

The agentic era: Reshaping the future of the public sector

Education



Executive Foreword

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The education landscape is at the precipice of a seismic shift, driven by the rise of intelligent agents. We're entering what can be described as the Agentic Era, a time where AI-powered assistants are not just automating tasks, but can help fundamentally reshape how academic institutions operate, innovate and engage with learners, faculty, and researchers. This ebook explores how academia can harness the power of agents to build future-ready classrooms.

The core challenge isn't just about understanding all of these incredible new technologies in isolation, rather it's about leveraging their collective strength. At Google Public Sector, we understand this and offer a clear approach to systematically harness AI using the: **Find, Understand, and Act** framework.

The Agentic Era promises unprecedented campus and classroom efficiency, academic innovation, and mission effectiveness without requiring technical expertise. By embracing the **Find, Understand, Act** approach with solutions like Google Agentspace, institutions can truly overcome decades-old data silo challenges, and push the boundaries of learning and scientific discovery.

Agentspace is built on Google Cloud and it benefits from our industry leading secure-by-design infrastructure. Agentspace is FedRAMP High authorized and supports HIPAA compliance, giving you the peace of mind to confidently deploy AI agents across your organization. Agentspace enables you to quickly find information, summarize and synthesize across sources, and take action with prebuilt or custom agents—all with enterprise-grade security, privacy, and compliance.

We hope this book inspires you to think big about what's possible in this new agentic era, unlocking unprecedented innovation and impact across your missions.

"For higher education, Google Agentspace isn't just an incremental step; it's a leap towards AI that profoundly enhances how institutions achieve their core objectives. As an AI/ML Expertise Partner, we envision Agentspace breaking down traditional information barriers. Consider the impact: AI agents proactively guiding students with personalized learning recommendations from Canvas data and assisting faculty with automated summaries of discussion forum engagement, or how it could personalize engagement with prospective students to better guide their academic journey. This ability to automate complex tasks and provide targeted support across the university frees up invaluable human capital, allowing institutions to profoundly enhance student success, operational agility, and their capacity to connect with their entire community by truly activating their enterprise data."

Matthew Gregg
Practice Director, Cloud Solutions
Burwood Group



burwoodgroup, inc.

"Agentspace unlocks the next frontier in education transformation, where AI doesn't just respond to questions, but anticipates needs, personalizes support, and drives action. At Resultant, we see immense opportunity for agentic technologies to shift schools from reactive to proactive. Whether it's addressing chronic absenteeism, streamlining data-driven decisions, or helping students navigate their learning journeys, Agentspace enables us to bring the right data, to the right people, at the right time with intelligence that aligns to the mission of every educator and learner."

Bernardo Unzueta
CTO Public Sector Services
Resultant

Resultant



Innovate or fall behind: the relentless pressure for education systems

Decades of fragmented tech has strained education systems as digital demands rise

There's a long-standing problem of fragmented technology and data systems within higher education, K-12, and beyond. Years ago, you had a lot of technology that didn't work that well. Today, you have a lot of technology that works amazingly, but achieving seamless integration to unlock its full potential and insight is difficult.

Increasing demands by digital-native students, changing enrollment demographics, and compounding data breaches by threat actors are rapidly increasing the pressure on institutions to adopt new technologies and innovate at an unprecedented pace.

A surge of cutting-edge technologies adds new complexity

We're seeing an explosion of incredible new technologies – things like large language models (LLMs), intelligent agents, generative AI, automated workflows, and organization-wide search tools. Each of these holds immense promise. However, this rapid innovation, while exciting, also introduces a new wave of complexity.

Education institutions are asking:

- ✎ How do we make sense of all these new tools?
- ✎ How do they fit together within our existing infrastructure?
- ✎ And most importantly, how can we actually use them effectively to solve real problems and drive value?

The core challenge isn't merely understanding these technologies in isolation. It's about harnessing their collective power to achieve tangible outcomes.

Education institutions need to be able to:

- ✎ **Access information quickly:** Getting the right information to the right person, at the right time is critical. How can these new AI tools sift through vast amounts of education data – structured and unstructured – to surface what's relevant, instantly?

- ✎ **Connect data sources:** Most education institutions have data scattered across various systems, silos, and formats. Real power comes from connecting these disparate sources. How can LLMs and agents help bridge these gaps and create a unified view of the data landscape?
- ✎ **Take action:** Insights are only valuable if they lead to action. How can education institutions embed these technologies into workflows to not just analyze or predict, but to actively assist in decision-making, automate tasks, and drive outcomes?

At Google Cloud, we understand that navigating this rapidly evolving and complex technological landscape can be overwhelming. Our goal is to abstract away much of this underlying complexity with a simple and systematic approach to find critical information, understand its implications, and empower decisive action.



Increase technology adoption, faster

The urgency for academia to adopt more technology faster is driven by several factors:

Increasing focus on cost efficiency, including cost-cutting and automating processes, the need to train, develop and reskill the workforce around AI, evolving demands for a robust digital infrastructure, and most importantly, evolving student expectations, pushing for next-generation experiences that are deeply personalized and always relevant. This urgency isn't just about mitigating pressures, but it presents a significant opportunity for any institution of any size to rapidly expand their teaching, learning, and research capabilities in just a matter of days, not years.

But if not executed in the right way, your original challenge persists:

Improper execution of these emerging technologies can lead to the same problem: fragmented and disconnected systems. Previously, it was data fragmentation; now, we risk agent fragmentation. For example, managing numerous different agents can raise challenges: How do you manage and secure them? How do you prevent malicious content? How do you handle multiple cloud providers? These issues introduce cost, risk, and complexity.



Unlocking the agentic era: Find, Understand, Act

As academic institutions navigate the agentic era, they need a seamless way to find, understand, and act on their data.



Find

As education institutions amass more data, in many different structured and unstructured formats, and across many disparate systems, finding relevant, useful, and personalized information can be a big challenge. Time wasted searching for insights and information can be a huge drag to productivity. Alongside this, search behaviors are changing, incorporating multiple modalities such as text, images, audio, and video. Query understanding is becoming increasingly complex. Being able to quickly find information and take action is a key enabler for the agentic era and provides the foundation for downstream agentic tasks. Imagine a workforce empowered to instantly find exactly what they need, when it is needed, enabling action to unlock value and drive innovation.



Understand

Simply finding information is no longer enough. The real advantage comes from the ability to rapidly understand complex sources and extract actionable insights. Envision the ability to rapidly summarize information, transforming raw data into clear, concise insights, and enabling faster and better informed decisions.



Act

The final step is to translate insights into tangible action. In the agentic era, education institutions need AI to take action, and empower employees with assistance to turn that information into workflow-driven tasks so that your institution can act now, with speed.



In the following examples, we will explore how this *Find, Understand, and Act* approach can play out across several use cases.



Agents in action: transforming key education functions

Let's explore how AI agents can help transform specific functions within education institutions. By seamlessly integrating into existing workflows and providing intelligent automation, agents can help empower teams across these areas to achieve new levels of efficiency, insight, and impact. These common applications are designed to inspire your thinking and illustrate how the agentic era may influence education institutions more broadly, while encouraging you to consider the unique opportunities within your own institution.



Personalized and Adaptive Learning Pathways Tutoring with Agentspace



Imagine you're an educator at a large school district. You pour your energy into creating engaging lessons, but you know every one of your 100+ students learns differently. Some grasp concepts instantly, others need more time, and many have unique learning styles or prior knowledge gaps.

In a traditional classroom setting, you face an enormous challenge: how to cater effectively to diverse student learning speeds, styles, and knowledge gaps. You constantly strive to provide individualized support, but with limited time and resources, it's virtually impossible to give continuous, personalized attention to every student. This often leads to student disengagement, some falling behind, and feeling stretched thin trying to reach everyone.



Find

With Agentspace, you can address this challenge head-on. An "Adaptive Tutor" agent, powered by Gemini, can help educators easily connect to the school's Learning Management System (LMS), existing student assessment data, and curated content from faculty.



Understand

For your students, this agent can analyze individual performance, pinpointing specific areas of difficulty. Crucially, it can then dynamically generate personalized learning pathways with tailored content recommendations approved by faculty —be it specific readings, targeted videos, or custom practice sets.



Act

With Agentspace, you can have immense impact in your classroom, from more personalized learning to real-time, conversational tutoring. Agentspace can provide hints, explanations and feedback on assignments, which can inspire more active learning for students. Repetitive tasks can be automated, freeing up time for higher-order teaching and targeted student interventions.



Optimizing Student Support Services, Advising, and Interventions with Agentspace



Imagine you're a Director of Student Affairs at a bustling state university with 20,000+ students. Your mission is to ensure every student feels supported and on track for success, while also navigating administrative hurdles, providing assistance with financial aid, course registration, or even a quick tech fix.

Your student support centers – including advising, financial aid, registration, and the IT help desk – face an overwhelming volume of repetitive inquiries. This leads to long wait times for students and a high risk of staff burnout as they answer the same questions repeatedly. Students themselves often struggle to navigate complex administrative processes and find the right information quickly, impacting their overall university experience and potentially hindering their academic progress. The goal is to provide seamless support, but fragmented information and high demand make it a constant uphill battle.

Find

With Agentspace, you can create a transformative solution, acting as a powerful "Campus Concierge" agent. Your intelligent assistant can securely access various university systems, including the Student Information System, Financial Aid portal, Course Catalog, IT knowledge base, and Campus Events. Built on Google Cloud's secure -by-design infrastructure, Agentspace uses robust encryption and role-based access controls to safeguard all university data from integrated student records to individual user prompts and AI outputs—ensuring student privacy.

Understand

With Agentspace, you can have a 24/7 virtual assistant, providing instant, accurate answers to student questions via chat or voice. It can guide students step-by-step through complex processes like course registration, proactively send reminders for important deadlines, and even connect students with the right experts for more nuanced or complex issues. Agentspace can also offer personalized recommendations for campus resources or events, based on individual student profiles while strictly protecting their personal information enriching university life.

Act

With Agentspace, your impact can be immense by improving the overall efficiency of student support services and enabling staff to dedicate more time to complex student cases that require empathy, nuanced judgment, and personalized problem-solving. The university can ensure more consistent, accurate information delivery across all departments, eliminating confusion and improving the student experience.



From hypothesis to discovery, accelerate the clock speed of scientific discoveries with Agentspace

Imagine you're a Professor of Biomedical Engineering at a top research institution. Your passion is pushing the boundaries of medical science, but your days are increasingly consumed by the administrative demands of academia.

Like countless other researchers, you spend a considerable amount of time searching for the right funding opportunities, meticulously conducting literature reviews for grant proposals, identifying relevant collaborators, and managing the intricate administrative tasks related to grants. This relentless administrative burden significantly detracts from your core mission: conducting ground-breaking research, inspiring students through teaching, and advancing human innovation and knowledge. This reality means less time in the lab, less time teaching, and more time battling paperwork, ultimately slowing the pace of scientific discovery.



Find

With Agentspace, you can leverage the power of a "Deep Research" agent tailored specifically for academic use. This intelligent agent can seamlessly connect to vast external grant databases (like Grants.gov and various foundation directories), a universe of academic journals, the university's own research repositories, and critical internal compliance systems. You can now use natural language prompts to command the agent to identify relevant funding opportunities perfectly aligned with your specific research interests.



Understand

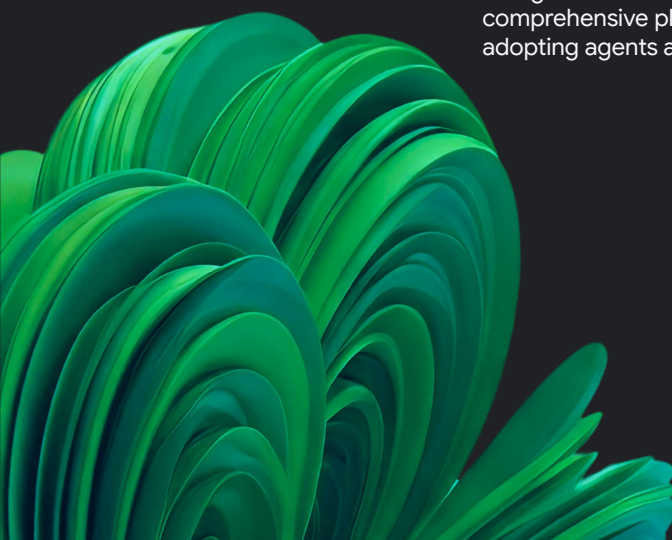
With Agentspace as your research assistant, you can unlock immense impact by reducing the time spent on administrative search and preliminary research for grants. You can automate comprehensive literature reviews and summarize key findings from thousands of papers in minutes. Agentspace can enable researchers to spend more time on novel research design, experimentation, and the dissemination of findings, accelerating scientific progress.



Act

With Agentspace, your impact can be immense, from generating draft sections of grant proposals faster, to assisting with tedious tasks like formatting citations. Agentspace can improve the quality of literature reviews and proposal sections, making applications stronger. This can help increase the success rate of grant applications by providing well structured and thoroughly researched proposals, leading to a more efficient path to critical scientific advancements.

Why Google Cloud for agents



Deliver more impact with AI agents by easily tailoring AI for your specific needs. Google Cloud offers the most open and comprehensive platform for building and adopting agents at scale.

Easily scale adoption of AI agents across your institution.

Put AI agents in the hands of every employee with [Google Agentspace](#). This central platform uniquely combines Google's enterprise Search, conversational AI (chat), and Gemini with third-party agents. It enables your workforce to efficiently find and synthesize internal information, interact with AI agents, and take action directly within their applications.

Agentspace is built on Google's secure-by-design infrastructure, and connected to over 100 applications such as Salesforce, SharePoint, and Slack with support for these services' user access controls. Thanks to a robust set of guardrails, security, and policies through the agentspace Admin UI, administrators will be able to set and manage policies to help ensure agents don't take unsafe actions and adhere to organizational policies.



Accelerate deployment with AI assistants, applications, and agents that are ready for use today.

To help agencies do more with AI agents, Google Cloud offers a range of options tailored to different needs and skill sets. These options range from integrated Gemini assistants for [Google Cloud](#) and [Google Workspace](#) to AI applications such as [Customer Engagement Suite](#), which leverages agents to deliver exceptional experiences at every touchpoint.

Build and manage multi-agent systems.

Every organization will soon rely on multi-agent systems – multiple AI agents working together – even when built on different frameworks or providers. Our robust developer platform, [Vertex AI](#), features the broadest range of tools to build AI agents and enable a multi-agent ecosystem.

Vertex AI includes [Agent Development Kit](#) (ADK), a new open-source framework that simplifies the process of building sophisticated multi-agent systems while maintaining precise control over agent behavior. With ADK, developers can build an AI agent in under 100 lines of intuitive code.

And to help every institution maximize benefits of agentic AI, Google Cloud's open [Agent2Agent \(A2A\) Protocol](#) enables seamless collaboration between agents – regardless of the underlying model or framework – and is supported by over 50 leading technology partners.

Ready to see the agentic era unfold?

Explore [real-world examples](#) showcasing how education institutions are already putting generative AI to work for tangible impact.

Unlock your agentic future

The agentic era promises a future of unprecedented efficiency, innovation, and constituent engagement. By understanding the potential and implementing the Find, Understand, and Act approach, your institution can position itself to thrive in this transformative landscape.

Agentspace can help your institution:

- Seamlessly access and leverage siloed data, automating repetitive tasks, fostering collaboration and efficiency.
- Reimagine workflows using agents to streamline processes and improve student outcomes.
- Provide a secure, unified platform and interface to ingest, analyze, and share critical intelligence from disparate sources, accelerating insights and enhancing collaborative decision-making.
- Integrate fragmented data systems, automate routine tasks, enhance service delivery, improve decision-making, and foster efficiency across operations.

Now is the time to make transformative changes, and Google Cloud helps our customers do that every day by making siloed systems a thing of the past. With security built-in and a comprehensive portfolio of technologies and applications, we can help empower you to unlock the unprecedented efficiency, innovation, and engagement that the agentic era promises.

Learn more and take action

[Connect with our team](#) to learn more about how Google Agentspace and other AI solutions can empower your agency and unlock your data and expertise.