Artificial Intelligence in Education and Academia: Exploring Student Reactions to Course-Level AI Guidelines

As generative AI rapidly transforms educational landscape, universities face increasing pressure to balance innovation with integrity, transparency, and equity. These technologies are reshaping academic workflows and raising new pedagogical and ethical questions. Generative-AI tools such as ChatGPT are turning up in everything from grading assistants to syllabus generators, yet universities still have little systematic evidence about how the fine-grained design of an AI policy, purpose, oversight, transparency, student access, privacy protections, and use in course materials, shapes student perceptions. Existing surveys document a mix of optimism (e.g., faster feedback, creative inspiration) and concern (e.g., plagiarism, bias), but they rarely isolate which specific policy levers drive those reactions or how the levers interact in real-world course settings.

This study addresses this gap and experimentally tests concrete policy attributes in a choice-based conjoint design. The results will reveal which combinations of features most influence students' perceived educational value, trust in academic integrity, willingness to endorse institutional adoption, and related constructs such as data-privacy confidence and perceived equity. Such evidence equips faculty to craft AI guidelines that are pedagogically sound, ethical, and aligned with student expectations.

Survey Design and Flow

AI Literacy questions

Theme	Question	Answer Choices
AI self-efficacy / confidence	I feel confident that I can use generative-AI tools effectively for my non-academic work.	5-point Likert: SD-SA
AI self-efficacy / confidence	I feel confident that I can use generative-AI tools effectively for my academic work.	5-point Likert: SD-SA
Basic AI literacy (knowledge test)	*Single-select multiple-choice:* Large-language-model tools like ChatGPT generate answers by:	A. retrieving exact web pages **B. predicting the next word based on training data** C. copying text from Wikipedia D. searching a live database
Usage frequency	How often have you personally used any generative-AI tool for coursework, research, or personal projects in the past semester?	1 = Never … 5 = Daily

Gen-AI familiarity	How familiar are you with generative-AI tools (e.g., ChatGPT, Claude, Copilot)?	1 = Not at all familiar- 5 = Extremely familiar
Core Concepts	***What is Artificial Intelligence (AI)?***	A. Machines that perform tasks using pre-programmed instructions **B. Machines that can simulate human-like intelligence and learning** C. Tools used only in robotics D. A form of physical computing only
Core Concepts	***What makes generative AI different from traditional AI systems?***	A. It only follows rules written by humans **B. It creates new content based on patterns in data** C. It builds physical machines D. It does not require any data
Core Concepts	***What does a Large Language Model (LLM) like ChatGPT actually "understand" when generating a response?***	A. The full meaning of words like a human **B. Patterns and probabilities in language** C. Concepts from books D. Real-world logic and truth
Capabilities vs. Limitations	***Which of the following are current limitations of LLMs? (Select all that apply)***	**A. They can produce factually incorrect information** **B. They can reflect bias from training data** C. They always know when they're wrong D. **They cannot access real-time info (unless connected)**
Capabilities vs. Limitations	***Why can generative AI confidently produce wrong answers ("hallucinations")?***	A. It's trying to trick the user **B. It generates likely-sounding words, not necessarily accurate ones** C. It runs out of memory D. It was programmed that way
Capabilities vs. Limitations	***Which types of tasks are best suited for generative AI today?***	**A. Language generation, creative assistance, summarization** B. Making final legal decisions C. Performing surgeries D. Managing bank accounts directly
Application Awareness	***Which of these are responsible uses of generative AI?***	**A. Assisting with medical or legal writing under human review** B. Generating fake news headlines **C. Creating educational content with expert oversight** D. Fully automating legal advice
Application Awareness	***When should human oversight be required in using generative AI?***	A. Only for fun uses B. Never **C. In high-stakes fields like healthcare, law, and finance** D. Only during training
Application Awareness	***In which domain is generative AI likely***	A. Medical diagnosis **B. Creative writing assistance**

	to be most helpful without high risk?	C. Courtroom sentencing D. Financial regulation
Ethical Insight	***How can generative AI reinforce existing biases?***	A. It guesses randomly **B. It reflects and amplifies bias from training data** C. It's immune to bias D. It uses brand-new data each time
Ethical Insight	***What are the risks of not disclosing that content is AI-generated?***	A. It's more creative **B. It may mislead people into thinking it's human-made** C. No real risk D. It improves engagement only
Ethical Insight	***Who is responsible for ensuring ethical use of generative AI?***	A. Only the end user B. No one, AI is neutral **C. Developers, companies, and policymakers** D. Just the legal system
Critical Thinking	***What is a "black box" problem in generative AI?***	A. The AI is broken **B. Users can't explain how the AI made its decision** C. It's open source D. It only works in dark mode
Critical Thinking	***What skills will remain important for humans in an age of generative AI? (Select all that apply)***	**A. Critical thinking** **B. Fact-checking** **C. Creative judgment** **D.** Copy-pasting content
Critical Thinking	***How might generative AI impact the job market?***	**A. It may automate some roles while increasing demand for others** B. It will eliminate all jobs C. It only affects tech companies D. It has no real impact

Extended Technology Acceptance Model (TAM)

Construct	Item
Perceived Usefulness (PU)	1. AI-supported tools can improve the quality of instruction in university courses.
	2. Using AI in course materials would enhance my learning.
	3. AI use in grading could help instructors provide more accurate feedback.
Perceived Ease of Use (PEOU)	4. I would find it easy to interact with AI-supported tools in my courses.

	5. Learning to use AI-based educational features would be straightforward.
	6. AI-based course components would be easy to understand and use.
Trust in AI	7. I trust AI tools to treat students fairly.
	8. I believe AI-generated content used in courses is generally reliable.
	9. I am confident in AI's ability to support instructional decisions.
Perceived Risk	10. I worry that AI might misgrade or misinterpret student work.
	11. I am concerned about how my data might be used by AI tools in university courses.
	12. I believe relying on AI in education could have unintended negative consequences.
Transparency	13.I want to know when AI is being used in a course.
	14. Instructors should clearly explain how AI tools are used.
	15. It is important to include AI-related policies in the course syllabus.
Autonomy / Control	16. I should be allowed to opt out of AI-based tools in my coursework.
	17. I feel students should have a say in how AI is used in their classes.
	18. Courses should require my consent before applying AI tools to my assignments.
Attitude Toward Use	19. I believe using AI in education is a positive development.
	20. Overall, I have a favorable opinion of AI tools used in university courses.
	21. The idea of AI being part of my education makes me feel optimistic.
Social Influence	22. If other students in my program support AI use, I am more likely to accept it.
	23. If my instructors recommend AI tools, I am more willing to use them.
	24. Knowing that others in my academic community use AI makes me more open to it.
Behavioral Intention to Accept AI	25. I would feel comfortable enrolling in a course that uses AI tools.
	26. I would support instructors using AI if it improves efficiency or learning.
	27. I would be willing to participate in AI-supported instructional activities.

Conjoint Experiments

In the next part of the survey, you will see a set of short course-policy descriptions that differ in several details. There will be eight screens in total. Please, read all policies carefully and base your choices only on the information shown. There are no right or wrong answers. After reading each policy, move the sliders to answer question about each policy.

Vignette template

AI Policy Statement.
Information about the use of AI in this course will be **[Transparency]**.
Instructional materials for the course are **[Instructional Materials]**.
Evaluation materials (e.g., quizzes, exams, assignments) are **[Evaluation Materials]**.
AI is used for grading as follows: **[Grading]**.
The AI tools used in this course operate on a **[Data Privacy]** platform.
Additionally, students will have access to **[Personalized Assistance]**.

Attributes and Levels

	Attribute	Levels
1	**Transparency**	① Only disclosed if asked ② Full AI policy in syllabus
2	**Instructional Materials**	① All Instructional materials are prepared without use of AI. ② Instructional materials in part or in whole are generated by AI but fully reviewed and revised by professor ③ None of AI-generated instructional materials were reviewed by professor
3	**Evaluation Materials**	① All quiz, exam items, and all other assignments are prepared without use of AI. ② Quiz, exam items, and other assignments are generated in part or in whole by AI but fully reviewed and revised by professor ③ None of AI-generated evaluation items was reviewed by professor
4	**Grading**	① No AI used in grading ② Formative only-AI may give feedback, draft suggestions, or check writing, but grades are assigned by human instructor. ③ Majority of grading is AI-driven, either through automated evaluations, rubric-based scoring, or entirely AI-written tests.
5	**Data-privacy**	① Open commercial: AI tools used in this course run on a commercial platform, and data may be stored or used by these companies. ② University-hosted: AI tools used in this course run on a model hosted by university, which doesn't allow use of data by AI companies.

6	**Personalized assistance**	① No personalized assistance using AI ② AI chatbot trained for the course to provide personalized assistance and guidance to students.

Slider Questions After Each Screen

Construct	Survey question (0 – 100 slider)	What it captures
Perceived Educational Value	To what extent do you believe this AI policy will enhance your learning and research outcomes?	Students' sense of usefulness or performance expectancy, core driver of technology adoption (TAM/UTAUT).
Institutional Willingness / Adoption Intent	How willing would you be to support your institution adopting this policy across courses?	Moves from personal comfort to collective endorsement, signals policy-level viability (Diffusion-of-Innovation).
Student Autonomy / Control	How much control over your own learning would you feel you have under this policy?	Addresses fear of disempowerment; autonomy supports motivation and sustained engagement (Self-Determination Theory).

1. **Additional Survey Experiment**

Now, you will read a brief excerpt from a course reading. After you read it, we will ask a few quick questions about your reaction to that reading.

Experiment Items

1. Natural looking slide screenshot prepared by Prof. Baseline trust
2. Slide with info generated by ChatGPT and reviewed by Prof Moderate trust
3. Slide info generated by ChatGPT with all genAI signs not reviewed Lowest trust

How much do you trust the accuracy and originality of this material? (0–100 slider)

How useful would you find this material for your learning? (Slider: 0–100)

2. **<u>Post-Experiment AI Literacy, Attitudes Questions</u>**

Ethical concern – bias	*"I worry that AI systems may reinforce unfair biases in academic content or grades."*	*5-point Likert*
Data-privacy concern	"I am concerned that my personal data or coursework could be stored or shared when AI tools are used."	5-point Likert

Institutional trust	"I trust my university to implement adequate safeguards when adopting generative-AI tools."	5-point Likert
Adoption attitude – personal	"I support the use of generative-AI tools in my courses when used responsibly."	5-point Likert
Adoption attitude – institution-wide	"My university should integrate generative-AI tools across teaching and research activities."	5-point Likert
Behavioral intention	"If an instructor offered tutorials on how to use AI responsibly, I would participate."	5-point Likert

ID	Hypothesis
Extended Technology Acceptance Model	
H1	TAM constructs (PU, PEOU, Trust, Risk, Transparency, Autonomy, Attitude, and Social Influence) will significantly predict students' behavioral intention to accept AI-supported courses.
H1a	Students who perceive AI as useful for learning and instruction will be more likely to accept AI-supported courses.
H1b	Students who believe AI tools are easy to use will report stronger intention to engage in AI-supported courses.
H1c	Students with higher trust in AI systems will report greater willingness to accept AI-supported educational tools.
H1d	Students with greater concerns about AI misuse, bias, or data privacy will be less likely to accept AI-supported courses.
H1e	Students who value transparency in AI use will be more likely to support AI-supported course structures.
H1f	Students who feel they should have agency over AI use will report stronger behavioral intentions when that autonomy is respected.
H1f	A positive general attitude toward AI in education will be positively associated with behavioral intention to accept it.
H1g	Students who perceive support for AI use from peers or instructors will be more likely to engage in AI-supported courses.
H1i	Attitude toward AI will mediate the effect of perceived usefulness and perceived ease of use on behavioral intention.
AI Adoption at Class	
H2a	Students will prefer profiles with full AI policy disclosure in the syllabus over those that disclose only if asked.
H2b	Students will prefer AI-generated instructional materials that are fully reviewed by the instructor, over unreviewed AI-generated content or materials created without AI.
H2c	Students will prefer AI-generated quizzes and exams that are reviewed by instructors, over unreviewed or non-AI evaluation content.
H2d	Students will prefer grading policies where AI is used for formative feedback only, over fully AI-driven grading systems.
H2e	Students will prefer profiles where AI tools are university-hosted and do not share data externally, over commercial platforms with external data use.

H2f	Students will prefer courses that include a course-specific AI chatbot for support, over those without any AI-based assistance.
Connecting AI Adoption at Class to TAM Framework	
H3a	Students with high perceived risk will strongly prefer human-assigned or formative-only grading over AI-driven grading.
H3b	Students who value transparency highly will strongly prefer profiles with full policy disclosure.
H3c	Students who emphasize autonomy and control will prefer university-hosted platforms over commercial AI providers.
H3d	Students who find AI useful will more strongly prefer profiles that include personalized AI chatbots.

Thank you for participating in this study on how different instructor policies for using generative-AI tools affect student perceptions of learning, trust, and course fairness. During the survey you saw course-policy descriptions whose features were randomly varied**.** This randomization lets us measure the effect of each feature on student attitudes. Your responses are confidential, will be analyzed only in aggregate, and cannot affect your grades or standing at the university. If you have questions about the study or wish to withdraw your data within the next two weeks, please contact Dr. Namig Abbasov at namig.abbasov@asu.edu.