The Future of AI in Higher Education: Navigating Innovations

AFIT Summer Institute

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Anthology

We Are Glad You Are Here!

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Anthology

AI Threatens the Core of Higher Education: Are We Ready for the Fallout?

Higher Ed in Crisis: Leadership Chaos and Financial Turmoil

Retention Meltdown: Why Colleges Are Struggling to Keep Students Engaged

The Cost Conundrum: Is Higher Education Becoming Unaffordable?

Accessibility Crisis: Are Universities Failing Students with Disabilities?

The Enrollment Cliff: A 'Netflix Moment' for Higher Ed

Addressing Rising Costs and Student Debt in Higher Education

The winners will be those that better apply technology in teaching and learning and develop different approaches to credentialing.

The Chronicle of Higher Education

Anthology wants to be the
leader in the responsible use of AI

For this Session, we hope you'll walk away with...

1 A clear understanding of how AI is enhancing learning experiences and streamlining administrative tasks in higher education.

2 Practical strategies to implement AI in a way that ensures data privacy, security, and equity.

3 Ideas on how to approach building your own policies and frameworks for managing AI responsibly at your institution.

Forward-Looking Statement

Statements regarding our product development initiatives, including new products and future product upgrades, updates, or enhancements, represent our current intentions but may be modified, delayed, or abandoned without prior notice, and there is no assurance that such offering, upgrades, updates, or functionality will become available unless and until they have been made generally available to our customers.

AI & Education Today

Generative AI

Concern ⟷ Hype

slido

Where did you fall on this spectrum?

AI will lower the quality of courses.

"AI will lower the quality of courses"

Difference in individual performance with GPT-4 compared with control group (%)

40

Creative ideation

"In our experiment, participants using GPT-4 for creative ideation outperformed the control group (those who completed the task without using GPT-4) by 40%"

Opportunities to improve course design and quality

AI will replace me.

AI Hallucinations

"Hallucination in the context of language models refers to the generation of text or responses that seem syntactically sound, fluent, and natural but are factually incorrect, nonsensical, or unfaithful to the provided source input"

AI Hallucinations

"AI 'hallucinations' are more feature than bug. One of the sort of non-obvious things is that a lot of value from these systems is heavily related to the fact that they do hallucinate. If you want to look something up in a database, we already have good stuff for that."

https://www.marketwatch.com/story/openais-sam-altman-tells-salesforces-marc-benioff-that-ai-hallucinations-are-more-feature-than-bug-1c035c52

"AI will replace me"

Lessons learned on bringing GenAI tools to market quickly, securely, and effectively

2. We have gathered learnings from **building and implementing 100+ GenAI solutions** for clients and ourselves

Non-exhaustive

GenAI is not the answer to all problems: Consider a holistic combination of traditional AI and gen AI methods to capture maximum value, as gen AI may not be the most optimal solution in certain situations (e.g. highly regulated environments, basic forecasting, disease diagnostics)

GenAI is net new but your business is not: Look for opportunities to build on your existing strengths (e.g., layer a hyper-personalization layer on existing customer analytics for product recommendation, next best action)

Models are commodity: Focus on identifying the right use cases and implementation model (taker, shaper and maker), fine tuning with domain specific context and setting up an effective op model to drive adoption and value

The model is only as smart as the data: Invest in proprietary data, and solve existing data quality and curation challenges (e.g., by building labelled datasets to quantify, measure, and track the performance of gen AI apps)

Thing big, move fast, start small: Build foundational enablers (including an ecosystem of partnerships, hard and soft assets) to enable scalability and flexibility to keep up with the rapid evolution of gen AI

There are no silver bullets for hallucinations: Understand tradeoffs between model safety and sharpness of answers (i.e., it can be safe and dumb or smart and dangerous). Include human-in-the-loop to validate outputs and ensure awareness of responsible AI guidelines

McKinsey & Company   4

Instructor still owner of content and in control
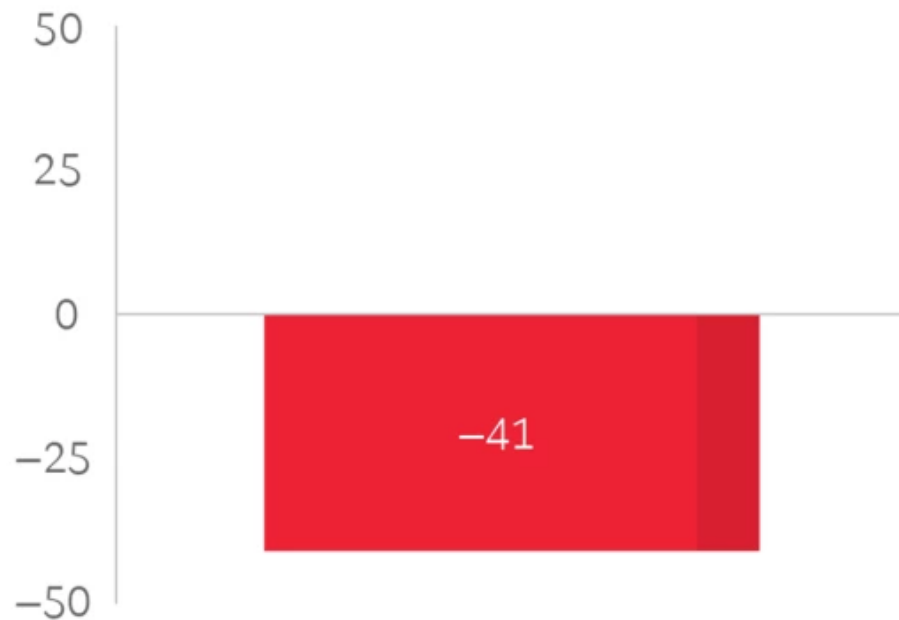
Instructors are notoriously busy

Provide inspiration and efficiencies to help save time

"AI will replace me"

Collective diversity of ideas

Total change compared with control group (%)[2]

"Creativity trap: The diversity of ideas among participants who used GPT-4 for the creative product innovation task was 41% lower compared with the group that did not use the technology"
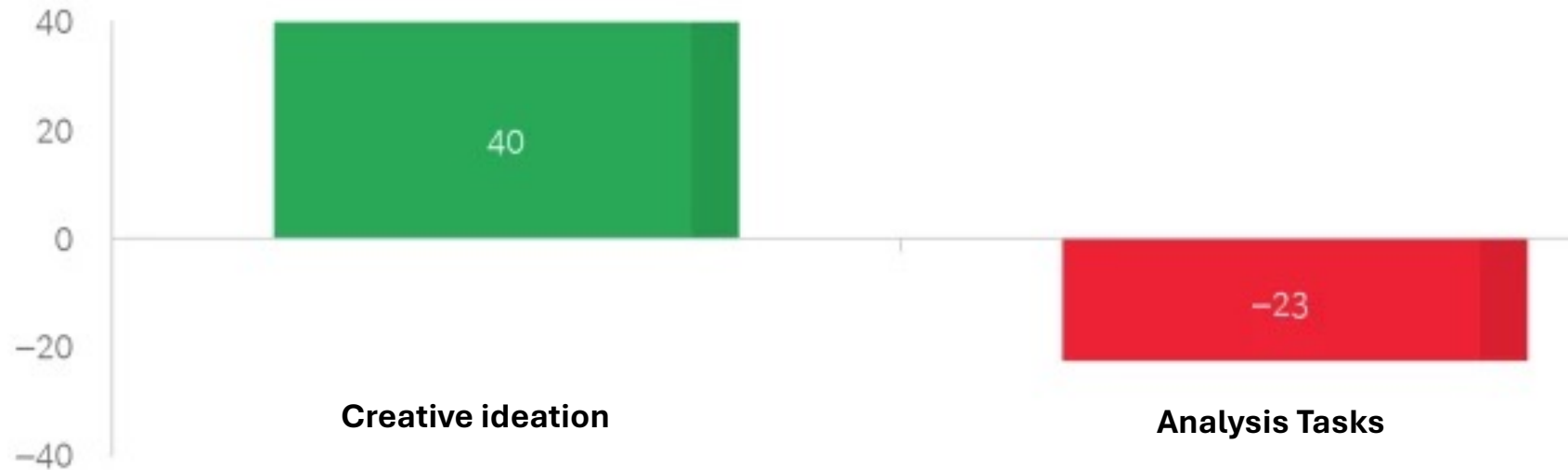
Instructor is responsible for differentiation

AI will do all my grading
and will automatically
personalize the course.

"AI will do all my grading and will automatically personalize the course"

Difference in individual performance with GPT-4 compared with control group (%)

Creative ideation: 40

Analysis Tasks: −23

"For analysis tasks, using GPT-4 resulted in performance that was 23% lower than that of the control group."

"Paradox: People seem to mistrust the technology in areas where it can contribute massive value and to trust it too much in areas where the technology isn't competent."

https://www.bcg.com/publications/2023/how-people-create-and-destroy-value-with-gen-ai

How was AI being used in Education in November 2023?

Leaders

37% To improve efficiency of operational and administrative processes

34% **To improve equitable access** to educational knowledge and resources

33% **To improve ability** to support and communicate with students

32% **To identify opportunities** for student improvement with real-time performance data and predictive analytics

32% **To provide accessibility tools** that enable students to participate fully

Educators

24% To create or update lesson plans, supporting materials, and assignments

22% **To brainstorm new ideas** for lesson plans, supporting materials, and assignments

20% **To simplify complex topics** for students

19% **To free up my time** to reinvest in more valuable areas

18% **To differentiate instruction** to address students' needs

Students

35% To summarize information for me

32% **To help me get started** and brainstorm on my assignments

29% **To get the answers** or information I need more quickly

26% **To get initial feedback** on my work

**24%** **To improve** my writing skills

Source: AI in Education Microsoft Study (November 2023)
Survey questions: For which of the following tasks are you using AI tools in your role?
For which of the following tasks are you using AI tools as a student?

Work Trend Index
2024

To ready leaders and businesses for the age of AI, Microsoft surveyed 31,000 people across 31 countries, analyzed labor and hiring trends from LinkedIn, and productivity patterns of Microsoft 365 customers globally.
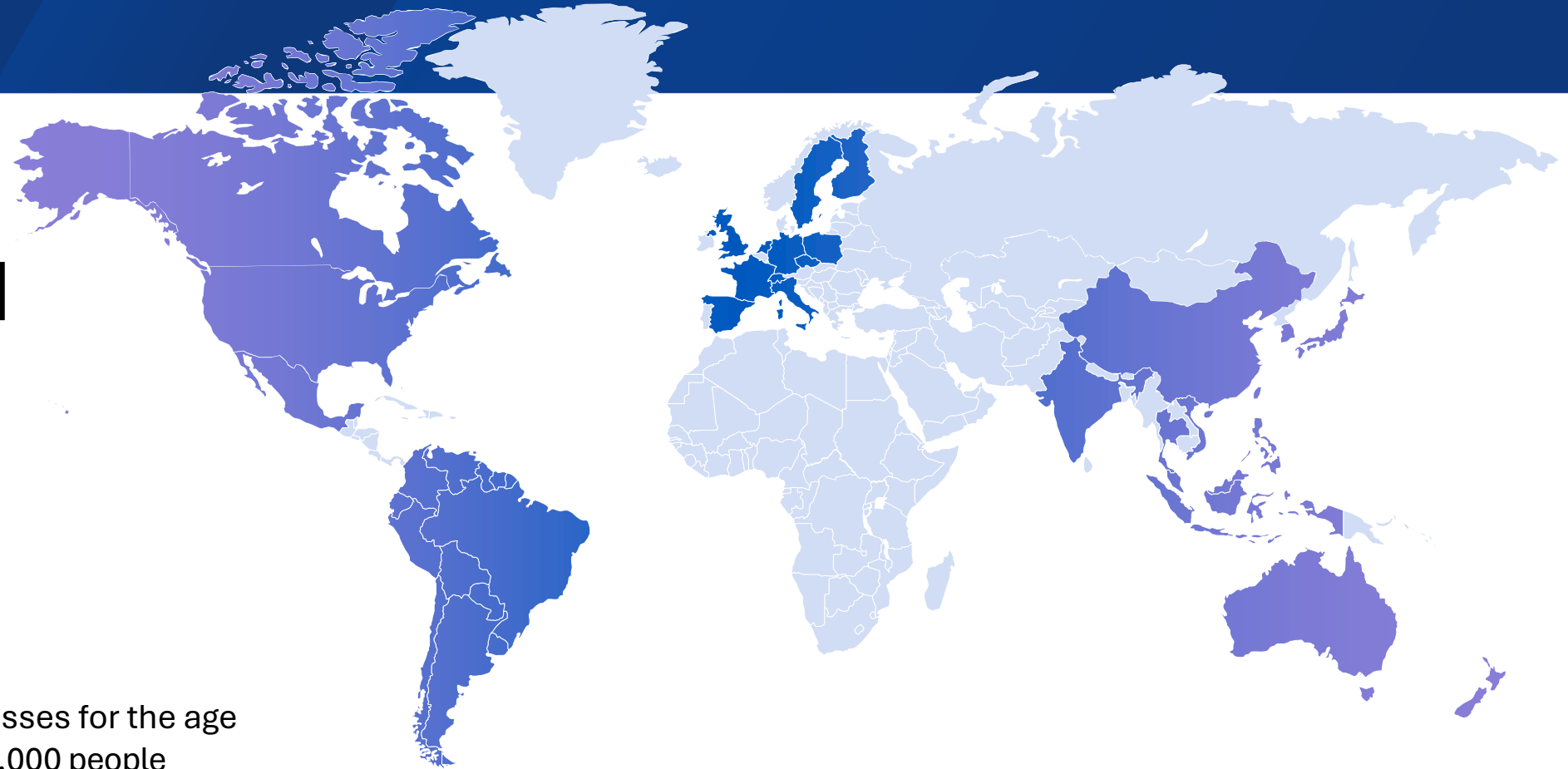
Three findings stood out

1

Employees want AI at work—and won't wait for companies to catch up.
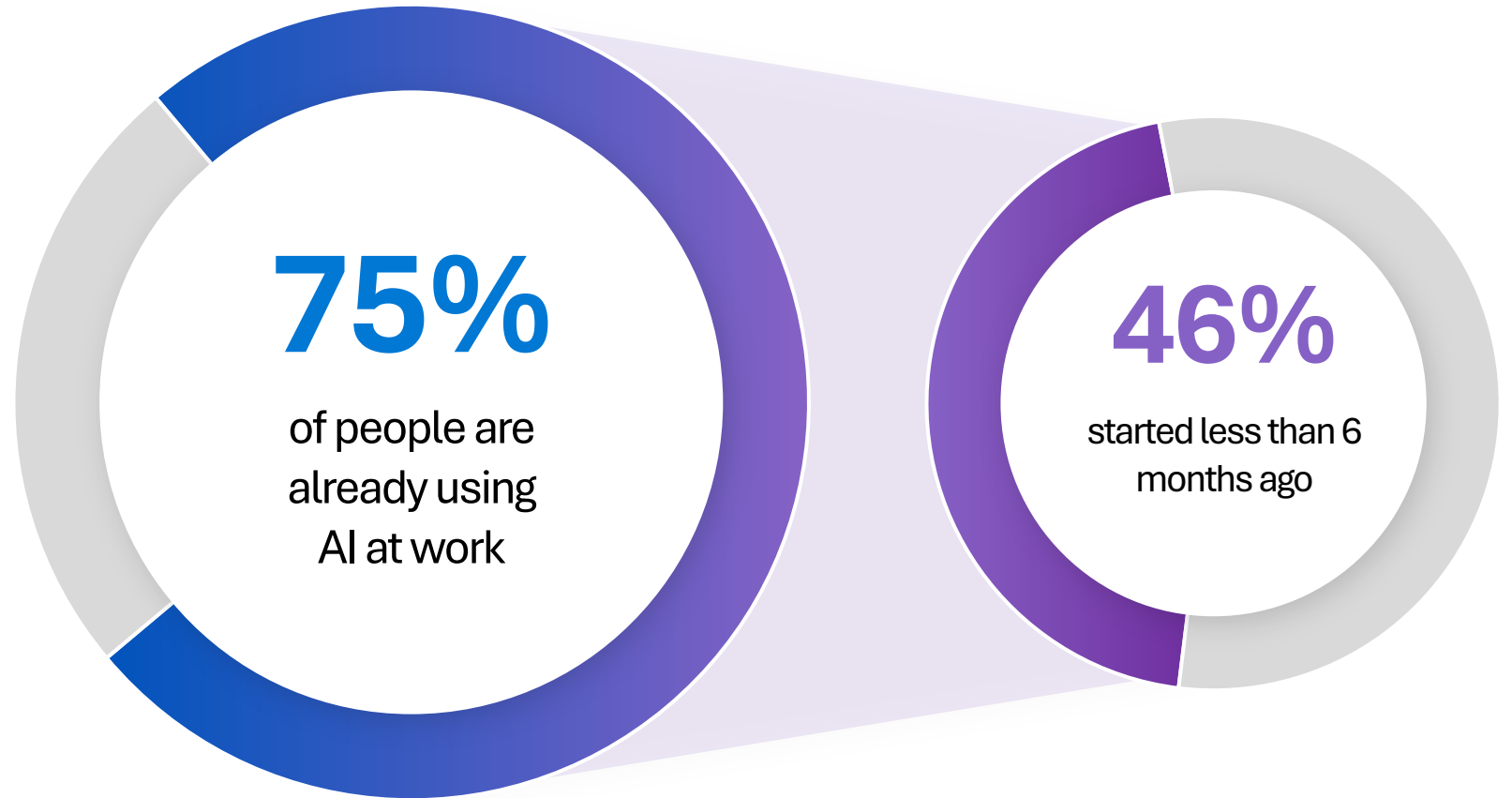
2

The rise of the AI power user—and what they reveal about the future.

3

For employees, AI raises the bar and breaks the career ceiling.

http://aka.ms/wti24

Three Out of Four People Use AI at Work

75%

of people are already using AI at work

46%

started less than 6 months ago

http://aka.ms/wti24

BYOAI Is Not Just for Gen Z

Employees across every age group are bringing their own AI tools to work
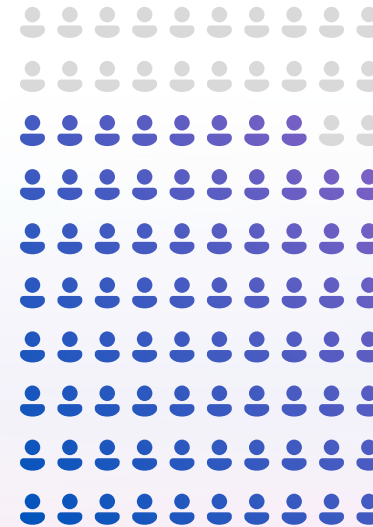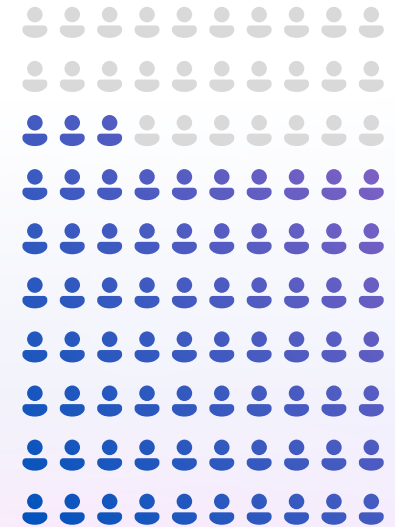

Gen Z
(18-28)
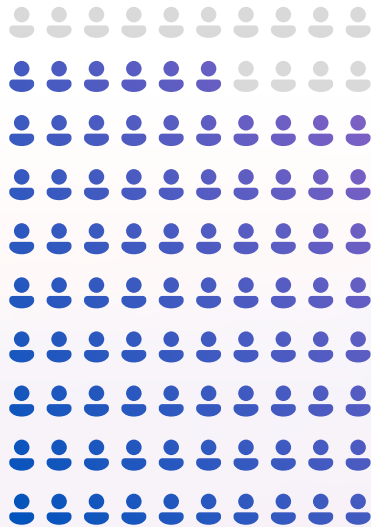
Millennials
(29-42)
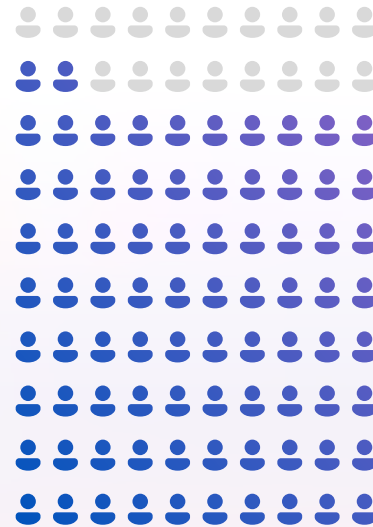
Gen X
(44-57)

Boomers
(58+)

Share of survey respondents who have used AI tools at work not provided by their organization
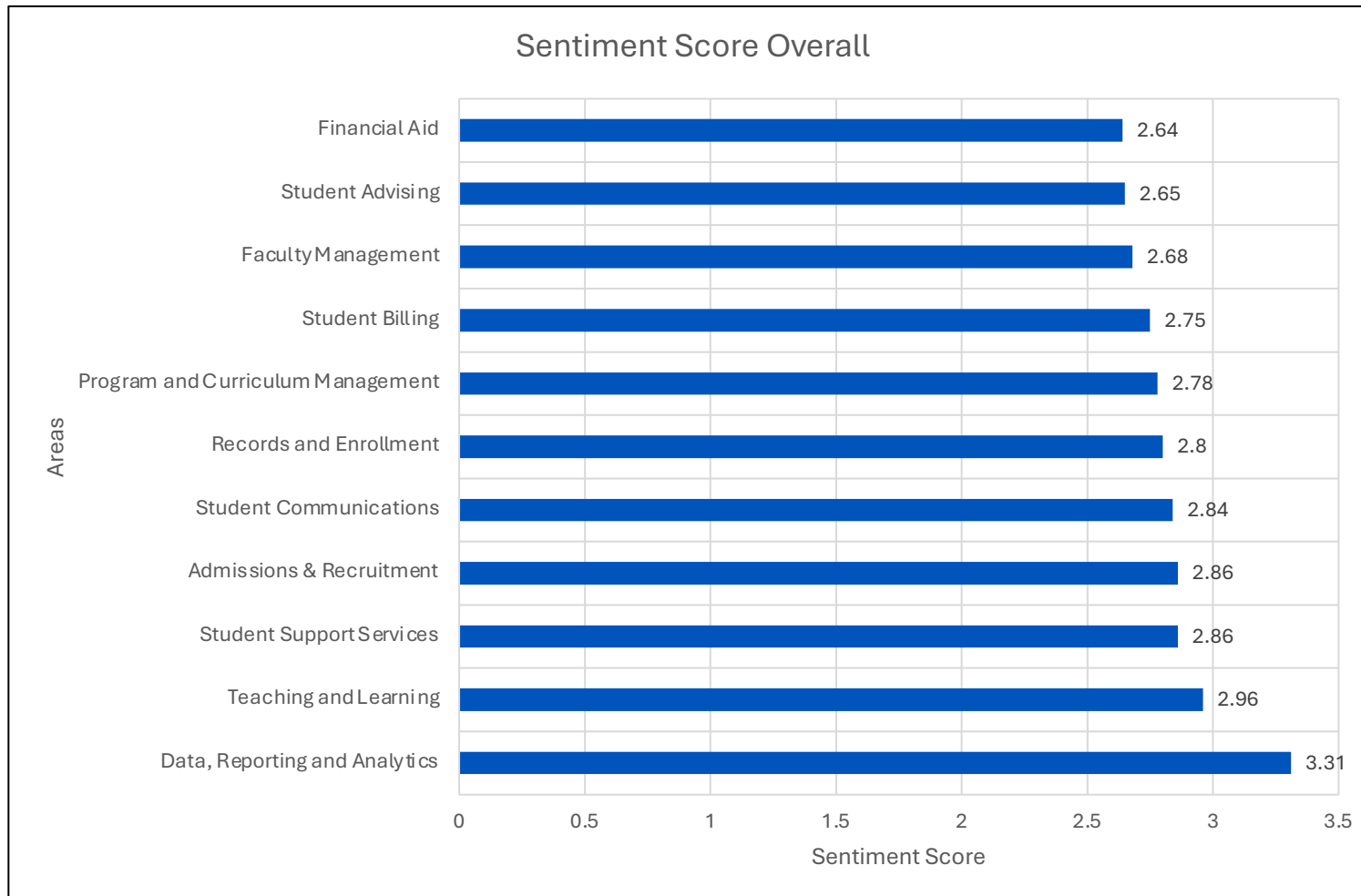
http://aka.ms/wti24

Anthology Sentiment Survey on AI usage in higher education administration

Aimed towards gaining a better understanding of

- What are higher education administrators and users excited about with respect to AI?
- What are higher education administrators and faculty cautious about with respect to AI?
- Where do they feel they need AI within the institution?
- Would they use AI to automate administrative processes at the institution?
- Do they have policies and process frameworks to evaluate and support responsible AI usage today?

- Respondent count: 134

- 113 working at institutions of higher education (84.3%) while 21(15.7%) worked as higher education professionals.

- 41% were at doctoral granting institutions

- 68.6% of respondents were at the Director Level or below.

- 76.8% claimed to understand the basics of AI or have substantial expertise in AI.
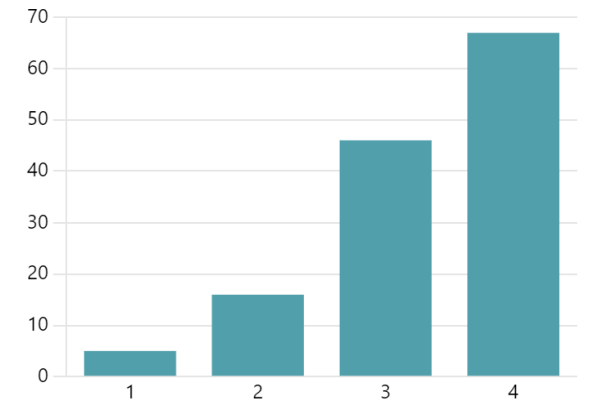
Sentiment Outcomes

Sentiment Score Overall

Areas	Sentiment Score
Financial Aid	2.64
Student Advising	2.65
Faculty Management	2.68
Student Billing	2.75
Program and Curriculum Management	2.78
Records and Enrollment	2.8
Student Communications	2.84
Admissions & Recruitment	2.86
Student Support Services	2.86
Teaching and Learning	2.96
Data, Reporting and Analytics	3.31

- All categories were higher than 2.5 in sentiment score on average. This means that respondents were generally more enthusiastic than cautious about AI for use in higher education administration.

- Highest scoring category: Data, Reporting and Analytics
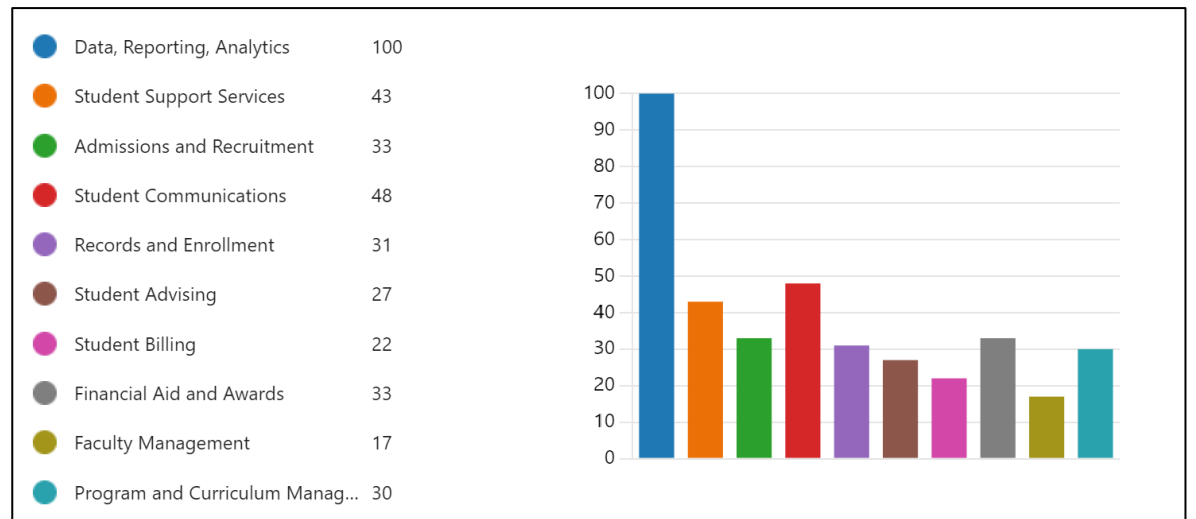
- Lowest scoring category: Financial Aid

Data, Reporting and Analytics

- Top scoring category for sentiment, more than 50% very enthusiastic.

- More than double the respondents than all other categories put this in the top 3 places institutions need help.

- This means institutions crave better access to, analysis of and ability to discuss data.

- How can vendors and AI assist with this desire and need?

  – Access?

  – Analysis?

  – Discussion for decision making?

3.31
Average Rating

Sentiment regarding AI use in Data, Reporting and Analytics

● Data, Reporting, Analytics	100
● Student Support Services	43
● Admissions and Recruitment	33
● Student Communications	48
● Records and Enrollment	31
● Student Advising	27
● Student Billing	22
● Financial Aid and Awards	33
● Faculty Management	17
● Program and Curriculum Manag…	30

Respondents select the top three areas where institutions need support with automated processes

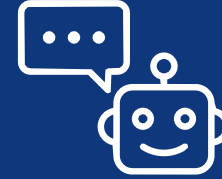# AI: Beyond Generative Models

AI: Beyond Generative Models

Machine Learning

Natural Language Processing & Cognitive Computing

Computer Vision

Robotics

Expert Systems

Predictive Analytics

AI's Capabilities

76%

HIGHER EDUCATION

the international journal
of higher education research

Springer

Volume 61 · Number 1 · January 2011

"**Course Design as one of strongest predictors for student engagement**"

https://link.springer.com/article/10.1007/s10734-024-01197-y

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Florida Ecosystems and tourism

Auto-Generate Learning Modules

ⓘ This is auto-generated content and needs to be checked for accuracy and bias

Define Learning Modules

Description

Enter course description or learning objectives...

📋 Select course items

Selected course items will be used to help improve suggestions.

Title prefix

None ▾

☑ Include images

Complexity

Low ——●—— High

Number of Learning Modules

1 ——●—— 20

Introduction to Florida Ecosystems
This module provides an overview of the diverse ecosystems found in Florida, including the Everglades, coral reefs, and coastal mangroves. Students will learn about the unique characteristics, environmental importance, and conservation challenges of these ecosystems.

Understanding Biodiversity in Florida
This module focuses on the rich biodiversity in Florida, exploring the different plant and animal species found in the state. Students will learn about the importance of biodiversity, the role it plays in supporting ecosystem health, and the threats it faces.

Exploring Florida's National Parks
This module highlights some of Florida's renowned national parks, such as the Everglades National Park and the Dry Tortugas National Park. Students will discover the unique features, recreational activities, and ecological significance of these protected areas.

Ecotourism in Florida
This module examines the concept of ecotourism and its role in promoting sustainable tourism in Florida. Students will explore the benefits and challenges of ecotourism, learn about responsible tourism practices, and discover how ecotourism contributes to the local economy and conservation efforts.

...ber of Learning Modules

——●——

Advanced options ⌃

Output language

English, British - English (British) ▾

✦ Generate

AI Design Assistant

Course Structure, Images, Test Questions, Grading Rubrics

⬇

Authentic Assessments

⬇

Context Picker

⬇

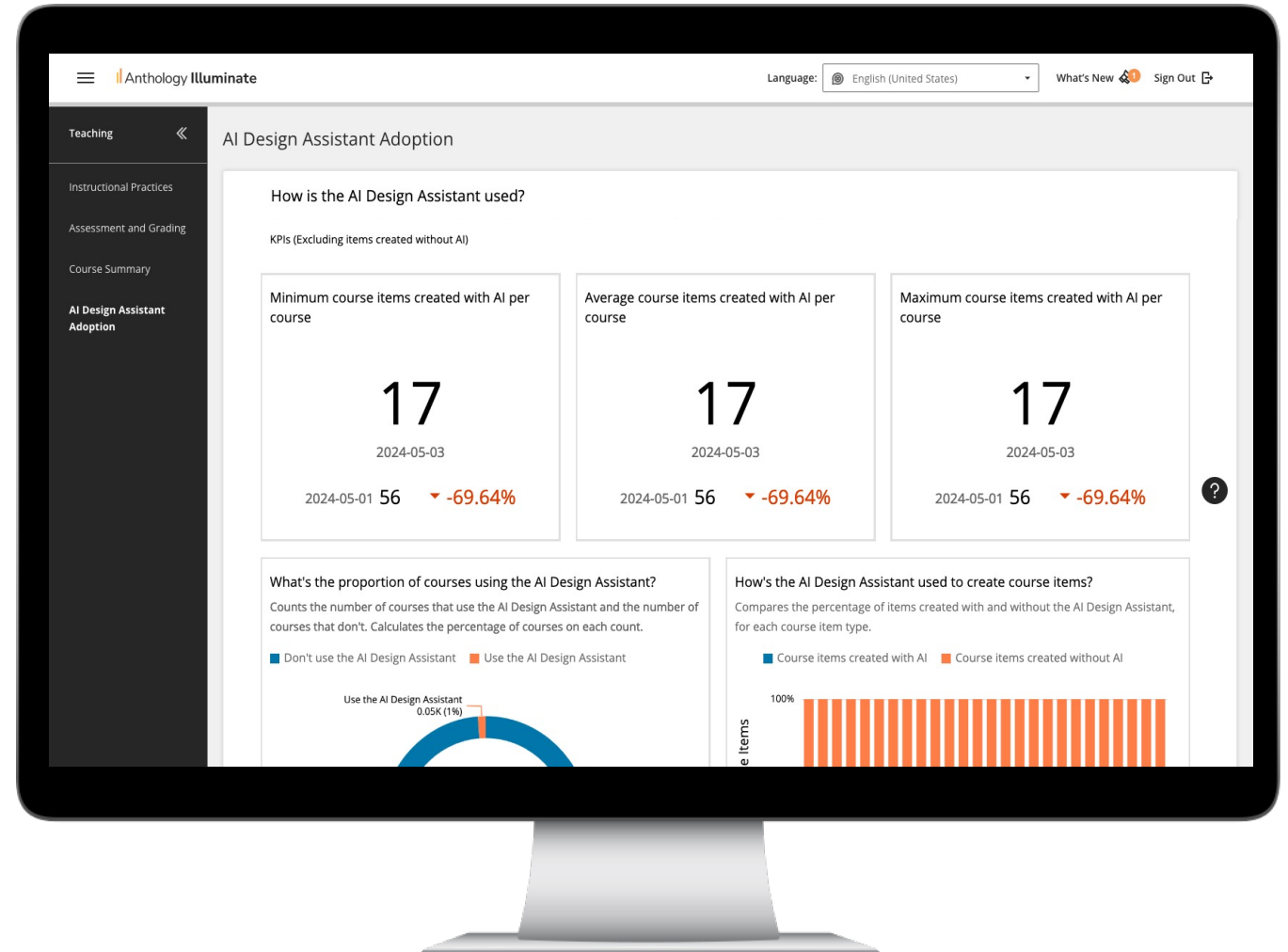**Language Selection**

AI Design Assistant - Usage Reporting

NOW: 1 – 3 months

New Illuminate report provides institutions with insight into the usage of the AI Design Assistant:

- Which AI tools are most frequently used

- Which subject areas are using AI tools the most

- Which instructors are using AI tools regularly

532

Institutions with AI Design Assistant enabled

400,486

Unique Uses of AI Design Assistant

45.5%

Average acceptance rate

95%

The AI Design Assistant is helping save time

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AI Literacy for Students

AI Conversation

Blackboard   Microsoft

AI Conversation

Formative or graded activity

Learners develop understanding of concepts with one-on-one discussion with AI

Instructor sets parameters for the discussion

Discussion contents submitted to instructor for review if needed

39
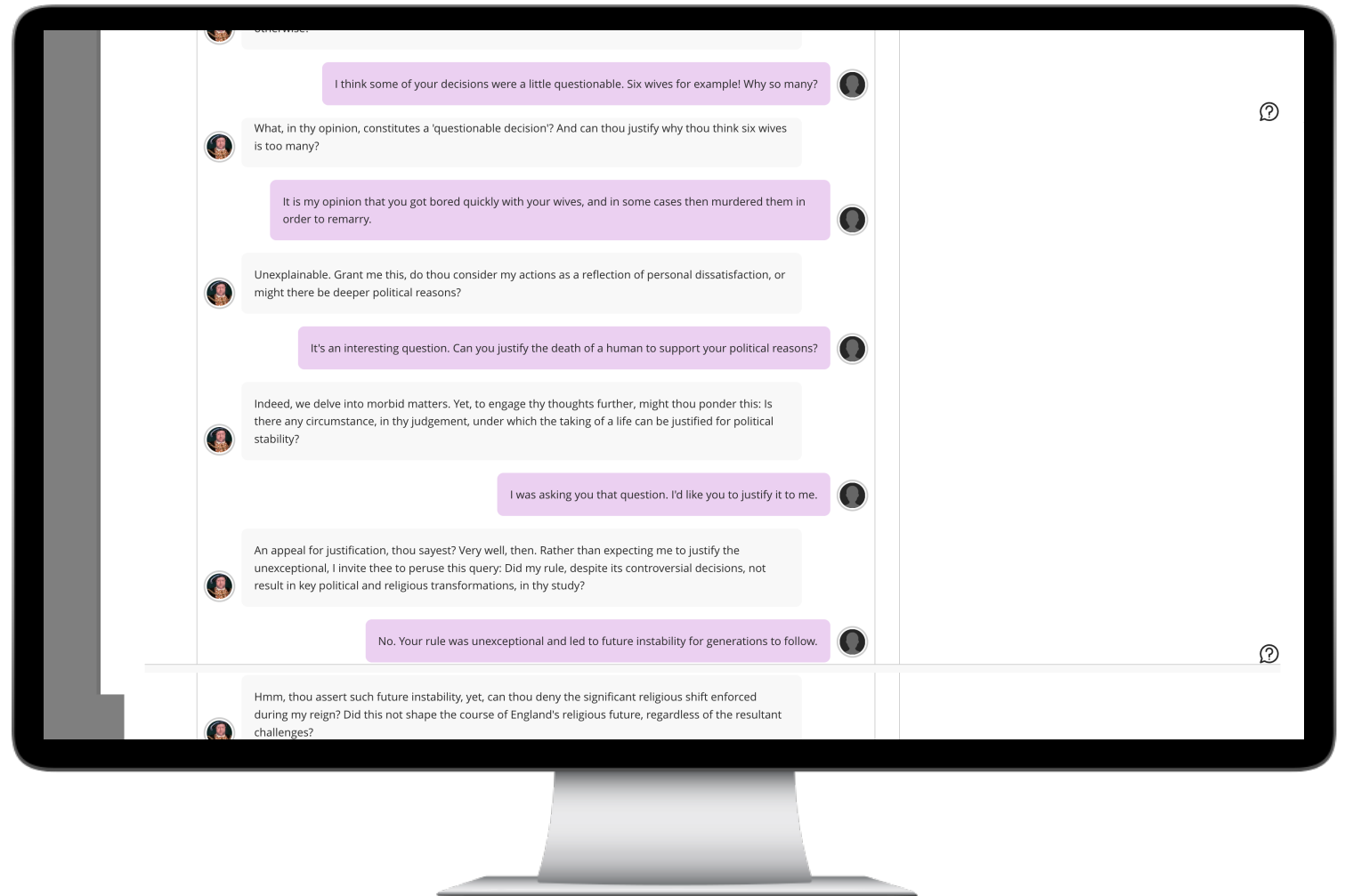
Accessibility

Suggest Alternative Text for Images

- Provide AI-driven alternative text suggestions for images within Ally's Instructor Feedback flow

- Help speed up content remediation process

- Instructor has full control to change or approve the suggested alternative text

- Opt-in feature to allow for institutional control

41
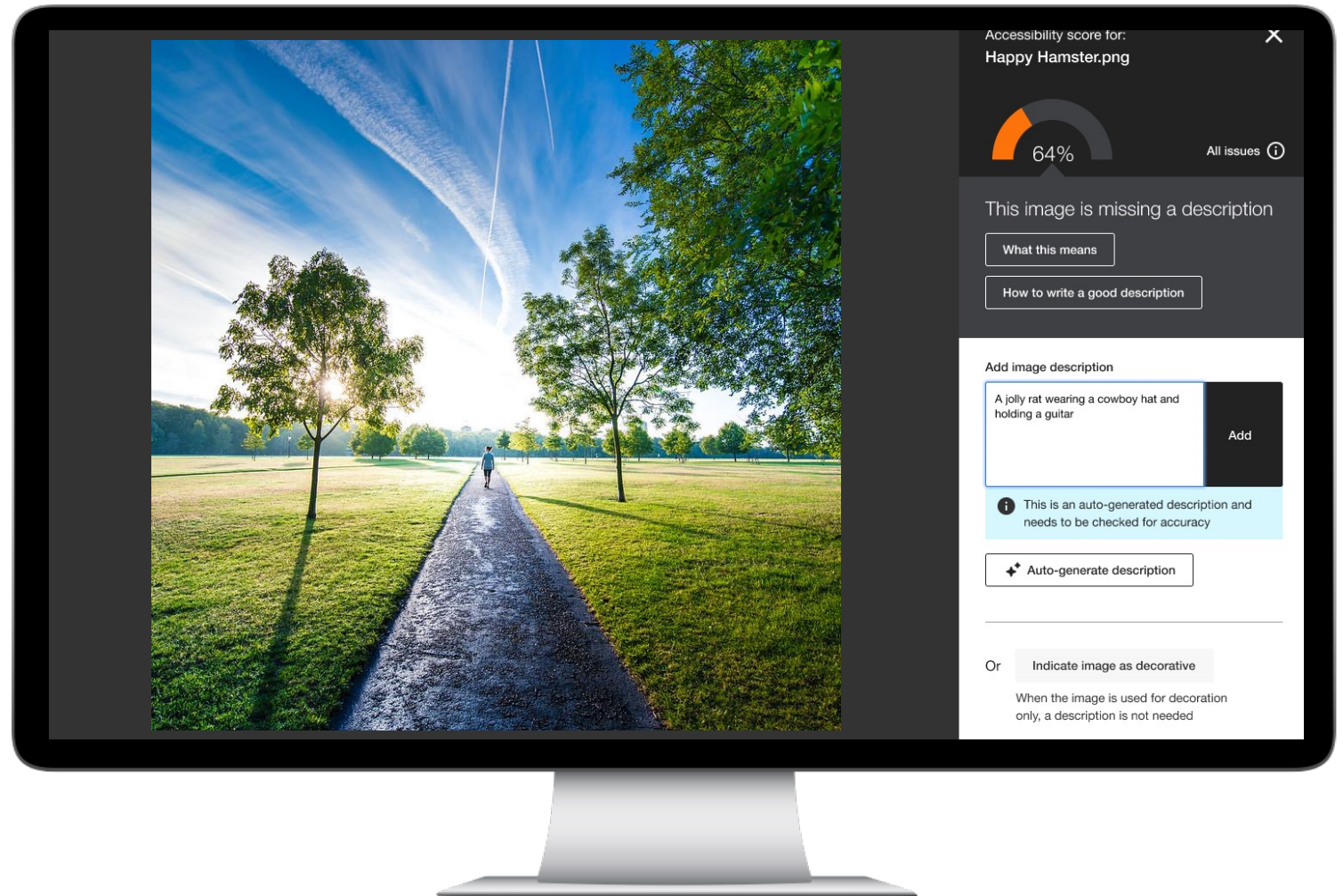
Video Studio

- Upload or record video direct into a document for more engaging content

- Record screen, sound, video

- Ability to automatically caption the video

Broken Link Checking

- Apply Ally's accessibility check to determine which links within WYSIWYG content are broken

- Provide feedback and guidance when the content linked is moved or removed
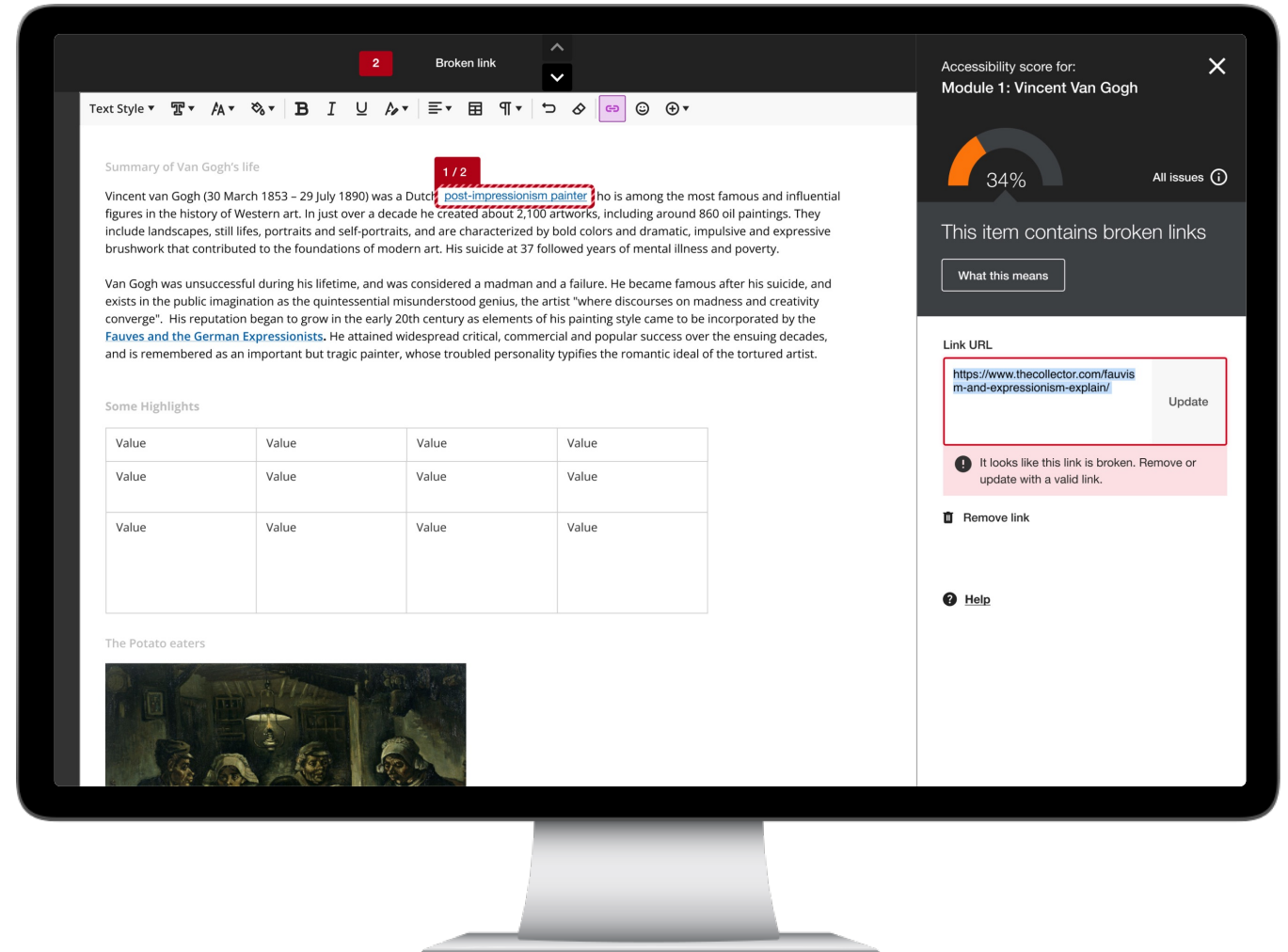
AI Class Scheduling

Student

Student ☰ 🔔 ? ➡ CMI

Students ⌄   Search Student 🔍 ℹ   anthology dev2 ⌄

Subscribe

+ New Chat

New Chat 1   ...

Subscribe to Class Scheduling Insights   X

Scheduling Assistant can notify you when recommendations are available in advance of term registration to help you and your school plan a schedule that fits your needs

Insight
Recommended Sections to Add
This insight provides recommendations on class sections to add for an upcoming term

☑ Subscribe

Delivery Method

◉ Contact Manager

Frequency

Begins | 1   ▾ | weeks prior to term registration start date

Repeats | Weekly   ▾ | until end of term registration

Insight
Recommended Sections to Cancel
This insight provides recommendations on class sections to cancel for an upcoming term

☑ Subscribe

Delivery Method

◉ Contact Manager

Frequency

Begins | 1   ▾ | weeks prior to term registration start date

Repeats | Daily   ▾ | until end of term registration

Save   Cancel

Ask a question...   ➤

AI: Registration Reminder

Institutions will now be able to enable an assistant that students can subscribe to get notifications about what is available for them to progress in their programs in the upcoming term as soon as the schedule publishes.

The benefit to students:

- The student receives an automatic reminder that the schedule has published before registration opens with suggestions of courses where they can start their planning.

Hi Alyssa,

The schedule for the Fall 2024 semester is now available. In looking at the classes offered, the following classes are planned for this term as a part of your approved degree pathway and have sections available on the schedule. You can see the sections by clicking the links below.

- ENG320- Folklore & Fairytale
- MAT250 – Calculus II
- HIS114 – World History II
- CSC201 – Introduction to web application programming

We recommend you select your sections now so that when registration opens, you're ready to complete it. Please reach out to your advisor Lynn Lightmore with questions.

AI Assistant: Product Guidance

Opt in to engage with an AI Assistant that will allow you to ask questions about how to use the system (accessing Help, product documentation and best practices to guide you).

The benefit to the user:

- Get help in a conversation that guides you on not only how to use the product but best practices on how to use it. Understand the nomenclature of the system and ask whenever you need it without having to search for what you need in a help file.
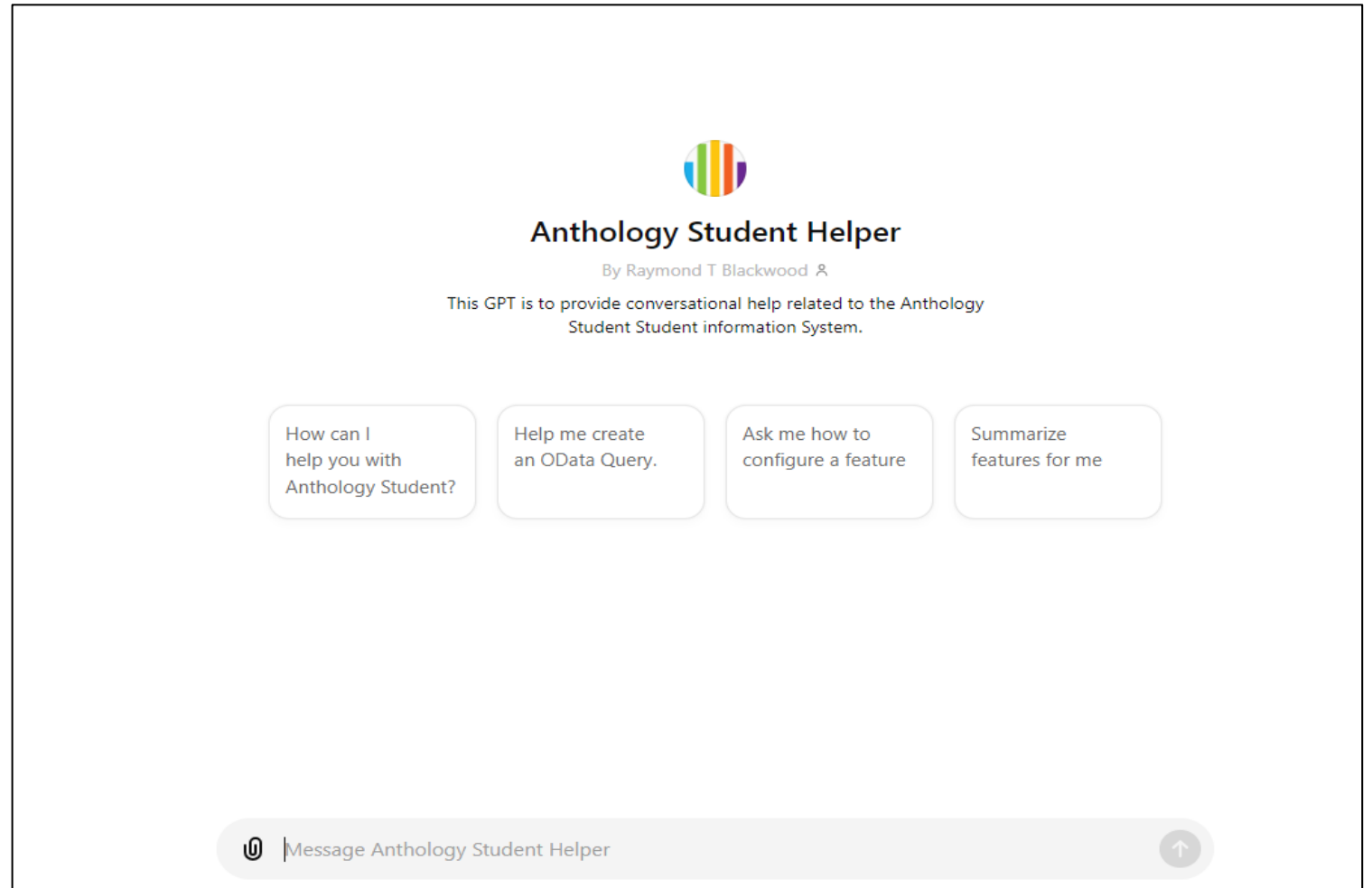
Adaptive Learning

Adaptive Self-Paced Courses

ID: TDM_ITSE_01

Wild Florida: Ecology and wetland management

Geographic Overview

The Florida Everglades is a vast and unique wetland ecosystem stretching across approximately 1.5 million acres in southern Florida. It features a slow-moving river flowing out of Lake Okeechobee into Florida Bay. Its diverse habitats, include sawgrass marshes, mangrove forests, and pine rocklands. This expansive area is vital for water filtration and flood control, and it supports a wide array of plant and animal species, some of which are found nowhere else in the world.

Popular activities include airboat tours, which offer a thrilling way to explore the vast marshes and spot alligators, birds, and other native species. Visitors can also enjoy hiking, canoeing, and camping within the Everglades National Park, providing opportunities to immerse themselves in the natural beauty of the area. Educational programs and guided tours help raise awareness about the importance of conservation efforts, ensuring that tourism supports rather than harms this fragile ecosystem.

Analytics   History

Progress to certification ⓘ
75%

Content covered ⓘ
50%

Topics
Swamp ecology

Current Score	100
Total Score	+80
Timer	20:45

How well did you understand this content?

Rate your understanding

0 ——————————●———————— 100   Continue

ID: TDM_ITSE_01

Wild Florida: Ecology and wetland management

Question 1

Which of the following activities helps raise awareness about conservation efforts in the Everglades, ensuring that tourism supports rather than harms this fragile ecosystem?

A Airboat tours

B Guided tours and educational programs

C Canoeing and camping

D Fishing expeditions

Confidence rating

Set your confidence for your answers.

0 —————————●————— 100   Continue

Analytics   History

Progress to certification ⓘ

5%

Content covered ⓘ

5%

Topics

Swamp ecology

Current Score   15
Total Score   +15
Timer   01:33

Check

Measurement of understanding

Challenges and Concerns

What concerns were there in November 2023?

Leaders

24% Increase in plagiarism and cheating	**21%** Lack of IT resources and technical readiness/expertise to implement AI tools	**21%** Ensuring equitable access to AI tools for all students	**20%** Insufficient training for educators / administrators on understanding and effectively using AI	**20%** Potential for becoming overly dependent on AI tools

Educators

42% Increase in plagiarism and cheating	**34%** Potential for becoming overly dependent on AI tools	**23%** Privacy and security concerns related to student and staff data	**22%** Lack of clear policies and regulations to use AI in educational settings	**20%** Ethical concerns, such as impact on human autonomy and responsibility for AI-driven actions

Students

52% Potential to be accused of plagiarism or cheating	**48%** Potential for becoming overly dependent on AI tools	**30%** Misinformation leading to inaccurate use or interpretation of AI-generated content	**28%** Job loss due to automation in future career paths	**21%** Privacy and security concerns related to my data

Concerns regarding the use of AI in HEd Administration

1	Security	
2	Data privacy	
3	Accuracy	
4	Human in control/safeguards	
5	Staff knowledge and preparation	
6	Policy readiness	
7	Cost	
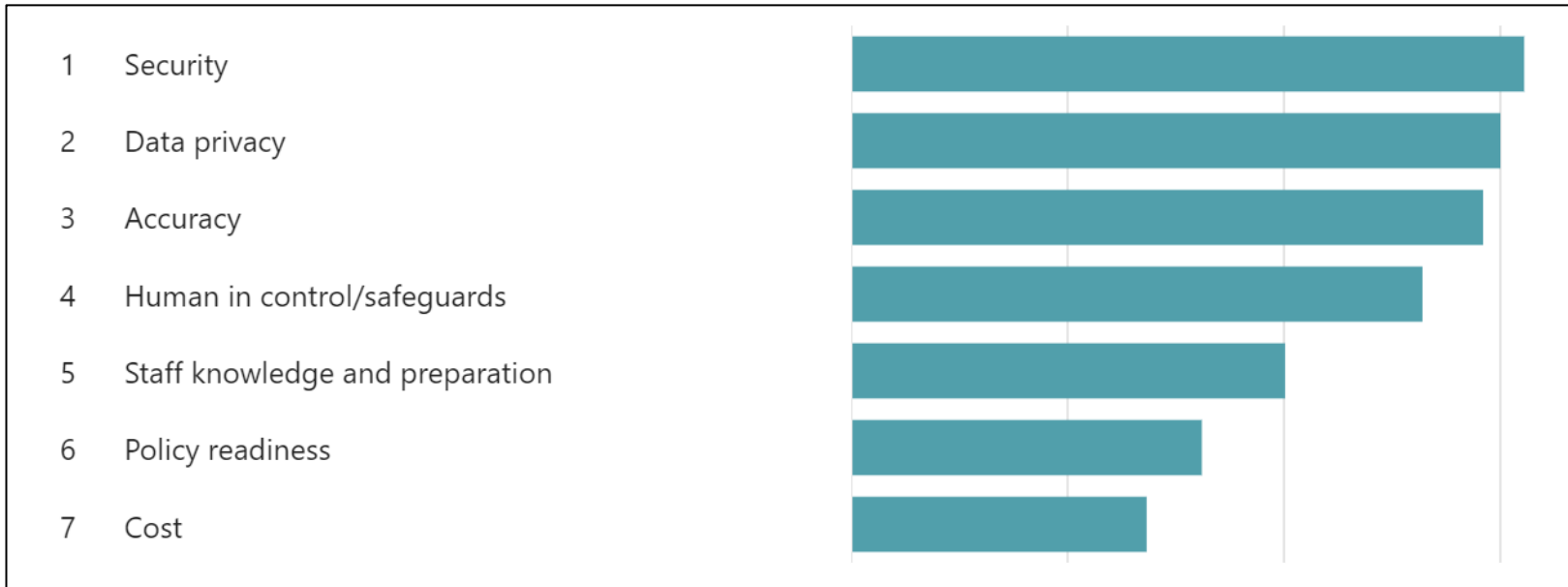
AI Concerns Ranked by Survey Respondents

- Top 3 concerns
  - Security
  - Data Privacy
  - Accuracy

Ethical AI:
Guiding Principles for Innovation

Anthology's Trustworthy AI Approach

Anthology Trustworthy AI Framework

- Fairness
- Reliability
- Humans in Control
- Transparency and Explainability
- Privacy, Security, and Safety
- Value Alignment
- Accountability

Trustworthy AI Approach: www.anthology.com/trust-center/trustworthy-ai-approach
AI Policy Framework: www.anthology.com/news/new-ai-policy-framework-from-anthology-empowers-higher-education-to-balance-the-risks-and

Framework and Policy Responses (n=129)
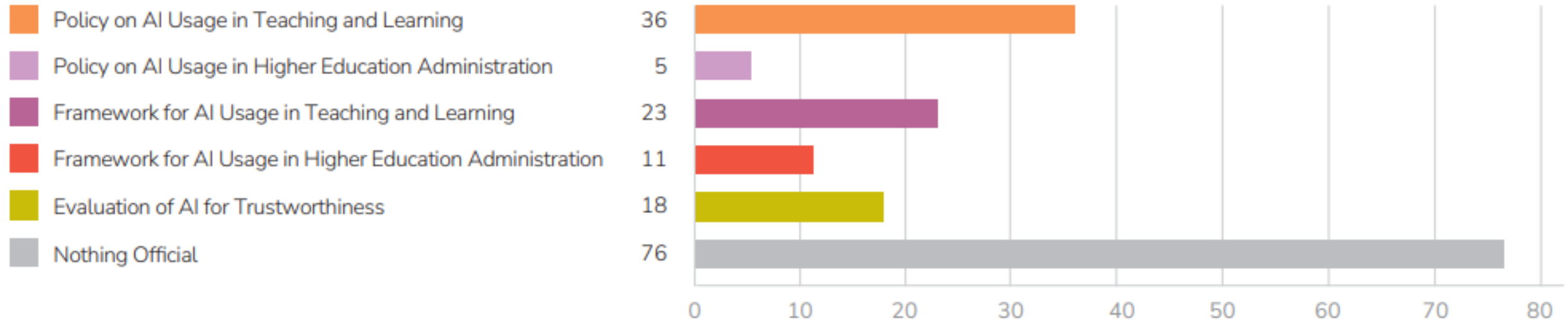
Figure 7. Respondents indicate if their institution has a policy or framework for using AI in administration or teaching and learning, and if they have an evaluation for AI trustworthiness

n=129

Framework and Policy Recommendations

Establish Responsibility

Identify your footprint

Analyze and Evaluate your AI products
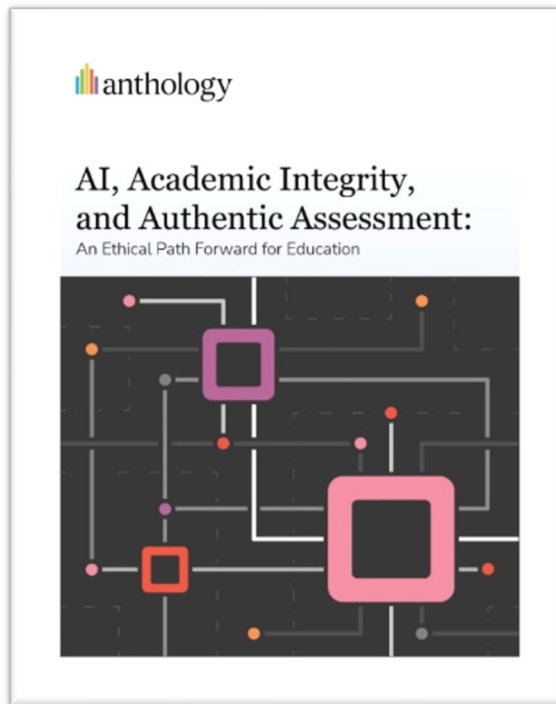
Define Policy on AI Use

Define Processes for AI adoption

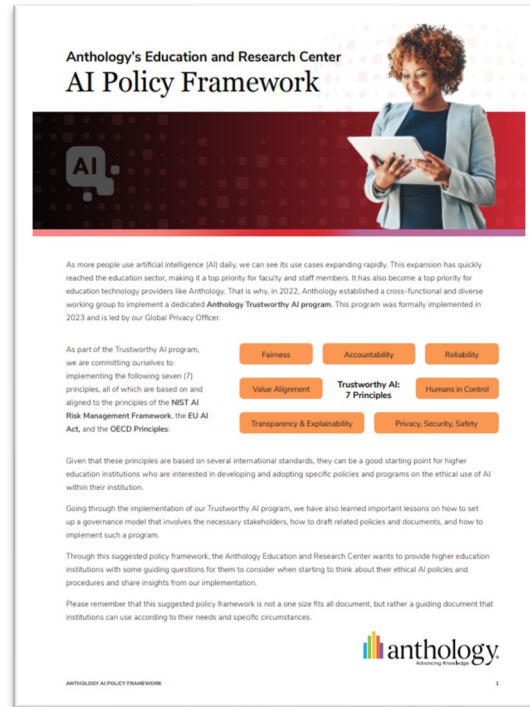Expand policy and process to address appropriate and inappropriate usage and reporting.

Establish cycle of evaluation/calendar.

Training and reporting for Staff and Students
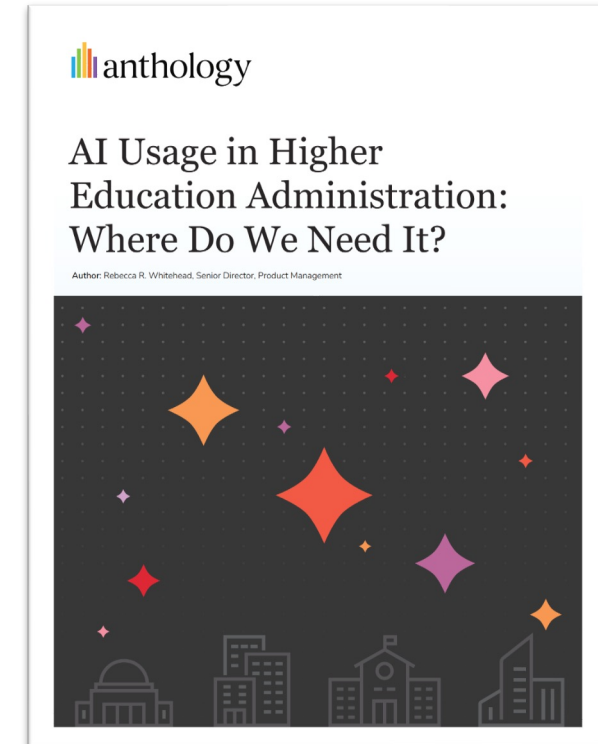
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Want to Learn More?

White paper – AI, Academic Integrity, and Authentic Assessment

AI Policy Framework

AI Adoption Strategy Guide

AI in Higher Education Administration

References

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- [How AI Has Begun Changing University Roles, Responsibilities | Inside Higher Ed](#)
- [Integrating Generative AI into Higher Education: Considerations | EDUCAUSE Review](#)
- [How is AI Technology Used in Higher Education?| University of Bridgeport](#)
- [[What Role Should AI Play in College Admissions? | Built In](#)
- [[Anthology uses embedded analytics offered by Amazon QuickSight to democratize decision making for higher education | AWS](#)
- [Trustworthy AI Approach | Anthology](#)
- [Anthology's Education and Research Center AI Policy Framework | Anthology](#)
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- [Understand Responsible AI - Training | Microsoft Learn](#)
- [Challenges and risks with AI - Training | Microsoft Learn](#)
- [Empowering responsible AI practices | Microsoft AI](#)
- [AI Usage in Higher Education Administration: Where Do We Need It? | Anthology](#)

Questions?