Anthology
power of together

AI Usage in Higher Education Administration: Where Do We Need It?

Author: Rebecca R. Whitehead, Senior Director, Product Management

Table of Contents

Introduction

Artificial intelligence (AI) sometimes seems like it's taking over the world. Not a day goes by when new applications or articles about the power or the risk of AI hit the news. Traditionally, education has run later than other industries in adopting new technologies, but AI—specifically generative AI—is making headway quickly into higher education. We've seen conversations, adoption, adaptation, and some rejection of generative AI in teaching and learning. Anthology has published other white papers about this phenomenon in higher education today, including "AI, Academic Integrity, and Authentic Assessment: An Ethical Path Forward for Education."[1] While this technology is still new, all AI is figuratively knocking on the doors of every college and university and presenting itself as potentially useful to meet a variety of needs. These needs include but certainly are not limited to:

- Automating student communications where relevant and reserving humans for control and critical contact situations
- Automating assistance on learning materials to help students tackle difficult topics (automated tutoring assistants)
- Automating creation of learning materials to help faculty refine and optimize content (faculty assistants and instructional design assistance)
- Automation of business processes to reduce manual labor within the institution and to focus more effectively on meeting student needs
- Providing unfettered access to appropriate data with analysis for asking and answering institution-critical questions

With the rapid advancement of AI in mind, the question of how post-secondary staff, administrators, and faculty feel about the use of AI in higher education administration and how ready they are to adopt AI in meaningful ways is worth exploring.

This question led to the creation of the "AI Sentiment Use in Higher Education Administration Survey," deployed in April 2024. The results of this survey are presented and discussed in this paper, with recommendations for future work and actions for institutions.

Background

AI—specifically generative AI—exploded on the market in late 2022 and spent 2023 continuously demonstrating its growing capabilities. Organizations such as OpenAI, Google, Microsoft, and others have been rapidly developing within the space and partnering to create new, innovative services. One such collaboration has been Microsoft's partnership with OpenAI to create Azure OpenAI and expand Microsoft's Cognitive Services offerings.

ChatGPT began appearing in classrooms (and faculty offices) and posed huge questions about the future of teaching and learning and what it means to be a student or faculty member. Products like tutoring assistants began emerging, faculty began updating their syllabi in both pro-AI and defensive positions, and institutional policy began to emerge.

While generative AI was making a splash, in early 2024, EDUCAUSE released its "AI Landscape Study 2024" and shared a moderate state of the technology evaluation across all AI. Reflecting on this study, Inside Higher Ed and EDUCAUSE shared, "The largest focus of the newly created or altered policies is on teaching and learning (95%). Of the universities making AI policies, nearly half of institutions (43%) are working with a third party to develop AI strategy. Most of the policymaking, according to the survey, is due to fears that students are using AI for 'inappropriate' purposes, with 68 percent of respondents stating that as a concern."[2][3]

However, most of the early conversation remained centered on teaching and learning because the visible impact on the educational experience could be profound. For example, EDUCAUSE polls across late fall 2023 and early spring 2024 focused again on generative AI and AI in the classroom. EDUCAUSE continues to explore AI overall and understand how higher education is engaging with AI through polls and studies.

More recently, the conversation has moved beyond the classroom. For example, a recent EDUCAUSE QuickPoll survey of higher education stakeholders provides insights into the interest and perhaps inevitability of AI integration in day-to-day institutional work. Most of the respondents (83%) believe that "generative AI will profoundly change higher education in the next three to five years," and 65% believe "the use of generative AI in higher ed has more benefits than drawbacks."[4] This movement into other parts of the institution is the heart of this paper and its research.

Starting in April 2023, Anthology engaged the AI Advisory Council and Microsoft to investigate opportunities for generative AI to be applied within the Blackboard® learning management system (LMS). Discussions with council members clearly outlined a key need for institutions: their instructors were spending a lot of time on administrative and production tasks, reducing the time they had available to spend with their students.

With that in mind, articles that outline—and potentially speculate—on how AI will be used by universities in their administrative processes are of interest. As one compelling example from the University of Bridgeport says, "Colleges and universities are streamlining their administrative processes by using artificial intelligence tools to power student record systems, transportation, information technology (IT), maintenance, scheduling, budgeting, and more."[5]

The conversation around the classroom and the increasing opportunity for AI use in higher education administration instilled a desire at Anthology to expand the exploration of sentiment related to AI usage for higher education administration and to determine ideal points for policy, framework, strategy, and further research and development.

In short, this was a desire to more deeply understand the following:

- 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?
- 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?

Research Methodology

To assist in answering these questions, Rebecca Whitehead and John Capocci within Anthology's Product Management Organization created a survey. The survey was meant for a wide audience and intended for those working in higher education or higher education technology.

The survey was constructed to be anonymous and gather only enough demographic information to be able to determine who was employed at an institution of higher education, what was the highest credential level offered at the school, the general position held by the respondent, and the general size of the school. No personal data was captured.

For measuring the sentiment of respondents on AI usage in different areas of the institution, a Likert scale was used. Response options were:

1. Very cautious
2. Cautious
3. Enthusiastic
4. Very enthusiastic

Respondents were asked where they thought business process automation was most needed, where concerns about AI were highest, and if their institution or organization had a policy, framework, or evaluation for AI in place.

The survey was deployed using Microsoft Forms through email and social platforms like LinkedIn and the Anthology Community. The survey was conducted on April 5, 2024, and ran for five weeks, closing on May 9, 2024. Total respondent count was 134. Data was extracted for analysis on May 12, 2024.

Results, Analysis, and Recommendations

Respondent Demographics

There were 134 respondents to the survey in total. Of these, 113 respondents (84.3%) were working within colleges or universities, while 21 (15.7%) were working as higher education professionals. Sentiment results in this paper include all respondents, but data analysis did separate those working at schools from those who do not to determine if responses were statistically different. Most of the respondents (68.6%) were working at the director/manager level or below. This means respondents clearly represented daily users of the technology products that run the college—such as the learning management system (LMS), the student information system (SIS), the constituent relationship management (CRM) solution, and ancillary point solutions deployed to meet the needs of students and the university.

With respect to institutional data, 41% of respondents were working at doctoral-granting institutions, while 55% were at schools offering graduation-level credentials. And with respect to institution size, 50% of respondents came from small schools with less than 4,000 students, while 34% were at medium-sized schools between 4,000 and 14,999 students, and 16% represented large institutions with a student population over 15,000.

Additional details about the demographics of the respondents can be found in the appendix of this paper.

Sentiment Outcomes

Sentiment Score Overall

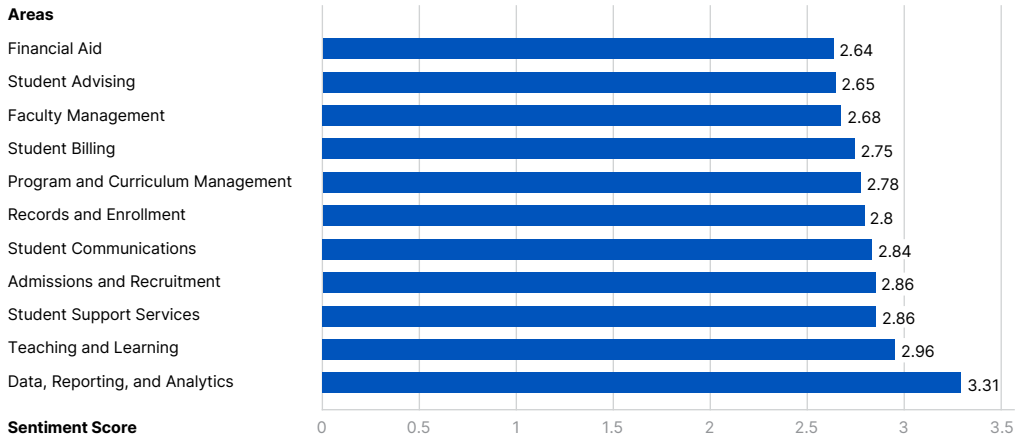

Figure 1. Sentiment score (overall) across all categories

It's important to note that the scores in every category for sentiment score above 2.5. This means that in all categories, respondents are more enthusiastic about the use of AI in higher education than they are cautious about it.

High-Scoring Categories

Respondents were most enthusiastic about using AI for data, reporting, and analytics, followed by teaching and learning and then admissions and student support services. Breakouts of the top four scoring areas are noted below in Figure 2.

Total Sentiment Score

Category	Score
Data, Reporting, and Analytics	3.31
Teaching and Learning	2.86
Student Support Services	2.86
Admissions and Recruitment	2.86

Figure 2. Top four sentiment categories

For the data, reporting, and analytics category, it's relevant to note that 84% were enthusiastic (34%) or very enthusiastic (50%) about using AI to have deeper conversations about and processing of data. This category was the one with 50% or more respondents very enthusiastic. The results in this category indicate that, above all other areas, respondents want AI to help with data, reporting, and analytics. They want AI to help them access and understand their data to make decisions.

Of the 21 respondents who were cautious or very cautious about this category, none claimed extensive experience in AI. All were at the manager/director level or below, and the institution level and size were evenly distributed. This data does not indicate where the caution sentiment is coming from, which presents an opportunity for future research.

Meanwhile, in the highly discussed category of teaching and learning, 72% of participants were enthusiastic or very enthusiastic about using AI to support faculty and students in the learning experience. Here, 41% were enthusiastic, and 31% were very enthusiastic, making this category second in rank to data, reporting, and analytics. It's interesting that the desire to use AI to analyze and discuss data for the institution outranks the likely more understood classroom opportunities. Potential causes for this response are discussed later in the paper.

For the student support services category, 37% of respondents were enthusiastic, and 29% reported being very enthusiastic about using AI to support students on and off campus. Meanwhile, in admissions and recruitment, 31% of survey participants were very enthusiastic, and 34% were enthusiastic, with 65% in the enthusiastic categories about using AI within the admissions and recruitment process. Because how AI could be deployed within each category was not explored, this could be an excellent topic for future exploration to determine if the sentiment towards the use of different AI tooling in admissions is different. For example, are admissions offices more comfortable with generative AI vs. predictive AI for use in encouraging and determining admissions? Recall that predictive AI is one of the machine learning AI models and is very different from generative AI, a large language model. Generally, the use of predictive AI in admissions has been discouraged to date in the literature.[6]

Low-Scoring Categories

On the other end of the sentiment scoring, the lowest-scoring categories were faculty management, student advising, and financial aid. Breakouts of the bottom three scoring areas are noted below in Figure 3.

Faculty Management	2.68
Student Advising	2.65
Financial Aid	2.64

Figure 3. Bottom three sentiment categories

Respondents to the survey were least enthusiastic about using AI within financial aid operations at the institution, with only 58% enthusiastic or very enthusiastic and 42% cautious. Again, because how AI could be deployed within each category was not explored in this research, this could be an excellent topic for future exploration to determine if the sentiment towards the use of different AI tooling changes the outcome or simply if respondents to the survey were not familiar enough with financial aid operations to see opportunities for AI within the institution in this area.

A Deeper Look at the Need for Support in Data, Reporting, and Analytics Findings

Survey participants were asked about their sentiment regarding AI usage in data, reporting, and analytics. They were additionally asked to rank the top three areas where institutions needed support with automation (AI or otherwise). The results of those two questions are below in Figure 4 and Figure 5, respectively.

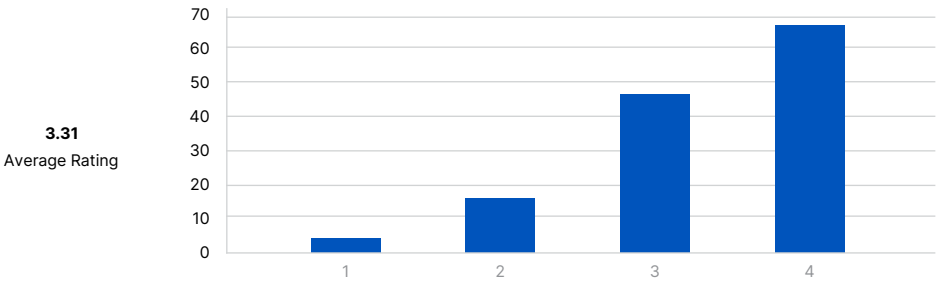

Figure 4. Sentiment response on using AI in data, reporting, and analytics

Figure 4 shows respondents' sentiments from 1, very cautious, to 4, very enthusiastic, about the use of AI in data, reporting, and analytics specifically.

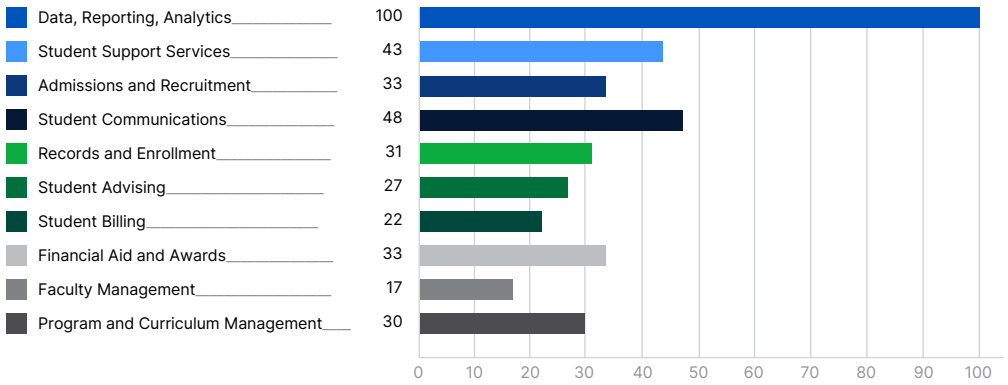

Figure 5. Respondents select the top three areas where institutions need support with automated processes

These figures demonstrate that respondents crave more meaningful access, exploration, and understanding of data at the institution to inform stronger decision-making for the school. Future work could explore the most compelling or critical questions that institutions need answered and where this data needs to be available to users to foster the fulfillment of their mission.

To answer these questions, however, most institutions are still only starting to address the data challenge that most institutions possess. With this survey's results, background research that was done for this paper, and from a plethora of customer conversations, this challenge, simply stated, is that the data from disparate systems across the university cannot be effectively analyzed until it is placed within a common context. This is especially true when considering data by an AI tool. Technologists and IT professionals today will speak to the need to denormalize the data, to break the silos in which the data exists by making it available to a data warehouse or data lake.

But this is only part of the equation. When the data is made available to a data lake or warehouse, the data must additionally be placed within a common data model so that meaningful analysis across data from varied sources can occur. With this accomplished, along with appropriate data integrity, access controls, and privacy models, the data could be made available to an AI tool for deeper analysis of those critical questions.

As an example of this, Anthology offers its Anthology® Illuminate product to break down data silos and provide a common data model for data readiness and reporting.[7]

Concerns Regarding the Use of AI

Respondents were asked to rank concerns from a list provided regarding AI usage at the institution. The results of that question are shown below in Figure 6.

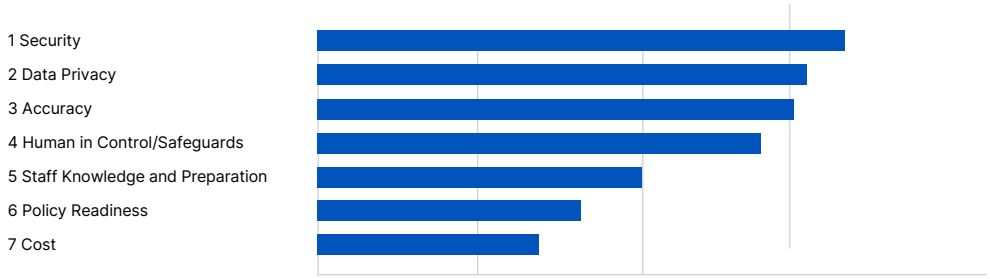

Figure 6. AI concerns ranked by survey respondents

These concerns mirror those expressed in public forums about the use of AI in higher education administration and should be addressed by policy formation, process definition, and trustworthy frameworks. Anthology discusses many of these concerns within the Trustworthy AI Approach[8] and within the AI Policy Framework.[9] These steps are as important for the institution as for product vendors to ensure that security concerns associated with AI are well understood.

As an example from the industry and reflected as guidance to address within Anthology's Trustworthy Framework, threat modeling should be considered in all AI implementations. From the industry, Adam Shostack, in the course "Threat Modeling for AI/ML Systems," recommends using the standard four-question framework structure to evaluate threats in all AI implementations. These questions are simply:

1. What are we working on?
2. What can go wrong?
3. What are we going to do about it?
4. Did we do a good job?[10]

Considering how to answer these questions in the context of how an institution is using and approving AI products for use at the institution can spawn policy, process, and responsibility conversations to provide AI governance as part of the overall institutional technology strategy.

For future consideration, it is interesting that cost is the lowest-ranked concern. At this point in the proliferation of AI, future work could tell us if this ranking on cost as a concern is stemming from a lack of knowledge about potential cost or because the spend is acceptable.

Framework and Policy Responses

Questions within the survey additionally examined where institutions are with respect to establishing AI policies. The results of the questions are shown below in Figure 7.

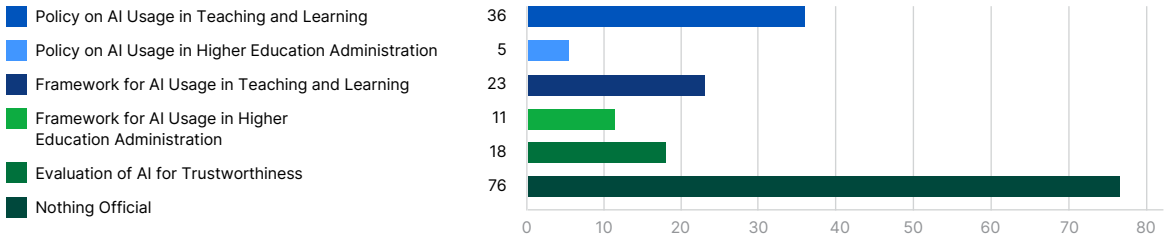

Figure 7. Respondents indicate if their institution has a policy or framework for using AI in administration or teaching and learning, and if they have an evaluation for AI trustworthiness

n=129

The questions focused on:

1. Does the institution have a policy for AI usage regarding teaching and learning?
2. Does the institution have a policy for AI usage regarding administration?
3. Does the institution have a framework in place for AI usage with respect to teaching and learning?
4. Does the institution have a framework for AI usage regarding administration?
5. Does the institution evaluate AI for trustworthiness and have a method in place?

When you look at this data from a percentage perspective, there is clearly a need for institutions to write and socialize the frameworks and policies that support their stance toward the inclusion of AI in their classrooms and administration. Percentages from the above chart show that 42% of respondents indicated that they had at least one policy, framework, or evaluation for AI in place. Fifty-six percent of respondents indicated that they had nothing official in place from the institution. And only 1% had all five components in place.

With more than half of institutions still working through guidance and governance on AI and with academic researchers calling for work to create controls, policy, and framework on the development and use of AI in higher education, there is an urgent need for institutions to adopt such policies, processes, and frameworks to allow them to harness the efficiencies of AI in a responsible way (for example, by leveraging Anthology's AI Policy Framework and Trustworthy AI Approach).[8]

Framework and Policy Recommendations

With this in mind and from the research conducted to create this white paper in addition to the survey, institutions should consider the following when looking to define their framework, policies, practices, and responsibilities with respect to the use of AI:

1. Establish stakeholders and responsibility for the AI footprint of the university in job descriptions, new positions, or the establishment of responsibility and reporting areas.[11]
2. Adopt evaluations or services that identify the use of AI within their deployed technology stack and applications.[3]
3. With this identification in hand, analyze how AI is being used within their institutions today, including an evaluation of trustworthiness, bias, and threat or risk.[12][13]
4. Define through policy where and how AI can responsibly be used within their institution considering Anthology's AI Policy Framework and Trustworthy AI Approach for policy and process framework creation.
5. Create process frameworks that allow for the ethical, inclusive, and secure use of AI in alignment with the institution's mission and values.
6. Ensure policies allow for approval and adoption of appropriate AI usage and identification of inappropriate AI usage within the organization.
7. Have processes that cyclically evaluate the systems an institution uses to ensure it is managing its AI footprint ethically and responsibly in support of the mission of the school.[14]
8. Have training that enables staff, faculty, and students with the knowledge to identify when an AI tool is in use and what risks are associated with using an AI tool. This can be focused on keeping people in quality control positions and other areas.

Conclusion

Professionals working in administration at higher education institutions are generally more enthusiastic about using AI than they are cautious about it. They crave access to and exploration of data, reporting, and analytics with AI supporting the experience. They are concerned most about security and data privacy, and many of them haven't defined an institutional governance approach to AI.

AI is here and continues to move fast through higher education institutions. Staff and administrators, along with faculty and students, will be impacted by AI, as has already been seen. Ensuring that AI in all its forms is understood will help staff know when an AI tool is behaving properly and when it may be projecting bias or hallucination into an interaction. If AI is implemented in trustworthy ways, ensuring it's secure, private, free from bias, and keeping humans in control, staff and administrators will come to trust its use as part of the normal business process. Cyclical evaluations and reporting mechanisms can also keep poor AI behaviors from compounding within a system. The application of AI should empower institutions to apply all resources to effectively fulfill their mission and support their students' journeys.

To ensure institutions of higher education are prepared to engage with AI in beneficial ways, institutions need policies and frameworks for AI usage that not only address the classroom but also the administration of the institution. It will be imperative for institutions to establish policies and practices that allow institutions, their staff, and students to embrace this technological shift appropriately for the good of their mission and the students they serve. Engaging the current higher education workforce with AI on the job and using it in their day-to-day business will help them prepare the next generation of the workforce, where AI will be embedded in the way the internet and connectivity are today.

References

[1] AI, Academic Integrity, and Authentic Assessment: An Ethical Path Forward for Education | Anthology

[2] 2024 EDUCAUSE AI Landscape Study | EDUCAUSE

[3] How AI Has Begun Changing University Roles, Responsibilities | Inside Higher Ed

[4] Integrating Generative AI into Higher Education: Considerations | EDUCAUSE Review

[5] How is AI Technology Used in Higher Education?| University of Bridgeport

[6] What Role Should AI Play in College Admissions? | Built In

[7] Anthology uses embedded analytics offered by Amazon QuickSight to democratize decision making for higher education | AWS

[8] Trustworthy AI Approach | Anthology

[9] Anthology's Education and Research Center AI Policy Framework | Anthology

[10] Threat Modeling for AI/ML Systems | LinkedIn Learning®

[11] A meta systematic review of artificial intelligence in higher education: a call for increased ethics, collaboration, and rigour | International Journal of Educational Technology in Higher Education | SpringerOpen

[12] Responsible AI: Three tools to help businesses | Tech Xplore

[13] Understand Responsible AI - Training | Microsoft Learn

[14] Challenges and risks with AI - Training | Microsoft Learn

Appendix

Respondent Demographics

There were 134 respondents to the survey in total. Of these, 113 respondents were working within colleges or universities, while 21 were working as higher education professionals. Sentiment results in this paper include all respondents, but data analysis did separate those working at schools from those not to determine if responses were statistically different.

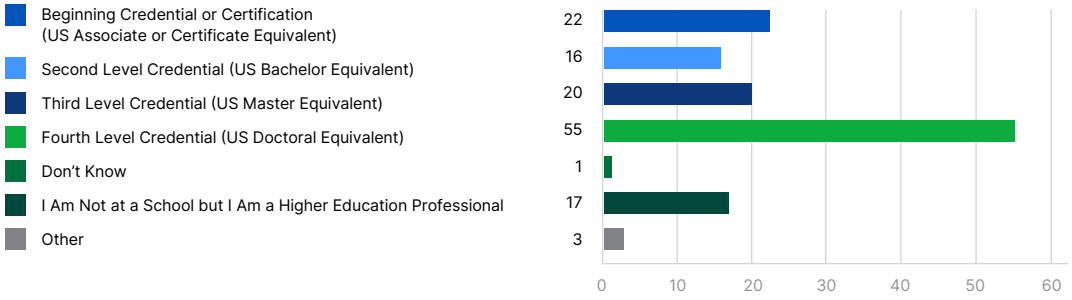

Figure 8. Credentials offered and respondent employment

As seen in Figure 8, 41% of the respondents represented doctoral institutions, while 14% were from master-level organizations, 12% were from bachelor-level schools, and 16% were at the associate/certificate level. Eighty-four percent of respondents were at schools, ensuring that the results represent actual faculty and staff currently at institutions.

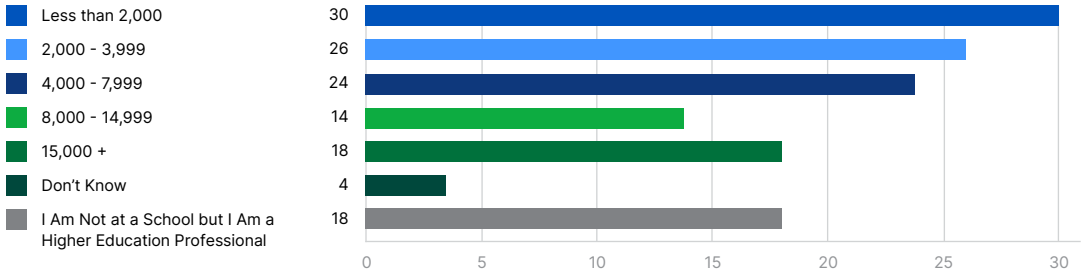

Figure 9. Institutional student size

As shown in Figure 9, 71.4%, or most respondents, reported their school size to be less than 8,000 students.Only 16% of respondents indicated they were employed at a large institution greater than 15,000.

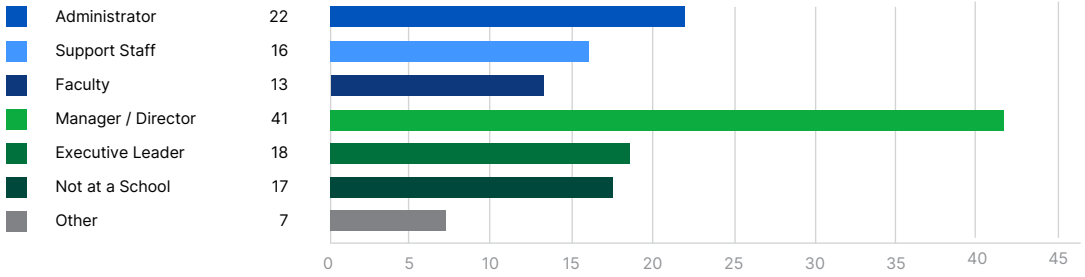

Figure 10. Primary role of respondents at their institution

Figure 10 shows the primary role of respondents at their institution. Of interest is the observation that respondents were generally in positions at the director level or below (respondents (n=92) or 68.6%). This means respondents clearly represented day-to-day users of the technology products that run the institution—such as the LMS, the SIS, the CRM, and ancillary point solutions deployed to meet the needs of students and the university.

The vast majority of the respondents claimed familiarity but not expertise with AI, as shown in Figure 11 below. This was the last demographic question included in the survey.

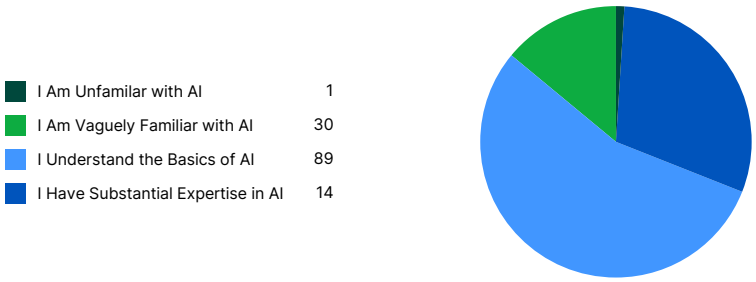

Figure 11. Respondents self-evaluate on knowledge level with respect to AI

About the Author

Rebecca R Whitehead brings 30 years of experience in higher education and education technology to Anthology, along with experience in a wide range of roles and responsibilities from faculty, curriculum coordinator, dean of academic operations, dean of academic affairs, vice president of programs, product manager, director of product owners, director of product management, and now senior director of product management. With 18 years at colleges and 12 years in product management, Rebecca is passionate about education, supporting students to success, and crafting products that excite and empower users.

About Anthology

Anthology delivers education and technology solutions so that students can reach their full potential and learning institutions thrive. Millions of students around the world are supported throughout their education journey via Anthology's ecosystem of flagship SaaS solutions and supporting services, including the award-winning Blackboard® (LMS), Anthology® Student (SIS/ERP), and Anthology® Reach (CRM). Through the Power of Together™, we are uniquely inspiring educators and institutions with innovation that is meaningful, simple, and intelligent to help customers redefine what's possible and create life-changing opportunities for people everywhere. **www.anthology.com**