create new opportunities for more engaging and interactive teaching. Educators are already testing out new prompts, assignments, and strategies to [enhance their teaching with AI](#). For example, students can:

- Interview the AI acting as a particular viewpoint or historical figure to gain new insights and a "first person" perspective.
- Debate topics with the AI taking the opposing point of view.
- Ask AI to identify and explain [cognitive bias or logical fallacies in the student's work](#), to improve writing, communication, and critical thinking skills.
- Prompt AI to rewrite their work in different tones or styles to analyze their own writing and explore alternative angles.

AI-Assisted Assessments and Grading

Assessments are the default method of gauging students' mastery of a subject, but they have understandably come under fire for the ways they might favor a particular learning style. Conversely, they could also unfairly punish students from a particular geographic or socioeconomic background, or degree of English fluency.

AI-generated assessments may be able to produce more objective diagnostic tests and flag the potential blindspots of existing assessments.

AI excels at following route processes, especially when given clear guidelines. AI-assisted grading, aided by a clear rubric, is another way in which AI can increase grading efficiency while reducing personal bias for particular students or styles.

"AI is dramatically changing how I personally teach. I have dropped long essay assignments in my courses ... In my courses, I am making it more experiential where we use AI to help with assignments in class."

- David Rice, Professor and Executive Director of the Future of Marketing Institute at the Schulich School of Business, York University

AI-Driven Research Assistance

For publishing scholars, AI can also be the ultimate research assistant: Finding sources, organizing information, and so much more.

- Find patterns, follow trends, and surface insights in massive datasets.
- Transcribe audio and video interviews.
- Identify key concepts, common themes, and outlier opinions across primary or secondary sources.
- Search databases and academic journals for relevant research studies and organize findings in a meaningful way.
- Run statistical analyses of data, and generate visualizations to help interpret the results.
- Synthesize large amounts of information from various sources, and summarize complex ideas.
- Create outlines or summaries of research findings.
- Manage citation and reference lists more easily and efficiently.
- Organize sources and generate indexes.
- Write first drafts of research articles and report introductions.
- Fine-tune writing by identifying grammatical errors, suggesting alternative word choices, and providing feedback on writing clarity and readability.

How Are Real-World Educators Using AI?

We asked college-level educators how they're beginning to incorporate AI in their marketing, curriculum and classrooms. Here's what they had to say:

- Introducing AI concepts and tools into existing courses. For example, requiring the use of AI tools in assignments to illustrate their capabilities.
- Creating new courses specifically dedicated to AI and its applications.
- Leading discussions on the motivations, choices, and outcomes of using AI to encourage students to use AI tools appropriately.
- Adding AI policies to course overviews, such as requiring students to disclose the use of AI when completing assignments.
- Adding project-based learning activities that require the hands-on use of AI technologies, including relevant tools that employers will expect them to know.
- Exploring AI's abilities to provide learning experience personalization.
- Increasing class participation and on-camera work to replace essays and other more traditional assignments.
- Facilitating a holistic discussion of AI and its impact on students' lives. Using AI-based activities in courses to explore its potential use cases, challenges, and opportunities.

How AI Will Empower Students

Students enter college with the hope that they'll leave with the knowledge, skills, and network to exceed in their chosen careers. How well does your university rise to meet this challenge today?

By incorporating AI into your institution, you can help students thrive from their first day on campus to crossing the stage on graduation day, and beyond. AI can aid students by improving classroom engagement, providing them with individualized support, and better connecting them to resources both on- and off-campus.

Student Engagement

Effective pedagogical strategies are well-known and well-documented, but adoption of these principles remains inconsistent and uneven in education—largely due to resource constraints.

Empowered by AI, teachers will be able to provide more personal, more hands-on, more responsive, and more engaging instruction.

Identifying Skill Gaps and AI-Based Learning Recommendations

Differentiated instruction adapts curriculum to students' unique learning styles and background knowledge—an effective but time-intensive pedagogical strategy. AI tools can help teachers assess student knowledge more quickly and comprehensively than the educator could on their own.

- Develop pre-tests and other assessments to evaluate students' background knowledge at the start of term.
- Analyze assessments and assignments, and identify weaknesses in skills or content areas.
- Provide early warnings of struggling students in need of greater intervention.
- Suggest alternative lesson plans, examples, or activities to reinforce hard-to-grasp concepts.

Colleges may be able to flag students who are struggling academically and in need of greater support and even identify students at risk of dropping out and provide them with earlier intervention services.

Personalized and Adaptive Learning Pathways

Active learning has been demonstrated to be more effective than the passive learning found in most lecture halls, but class sizes and student-teacher ratios often make this impossible, especially in entry-level courses. AI technologies can supplement this one-to-many instruction to provide more tailored and responsive support.

- Offer self-paced courses that adapt the pace and difficulty of instruction to meet each student's needs.
- Administer adaptive quizzes, tests, and other assessments that match question difficulty to the student's level of understanding.
- Provide detailed feedback on assessments with personalized learning recommendations.
- Source supplemental videos, articles, and practice exercises to strengthen student knowledge and understanding of key concepts.

“There needs to be more wide-scale acceptance and recognition that today/tomorrow's students need to build their AI skill sets. Encouraging them to explore and experiment with using generative AI tools or interacting with other AI applications will enable the students to be at the cutting edge of digital transformation in their workplace.”

- Andy Dahl, Associate Professor, Marketing, University of Wisconsin-Whitewater

AI Assistants and Tutors

AI assistants can reinforce student learning, practice skills, and provide one-on-one educational support at scale. Khan Academy has already begun a beta rollout of its [AI-assisted tutor](#), a chatbot that can:

- Offer guidance, such as discussing how to approach a problem.
- Work collaboratively with students, offering assistance without providing answers outright.
- Challenge blindspots in students' thinking and problem-solving.
- Take an opposing view in a debate.
- Explain why an answer is right or wrong.

Job Placement

Preparing graduates for careers in a rapidly changing world is a tall order. Fortunately, AI tools and technologies can help. By aligning university offerings and career services with the needs of the job market, universities can ensure that graduates are well-prepared for the workforce.

- **AI-powered career counseling:** Armed with robust data on the current job market and the skills and experience that employers are looking for, college career counselors can provide more effective career services, including resume reviews and job search assistance.
- **Predictive analytics for job market trends:** AI excels at data-driven tasks and with AI-powered predictive analytics tools, college administrators can keep a pulse on job market trends, identify emerging careers, and adjust their program offerings accordingly. Predictive analytics can also identify the employers that are most likely to hire graduates with certain skill sets, degrees, and experience. This information can be used to better align recruitment efforts, resulting in higher employment rates for graduates.
- **Track and analyze graduates' employment outcomes:** This information can be used to guide decision-making around issues such as program development and funding.

Engaging and Supporting Alumni

In the best cases, the university-alumna relationship is a life-long, mutually beneficial partnership. AI can make it easier to nurture personal connections with alumni, provide personalized support, foster loyalty, and solicit donations.

- **AI-driven networking and mentorship:** AI-powered mentorship platforms like [Chronus](#) already exist in the workforce, using algorithms to match mentors and mentees based on profile data. Similar personalization could provide robust "matchmaking" services to provide better-fit mentorship relationships, better engage alumni, and create a stronger and more robust alumni network.
- **AI-driven fundraising and alumni support:** A wide range of AI-assisted marketing, advertising, and communication technologies are coming on the market, many of which could be used for fundraising and donor relations. More precisely segment your alumni databases, send personalized fundraising requests, optimize creative elements to maximize conversions, and much, much more.
- **Lifelong learning opportunities through AI:** AI enables personalization at a scale far beyond what was previously possible. Not only can universities stay in touch with their alumni, but by providing them with hyper-targeted career resources and more tailored support, they can help graduates succeed in their career paths and build stronger relationships with alumni.

Implementing AI in Higher Education

AI adoption can seem daunting, particularly in large-scale organizations like colleges and universities. But change can start small: First, by understanding the challenges and considerations, and then by building a plan for responsible, intentional AI use.

AI Challenges and Risks

Haphazard use of AI tools can be irresponsible at best, and dangerous at worst. Let's look at some of the top risks posed by AI, so higher ed professionals can leverage AI to maximize its potential and minimize its risks.

Unconscious Bias in Training Models

AI is only as "smart" as the training model, or data set that was used as the foundation of the algorithm. A couple of notable real-world examples:

- An AI algorithm was developed to identify cancerous moles. The algorithm [incorrectly began to associate rulers with skin cancer](#). Why? Because of the thousands of photos used to train the AI, the presence of a ruler was often associated with dermatological appointments and potentially cancerous moles.
- In 2018, [Amazon had to scrap an unintentionally discriminatory hiring algorithm](#). Because of a predominantly male workforce (and therefore, training data based largely on male employee resumes), the algorithm penalized resumes containing the names of women-only colleges, among other factors common among female candidates.

Both are examples of how AI can reach flawed conclusions based on flawed training data, despite the best intentions of their creators.

Now imagine AI-powered admissions software trained on a narrow set of well-crafted personal essays. Such a tool may unfairly reward the admissions essays of students of a particular race, gender, or socioeconomic background—exacerbating privilege and decreasing the diversity of accepted candidates.

AI trained on biased data will produce biased results. Perhaps even more dangerous, outputs produced by software carry a suggestion of objectivity, which may allow biased feedback to go unchecked and unchallenged. And even then, training models are often a "black box," making it difficult to reverse-engineer or root out unconscious bias in algorithms.

Personal Data, Privacy, and Security Considerations

AI training models require substantial data, but few laws, regulations, or legal precedent exist to dictate what data can be used to train algorithms or how that data can be collected, stored, and analyzed. Within colleges and universities, this creates conflicts and vulnerabilities on several fronts, not limited to:

- AI that use copyrighted, or otherwise illegally obtained or unauthorized material in their training models.
- Exposure of personal data or confidential information to publicly available AI programs.
- Vulnerability of AI-assisted software to cyber attacks or other security threats.

Higher education leaders will need to involve other subject matter experts in the AI implementation process, including IT professionals and legal teams.

"There are issues of privacy, of validity and reliability, of inequities that are parts of both inputs and outputs, the potential replacement of human capital. All of these are concerns that humans will need to determine when and how to mitigate for the harms that are and will happen."

- Thor Wasbotten,
Professor, Kent State
University

Copyright and Ownership

As of publishing, little legal precedent exists for AI-generated work. The [U.S. Copyright Office recently clarified](#) that human authorship (not generative AI) is essential for copyright approval. This space continues to evolve, but the outcomes will shape everything from professors' use of generative AI in academic research papers to college's policies around AI use for faculty, students, and staff.

Factual Inaccuracy and Errors

Generative AI occasionally produces outright inaccurate or false information, a phenomenon known as "hallucinating." As of this writing, AI experts haven't expressed confidence in their ability to understand why hallucination occurs, or their ability to stop it from happening. This means human oversight is essential to fact check and verify AI-generated outputs.

Workplace Readiness in an AI-First World

Put simply: In the future, every career is an AI-assisted career. (And the future is much closer than we think.)

AI won't just alter the way curriculum is taught. It will simultaneously reshape courses, content, and majors as universities work to prepare students for the careers awaiting them beyond graduation.

From prompt engineering to prompt copiloting to the [World of Bits](#)—working alongside AI may soon be a requirement in many knowledge work jobs.

In [Robot-Proof: Higher Education in the Age of Artificial Intelligence](#), Joseph Aoun argues that these three literacies will be essential in a world where machines and humans are working more closely together:

- **Data literacy:** Ability to understand and work with data, including how data is collected, stored, and analyzed, as well as the ethical implications of data use.
- **Human literacy:** Ability to understand and work with other people, including empathy, emotional intelligence, communication, and collaboration.
- **Technological literacy:** Ability to understand and work with technology. This goes beyond technical skills like programming and includes comprehending the ways technology is impacting society, thinking critically about its applications and limitations, and understanding the implications of its use.

Rate of Change

Perhaps the most dizzying aspect of AI adoption is simply the speed at which the space is changing. AI technology will continue to evolve at a compounding rate, with breakthroughs being made all the time. To keep up, higher education must develop flexible and adaptable curricula, integrating the latest developments in AI.

Even so, in a world of compounding change, how can educational standards and syllabi keep up?

"The classroom will never be fast enough to implement from my perspective," says Dan Farkas, Strategic Communication Lecturer at The Ohio State University. Instead, he sees extracurricular activities, like student-led marketing and PR firms, to supplement classroom instruction.

Students need practical experience with AI tools and technologies to understand their applications, limitations, and abilities. These extracurricular opportunities for students to work with AI in real-world contexts, including clubs, internships, and capstone courses, can be beneficial by providing a testing ground for emerging technologies.

"Helping students learn to use AI effectively will be necessary for us as we prepare them for their future careers, and really their interaction with technology as a whole in their lives. The opportunity is to aggressively integrate AI into students' experiences."

- Scott Titsworth, Dean, Scripps College of Communication, Ohio University

"The changes are rapid and the speed of change is increasing. How do we best understand these changes and their implications? More importantly, how to teach to be the agent of change?"

- Madhavi Chakrabarty, Assistant Professor of Professional Practice, Rutgers Business School

AI Ethics, Developing an AI Strategy, and Responsible AI Usage

AI ethics in education will be the subject of books, lectures, and debate for years to come. To get started, below are five steps all organizations should prioritize to develop a proactive and responsible AI strategy.

1. Prioritize staff training and upskilling.

Invest in your staff so they can prepare themselves for all the changes ahead. Offer introductory AI courses so faculty better understand AI's uses, limitations, and vulnerabilities. Get curious: Educators are already creating [use cases](#), sample prompts, and other best practices that can be adopted and adapted by professors. Choose small use cases to pilot before scaling AI within your organization.

2. Create an internal AI Council.

Universities must have a top-down vision for the responsible use of AI within the institution. An internal council is a good place to start, with stakeholders from across the organization charged with shepherding AI adoption and guidance.

3. Develop responsible AI principles and generative AI policies.

Begin to develop policies around AI that can guide students and staff. This may include:

- How AI-powered technologies are vetted and approved for organizational use.
- How university staff can use AI, including policies to protect sensitive data and proprietary information.
- How professors can use AI in their research and academic work.
- How students can use AI in assignments, and sample AI policies for staff to use in syllabi.

The Marketing AI Institute published a [Responsible AI Manifesto for Marketing and Business](#) under Creative Commons, which you can use as a starting point. Boston Consulting Group has also published extensive reports and articles on [responsible AI principles](#).

4. Conduct an impact and exposure assessment for your institution.

Initiate a comprehensive evaluation of how AI could impact your institution. Assess the tasks, roles, and responsibilities most likely to be disrupted by AI, along with the careers, courses, and areas of study most likely to be disrupted. This will provide actionable insights across technology, staffing, data use, course offerings, and more.

5. Build an AI Roadmap for your university.

Using what you've learned, outline an AI roadmap. Include short-term and long-term plans to adopt AI technologies and ways to respond to students' use of AI.

"We call upon all constituents to adopt 'humans in the loop' as a key criterion for educational use of AI."

- [Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations](#), U.S. Department of Education, May 2023.

8 AI Considerations for Higher Education

As you evaluate AI in your own institution, here are some questions to consider:

1. Which tasks or processes are the most manual or repetitive?
2. Where could we benefit from increased productivity or efficiency?
3. Where would increased efficiencies allow us to cut costs?
4. In which areas of our organization are we struggling? Could AI help us optimize performance here?
5. What proprietary data do we have? How can we improve our data quality and protect our personal and proprietary data?
6. How will we address privacy and security concerns around AI?
7. How will we prevent, detect, and address unconscious bias in our AI tools?
8. What is our university's stance on the role of AI in education and learning? In the student experience?

The Future of AI in Higher Education

In the 1970s, calculators were introduced to the classroom—a change that was [met with backlash by many educators and parents](#). The technology, they argued, would remove the student's ability to solve the problem themselves, prevent them from checking their work, and reduce their overall understanding of mathematics.

(A similar thing occurred with the release of the [graphing calculator in the late 1990s](#).)

Fast-forward to today, and graphing calculators are on the school supply lists of most U.S. high schools. Students still learn math, but they do so in new ways.

From typewriters to calculators, personal computers to search engines, educators have adapted to technological change. AI may follow a similar narrative. But with some notable differences:

The pace is faster.

The power is greater.

The potential is unprecedented.

One thing is certain: Organizations that hesitate will be left behind.

To transform higher education, leaders in academia must face AI head-on. The future of higher ed will be built collectively, by evaluating the impact of AI, weighing its value, creating a shared vision, and developing new approaches and processes. Together, building a new promise of higher education with AI at the center.

“It’s here. It’s a game changer. Get on board, and get over your fears. It’s the most exciting thing since the Internet, and it changes the rules of the game entirely. It allows new opportunities for my students to replace the old world order of marketing far more quickly.”

- Ian Cross, Professor, Bentley University

“I think the ‘It will make students take short cuts’ and ‘It’s cheating’ fears are just over-paranoia. Same was said about the use of calculators in class 35 years ago. It’s a tool, and we’ll all learn to adapt and use it as appropriate. No one today is complaining about calculators or spell check in word processing programs any more!”

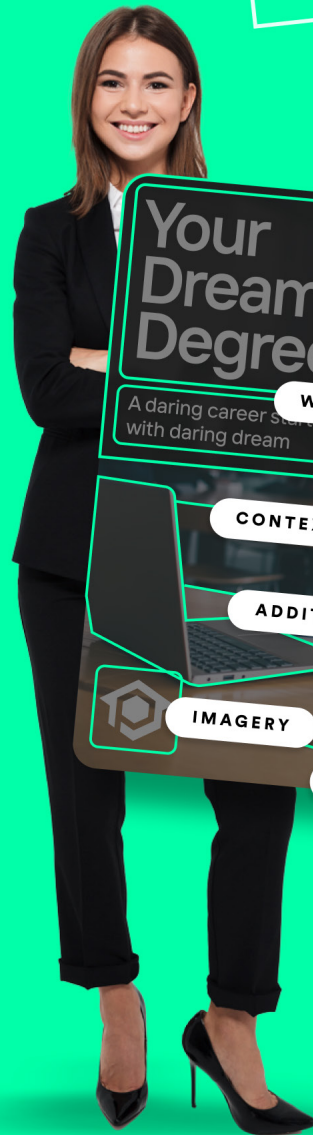
- Jim Lecinski, Clinical Associate Professor of Marketing, Kellogg School of Management, Northwestern University

COLLEGES

WHAT AD ELEMENTS GET YOU MORE ENROLLMENTS?

OUR INSIGHTS INCREASE YOUR ROI BY 30-300%

www.quantplus.io



Your Dream Degree

A daring career starts with daring dream

DESIGN & LAYOUT

WORDING

CONTEXT

PEOPLE

ADDITIONAL ELEMENTS

IMAGERY

See Courses

CALL TO ACTION

Millions of historically successful ads have been AI analyzed at an 'elemental' level

QuantPlus Creative Insights

Advances in AI have enabled QuantPlus to reveal the ad creative elements that statistically achieve the highest performance in your industry, so you can approach your next campaign with the certainty of success.

- ✦ Know what text, imagery, colors, CTAs to use
- ✦ Beat your competitors upstream
- ✦ Avoid creative guesswork
- ✦ Insights for 50+ countries available

Each creative insights report is made up from:

1K

Advertisers

100B+

Creative Elements

8B

Ad Impressions

4 Major Channels

FB, Instagram, Twitter, Display



QuantPlus+
www.quantplus.io

About Marketing AI Institute

Marketing AI Institute is a media, event, and education company founded in 2016 that makes AI approachable and actionable for marketers and business leaders. The Institute owns and operates the Marketing Artificial Intelligence Conference (MAICON), AI for Writers Summit and AI for Agencies Summit, hosts The Marketing AI Show podcast, runs the AI Academy for Marketers featuring dozens of on-demand courses, and published *Marketing Artificial Intelligence: AI, Marketing, and the Future of Business* (Matt Holt Books, 2022). Learn more at www.marketingaiinstitute.com.

About QuantPlus

QuantPlus is world-first in AI-driven data insights. Its reporting system breaks down advertising creative performance at an “elemental” level and has boosted campaign ROI by 300 percent.

QuantPlus has analyzed more than 100 billion ads across 55 countries within the education industry to unlock the secrets of what creative elements in ads drive maximum enrollments. Ads can be pre-optimized using text, imagery, colors, and calls to action that are linked to known performance before a single impression has been served. Learn more at www.quantplus.io.

Thank You to Our Contributors

A special thank you to the higher-education professionals who shared their insight on the topic:

Josh Antonuccio, Director, School of Media Arts & Studies, Ohio University

Paul Benedict, Director, Center for Entrepreneurship, Ohio University

Madhavi Chakrabarty, Assistant Professor of Professional Practice, Rutgers Business School

Sydney Chinchanchokchai, Ph.D., Associate Professor of Marketing, University of Akron

Ian Cross, Professor, Bentley University

Andy Dahl, Associate Professor, Marketing, University of Wisconsin-Whitewater

Dan Farkas, Strategic Communication Lecturer, The Ohio State University

Mike Frechette, Assistant Professor of Marketing, Sacred Heart University

Edyta Gołąb-Andrzejak, Professor, Gdańsk University of Technology

Jim Lecinski, Clinical Associate Professor of Marketing, Kellogg School of Management, Northwestern University

David Rice, Professor and Executive Director of the Future of Marketing Institute, Schulich School of Business, York University.

Scott Titsworth, Dean, Scripps College of Communication, Ohio University

Thor Wasbotten, Professor, Kent State University