

THE OHIO STATE UNIVERSITY

Scaling Academic Innovation & AI Fluency

Change Strategies and Engagement for an Uncertain
Future

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APLU CIMA Presentation

AI Co-Pilot Generated Image: Prompt OSU themed that aligns with
presentation



DESCRIBING THE **AI FLUENCY INITIATIVE**

The Vision

"The initiative was developed to ensure that every Ohio State student will graduate being AI fluent — **fluent in their field of study**, and fluent in the application of AI in that field."

We gathered undergraduate student feedback on learning gains, use levels, career relevance, and confidence development via a large-scale survey and in-depth focus groups.



Methods: A Mixed-Methods Study

Survey (Mar–May 2026) for breadth paired with focus groups for depth (April 2026) · Institutional Research and Planning

3,782

Survey respondents
Degree-seeking
undergraduates

13

Colleges represented

33

Focus-group participants

10

Focus groups conducted

How we analyzed the data

- Focus groups held online via Zoom; transcripts auto-generated, then hand-cleaned by two facilitators
- Cleaned transcripts coded thematically in Dedoose
- Themes reviewed and agreed upon by researchers
- Quantitative analyses of survey forced-choice items and conducted paired samples t-tests to detect significant learning gains.

Why combine methods

Triangulation — seeking convergence and corroboration of results from different methods.

Complementarity — seeking elaboration, enhancement, and illustration of the results from one method with the results from the other.

Goal: Evaluate and improve the student experience for Ohio State's AI Fluency initiative.



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Note: Moritz College of Law and College of Optometry do not have undergraduate students.

ACADEMIC INNOVATION THEORETICAL FOUNDATION: "ROBOT-PROOF"

Joseph Aoun (2017/2024) argues higher education must evolve to focus on uniquely human abilities algorithms cannot replicate.

Data Literacy

The ability to read, analyze, and utilize vast amounts of information.

Tech Literacy

Understanding how machines work, including coding and engineering principles.

Human Literacy

Empathy, ethics, communication, and design — the core "Humanics" framework.

Cognitive Capacities: Systems Thinking • Cultural Agility • Entrepreneurship • Critical Thinking



PREPARING STUDENTS: **FOUR COGNITIVE CAPACITIES**

To create value that algorithms cannot, students must master four areas of higher-order thinking.

Systems Thinking

Seeing the big picture and understanding how different parts of a complex system interact.

Entrepreneurship

The ability to innovate, take calculated risks, and create new economic or social value.

Cultural Agility

Navigating and working effectively in diverse, global environments.

Critical Thinking

Analyzing information rationally and evaluating arguments independently.

Scaling Academic Innovation Framework | *Based on Robot-Proof (2024)*



"How are we adapting to disruptive innovations in an era of accelerating change?"

Analyzing Institutional Adoption and Student Usage

INSTITUTIONAL ADOPTION: **USAGE & ENGAGEMENT**

81.8%

Students using AI tools for academic purposes

Primary Personal Use: Asking general knowledge (50.8%), replacing traditional search engines.

Workforce Transition: 40.9% of students rely on AI for resumes, cover letters, and personal statements.

Academic Purpose	% of Respondents
Brainstorm ideas for assignments or projects	57.7%
Study or prepare for exams	56.9%
Edit or proofread my writing	48.2%
Summarize readings, lectures, or research articles	43.3%
Solve math or science problems	33.3%
Gather background information or conduct research	26.6%



Student Voices : WHAT BEING AI FLUENT MEANS

Focus Group Qualitative Findings (April 2026)

"be able to use AI and tailor your responses to get the answers you're looking for, be able to navigate the different uses of AI,...not solely rely on it for everything that you're trying to do,

"understanding how to best leverage AI without letting it overpower your own critical thinking. requires a balance of letting AI do the simpler tasks that allow you to have more time to do those that require complex cognitive ability,

"Being fluent in AI means you know how to use it to the best of your ability, and how to use it without letting it think for you, you still have your own thought process..."

"being able to recognize the limitations of AI. Understanding what is an AI hallucination? In what circumstances is it okay to use AI? What are the ethical and moral considerations?"

Key Sentiment: Students emphasize maintaining independent thinking: *"Knowing the do's and don'ts of usage, and how to just best use AI to solve your daily tasks... without letting it overpower your own critical thinking."*



DISCIPLINARY DIVERGENCE IN ADOPTION

Disciplinary Division	ChatGPT Adoption	Google Gemini	Microsoft Copilot	Non-Adoption Rate
Fisher College of Business	87%	68%	54%	3%
College of Engineering	76%	57%	46%	12%
Natural & Mathematical Sciences	69%	56%	39%	15%
Social & Behavioral Sciences	63%	43%	29%	20%
Arts and Humanities	37%	23%	21%	44%

Insight: Near-universal adoption in Business contrasts sharply with a 44% non-adoption rate in Arts and Humanities.

Tool Dominance: OpenAI's ChatGPT remains the undisputed core tool across every discipline surveyed.

Inconsistent Classroom Experiences

“I say it really depends on the professor. There are professors that I've had that are equipped for this. But have other professors that are so hesitant and so negative against

Lack of Consistency: “The incorporation of AI from not just a couple professors, but a lot of the professors would definitely make me feel more confident in using it, “

The Policy Divide

Instructors who actively integrated AI vs. instructors who "took a stark stance" and "prohibited it entirely."

Only 27% felt AI was integrated effectively without feeling like "added busy work."

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PREPARING WITH INTEGRITY: THE "BLURRED LINE"

Students face a complex landscape regarding academic integrity and inconsistent policies:

"I also have yet to experience a teacher that advocates for it... most of my teachers are pretty against it... the blurry line was very true... I'm scared to use it, but I also really need it sometimes."

"Every other course has said explicitly, do not use AI for this content. If they find out that you use AI, you violated the honor code, and you're going to get an academic misconduct,"

The Integrity Anxiety (Survey):

- **61.9% Felt Anxious** about accidentally violating academic integrity rules.
- **77.5% Worry** reliance on AI may decrease learning and engagement.
- **78.6% Say** they know the difference between academic support vs violation.



**"How are we preparing our
students for success in an
uncertain future?"**

Measuring AI Fluency Gains, Ethical Awareness, and Professional Alignment

Assessment of Student Confidence in AI Application, Evaluation, and Ethics

Statement	Current	Before	Difference	Effect Size (Cohen's <i>d</i>)
I am able to explain foundational concepts such as artificial intelligence, large language models, and machine learning.	3.21	2.64	0.57	0.73
I am able to describe the potential benefits and limitations of using AI applications in my chosen field.	3.64	3.10	0.55	0.66
I can evaluate the types of inputs and outputs foundational to AI systems—including data, prompts, and commands.	3.10	2.60	0.50	0.65
I can explain the limitations of AI technologies and tools.	3.66	3.11	0.55	0.64
I can evaluate how AI tools can perpetuate bias or misinformation.	3.86	3.34	0.52	0.63
I am able to effectively use AI for data analysis and research.	3.08	2.57	0.51	0.62
I can explain the ethical concerns related to the use of AI in academic and professional settings.	3.98	3.46	0.51	0.62

- **Statistically Significant Growth:** Across all core metrics, students demonstrated highly significant gains in confidence and literacy ($p < .001$).
- **Strongest Growth in Foundational Knowledge:** The largest shift occurred in students' ability to explain foundational AI concepts, showing a 0.57 mean difference and a robust 0.73 effect size.
- **Highest Overall Confidence:** Students reported the highest current confidence levels in understanding ethical concerns (3.98) and critically evaluating AI outputs (3.94).



Key Highlights: Student Attitudes Toward AI

Share of students who agree or strongly agree — AI Fluency Survey 2026

Where Students Feel Confident

82.8%

understand the difference between leaning on AI too heavily and using it to generate new insights

81.1%

feel confident in their overall understanding of AI

78.6%

know the line between using AI for academic support and a code of conduct violation

Where Concerns Remain

77.5%

worry that relying on AI may decrease their own learning and engagement

68.4%

have avoided AI at times over its environmental or negative societal impacts

61.9%

have felt anxious about using AI for fear of violating academic integrity rules

The opportunity: just 51.6% felt instructors created a supportive environment for discussing the ethical and societal impacts of AI.



STUDENT VOICES: AI AND THE FUTURE WORKFORCE

Several students shared in detail about the application of AI in their disciplinary field and career. They found AI especially powerful in parsing, summarizing, and generating written materials—from reading legal cases and drafting legal documents to writing and revising computer programming code. Many emphasized that being able to leverage AI was important while entering the workforce.

IN THEIR OWN WORDS

“

If you don't know how to use AI in your job, you won't get hired nowadays.

“

Every job's going to expect you to at least know a little bit about how to ask the right questions to AI.

“

I've seen it in a lot of interviews—do you know how to use XYZ tool? Can you do this? And if you can't, a lot of the interviews are also live, so if you don't do it and don't know, then you're going to be behind.



CAREER PREPARATION: THE AI SKILLS COMPETITIVE EDGE GAP

The AI skills students learned at Ohio State will make me more competitive in the job market

College	% Agree or Strongly Agree
Fisher College of Business	53.8%
College of Public Health	46.2%
College of Nursing	36.2%
College of Medicine	34.6%
College of Engineering	33.7%
College of Pharmacy	33.3%
College of Education and Human Ecology	29.2%
John Glenn College of Public Affairs	28.0%
College of Arts & Sciences	22.6%
College of Food, Agriculture, and Environmental Sciences	22.0%
College of Social Work	20.8%

Implications for Future Careers

Only about **31%** of students overall feel that the AI skills they learned at Ohio State make them more successful or competitive.

Students whose fields require physical manipulation, clinical presence, or tactile problem-solving fields (healthcare, veterinary medicine) view AI as an enhancer, while those in creative/legal/computer science feel greater threat - students are seeing entry-level job market contraction in real-time.

"I have such a hesitancy for graphic design work... a lot of the companies have a tendency to try and axe artists."

VERBATIM: CAREER PATHWAYS & PREPAREDNESS

On Interpersonal Hands-On Jobs Advantage:

"end goal to be a veterinarian... I'm not really worried about AI taking over my job. I can't pull a cow out of another cow. Since my job is in person, I'm not worried."

"food science major. Working in process engineering... that is a very hands-on, career and job... You can't have AI swabbing manufacturing facilities and testing for listeria."

On Industry Displacement:

"I want to go into publishing, I am worried about AI, because people rely on it so heavily for writing now especially looking at jobs as literary agents..."

"There were massive layoffs because companies bought AI subscriptions... entry and mid-level developers were laid off... competing with fresh college graduates."



INSTITUTIONAL SUPPORT: WHAT THE FUTURE MAY LOOK LIKE

Based on Robot Proof and student survey research results

Scale Experiential Learning

Ensure students have opportunities to apply skills (systems thinking, entrepreneurship: cultural agility, critical thinking through real-world contexts (co-ops, internships, and undergraduate research) to bridge the gap between classroom theory and practical, purpose-driven problem solving.

Lifelong Learning Ecosystem

Education can no longer be a terminal four-year degree. Universities must restructure to offer continuous, flexible upskilling for professionals throughout their careers as technology evolves.

Purpose-Driven Problem Solving

Shift coursework from memorization to application by organizing classes around human-centric challenges like sustainability and ethical AI policy.

Professional Development and Alignment

Professional development for faculty to ensure classroom experiences mirror real-world applications and shift to integrating AI. AI is no longer just a passive tool; it is an active collaborator. Students will need to be prepared to constantly renegotiate the boundaries between machine capabilities and human ingenuity.



Questions?

Reimagining the Future of Teaching and
Learning

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