Microsoft

Microsoft Education AI Toolkit

A navigator for education institutions to plan their AI journey

Welcome to the Microsoft Education AI Toolkit

At Microsoft, we stand ready to support you as our advancements in AI are grounded in our mission to empower every person and every organization on the planet to achieve more. Generative AI technologies like Microsoft Copilot are changing the way we research, work, and learn— and we share your excitement in how they are already being used. This toolkit has been specifically created for education leaders to provide knowledge, strategies, and recommendations about their effective and responsible use so you can begin your AI journey today.

We are committed to creating technologies that are accessible, inclusive, and tailored to meet the diverse needs of all learners. Our AI systems are designed responsibly—keeping people at the center of safe, secure, and trustworthy use of these tools.

In the pages that follow, you'll be introduced to a variety of technologies including Microsoft Copilot, Copilot for Microsoft 365, Copilot in Windows, GitHub Copilot, and Azure AI Studio as well as the stories and best practices that showcase how they are already being used by education institutions across the globe–along with the latest research that demonstrates the positive outcomes these AI solutions are having. We've also provided step-by-step instructions, screenshots, and links so you and your team can try these amazing tools for yourself.

As we continue to advance these technologies, we recognize the important role organizations like yours will play in shaping the future of teaching using these new tools. Your engagement with this resource will deepen your understanding of generative AI and will provide a means to learn from the experiences of other educators and institutions–those we call AI Navigators.

Thank you for your interest in Microsoft's generative AI technologies and all you do to prepare the next generation of leaders and innovators. We look forward to continuing this exciting journey with you.

Yours sincerely,

Paige Johnson

Paige Johnson
VP of Global Education
and Media Industry Marketing
Microsoft Corporation

Table of Contents

How to use this resource

The Microsoft Education AI Toolkit is intended for education leaders—at universities, schools, state departments, and ministries of education. The toolkit aims to equip educational leaders at various stages of their AI journey with knowledge, strategies, and tips to confidently advance their use of generative AI technologies.

Organized into five main categories—Overview, Plan, Implement, AI Navigators, and Research—you can use the navigation tabs on the right-hand side of the PDF to explore frameworks, guidelines, examples and much more.

Using Microsoft Copilot

Microsoft Copilot is your everyday AI assistant. There are several ways to access Copilot including any modern web browser, on your computer, and even on your mobile devices as a standalone application. For education customers, Microsoft Copilot is free to use with your Microsoft login. When you use your academic credentials, you'll have access to data and copyright protection. As you read through this guide, you'll encounter pre-scripted AI prompts which, when selected, will open so you can experience the tool for yourself. Depending on your default browser, you may have to select enter for the pre-scripted prompt like the one below to activate and return a result.

Microsoft Copilot provides three conversation styles, or modes: More Creative, More Balanced, and More Precise. When experimenting with the prompts in this toolkit, try the different conversation styles to tailor your results.

Get interactive: Explore AI prompts firsthand

Click anywhere on the prompt below to see how this toolkit feature works.

Copilot prompt

Assume the role of an education institution leader such as a provost, dean, or superintendent for a medium-sized institution with over 10,000 students and provide a set of five guiding questions and summary responses for my education institution to consider ensuring the responsible use of generative AI.

The Power Of Possible In EDU
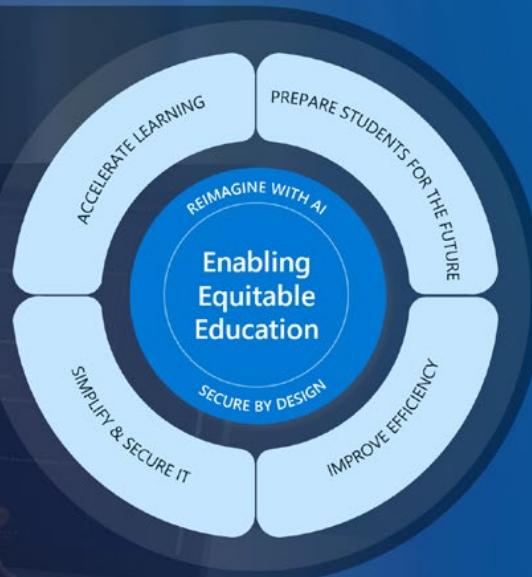
- Endlessly patient AI tutors
- Next gen certifications & assessments
- Modelling, predicting and advising across "the business" of schools
- Fight cybercrime at machine speed

Enabling Equitable Education
REIMAGINE WITH AI
SECURE BY DESIGN
ACCELERATE LEARNING
PREPARE STUDENTS FOR THE FUTURE
IMPROVE EFFICIENCY
SIMPLIFY & SECURE IT

The power of the possible: the promise of generative AI in education

In today's educational landscape, generative AI is emerging as a powerful tool that can change the way we teach and learn. For educational leaders, generative AI's potential is both vast and inspiring, offering significant opportunities to enhance educational outcomes, foster creativity, and, most importantly, prepare students for a future where AI is an integral part of every work and life.

Generative AI tools are versatile and capable of supporting a wide range of educational modalities. From personalized learning experiences to collaborative projects, generative AI will be able to adapt to each student's unique needs, offering tailored support to help maximize individual potential. Imagine classrooms where an educator's lesson plans are dynamically customized to suit the pace and style of each learner, or where virtual tutors provide instant feedback and encouragement. These AI-driven experiences are starting to become a reality in some educational environments.

Navigate back to table of contents

The impact of generative AI is already being felt. Educators use AI tools to create tailored simulations, develop engaging educational activities, and produce interactive storytelling experiences that captivate students. In higher education, generative AI is enhancing research capabilities, enabling students and faculty to analyze vast datasets and generate new insights with unprecedented speed and accuracy. Early users show improved student engagement and achievement, as AI streamlines administrative tasks and lesson planning, helping to enable educators to focus on individual student needs. IT departments benefit from AI's speed in protecting data, and students gain valuable skills for an AI-driven future. These advancements are making education more efficient, personalized, and aligned with future job market demands.

While the potential benefits of generative AI are significant, addressing concerns such as data privacy, algorithmic bias, and the need for human interaction in learning is also essential. Ensuring that AI systems are used responsibly is imperative. By integrating AI in ways that complement rather than replace human educators and focusing on data security and fairness, we can build trust and create a more effective and inclusive educational environment.

The introduction of generative AI into education is more than a technological upgrade; it is a call to inspire the next generation of innovators. As educational leaders, you have the opportunity to harness generative AI to ignite curiosity, foster creativity, and cultivate a lifelong love of learning in your students. By integrating these tools, you are not only enhancing the educational experience but also equipping students with the skills and mindset they need to thrive in an ever-changing world.

We invite you to explore our comprehensive toolkit, designed to provide you with the knowledge and resources needed to implement generative AI effectively in your educational setting.

Introduction to AI

With the release of ChatGPT in late 2022, generative AI has surfaced as one of the most talked about technologies since the emergence of the Internet in the mid-1990s. It has transformed the technological landscape and is already impacting the worlds of work, education, and entertainment. At its core, generative AI leverages complex algorithms and vast datasets to generate new, original content ranging from text, images, music, video, and more.

Grasping foundational concepts of AI technology is essential for your role, guiding the decision-making process on the best implementation methods to reach your goals and ensure a more equitable future for students. As an IT and education leader, you are at the forefront of integrating technological advancements not only into educational practices but also into the broader operational framework of your organization, which includes enhancing digital security, ensuring data privacy, managing infrastructure, and fostering collaborative learning environments. This holistic approach supports a seamless and safe educational journey for all students.

Artificial Intelligence

Machine Learning

Deep Learning

Generative AI
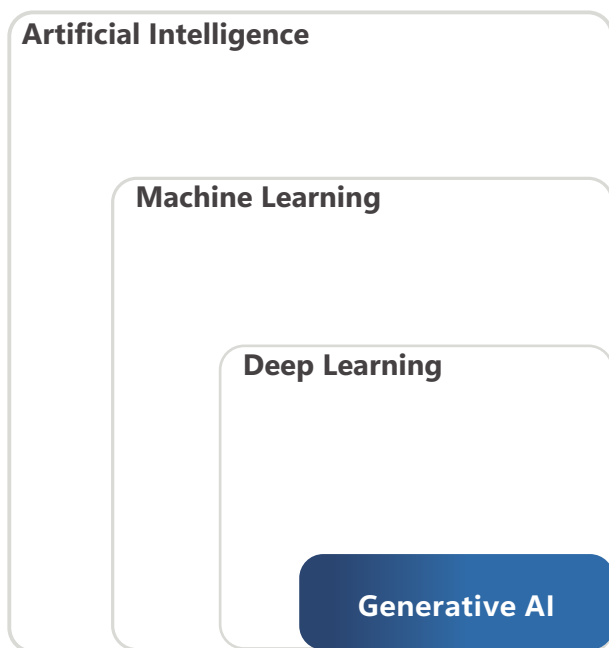
1950s
Artificial Intelligence
The field of computer science that seeks to create intelligent machines that can replace or exceed human intelligence.

1959
Machine Learning
Subset of AI that enables machines to learn from existing data and improve upon that data to make decisions or predictions.

2017
Deep Learning
A machine learning technique in which layers of neural networks are used to process data and make decisions.

2021
Generative AI
Create new written, visual, and auditory content given prompts or existing data.

Copilot prompt

You are a computer scientist who works with AI. Explain the growth of AI to an audience of K-20 IT professionals and school leaders. Give clear and easy-to-understand explanation of AI, demystify AI and inspire innovative educational applications. Then give 5 unique examples of how AI is currently used in educational settings from personalizing learning to helping with administrative efficiency.

The subsequent pages in the Overview section offer an array of practical and contextualized insights.

- Explore AI-related foundational vocabulary in **Terms.**

- Navigate through a concise evolution of AI technology in **A brief overview of AI**.

- Delve into data's central role in education, by reading **It's all about the data**.

- Examine AI's Impact on work skills in **AI and the future of work.**

- Scan the functions of each copilot in **Get to know the Microsoft Copilot tools**.

- Explore suggestions for how different educational practitioners might apply a copilot in **Copilot for IT leaders, Copilot for education leaders, and Copilot for educators**.

- Plan for student interaction with AI by reading **AI for students**.

- Meet the AI-powered tools that boost student learning in **Learning Accelerators**.

- **Engage with the sample copilot prompts** sprinkled throughout the section.

Terms

Algorithm

A set of clear and specific instructions that can be performed in a prescribed sequence to achieve a particular goal and that has a recognizable set of end conditions.

Artificial Intelligence (AI)

Defined as "the ability of a computer or other machine to perform those activities [tasks] that are normally thought to require intelligence." AI tasks involve various data analyses or production such as providing predictions or recommendations, language translation, computer vision systems, or speech recognition. AI is a human endeavor that combines information about people and the physical world into mathematical constructs. Such technologies typically rely on statistical methods, with the possibility for errors throughout an AI system's lifespan.

Deep Learning

A machine learning technique in which layers of neural networks are used to process data and make decisions.

Generative AI (genAI)

A term for AI systems that generate various forms of novel output, including text, code, graphics, or audio. Examples of generative AI include generative pre-trained transformer (GPT) chatbots and text-to-image generators.

Fabrication

A phenomenon of large language models (LLMs) sometimes generating responses that are factually incorrect or incoherent.

Large Language Model (LLM)

A large language model (LLM) is a type of AI that can process and produce natural language text. It learns from a massive amount of data gathered from sources like books, articles, webpages, and images to discover patterns and rules of language.

Machine Learning (ML) model

Machine learning (ML) models typically involve data, code, and model outputs, while AI systems have other socio-technical components, such as user interfaces. An ML model is trained to recognize certain types of patterns and then uses an algorithm to make predictions about new data.

Natural Language Processing (NLP)

NLP is the ability of a computer program to understand human language as it is spoken and written—it is a type of artificial intelligence.

Neural Network

A machine learning model that uses algorithms to mimic the human brain
.

Training

A term that refers to providing a machine learning model's algorithm with a given dataset for processing and identifying patterns that the model will then use for performing predictive tasks in its deployment setting.

A brief overview of AI

Artificial Intelligence emerged in the 1950s when early pioneers like Alan Turing laid the groundwork for machine intelligence, posing the question of whether machines could exhibit human-like thinking. In 1956, researchers met at the Dartmouth Conference to explore the idea of creating machines that could think like humans—this is considered the beginning of AI.

Throughout the following decades, AI garnered periods of enthusiasm and skepticism. However, as computers have become more powerful, and we have more data and better algorithms, AI has advanced, especially the subset of AI called machine learning (ML). Neural networks and deep learning techniques have made ML more powerful and useful. Advancements in Natural Language Processing (NLP) have enabled machines to understand, interpret, and generate human language making AI even more accessible to a diverse group of users.

Today, AI is used in many parts of our lives, from virtual assistants and recommendation systems to autonomous vehicles and diagnostic tools. Smart home devices, email filtering, and language translation apps also use AI. An area of significant advancement in AI technology is generative AI. Generative AI allows any user to prompt the tool to create text, images, code snippets and more. What sets generative AI apart is that it makes creating easy for nearly everyone, even if they don't have special technical skills. It offers a simple way for all users to make their own content.

It's all about the data

Data is, in many ways, at the center of educational institutions, playing a pivotal role in shaping strategies, enhancing teaching methodologies, and fostering continuous improvement. Starting the AI journey in education requires a fundamental shift in perspective: Recognizing that thoughtful consideration of data management is central to the strategic planning needed to leverage the full potential of AI technologies. This isn't just about technology; it's about shaping a future where strategic decisions are informed and enhanced by AI.

One of the more challenging barriers to implementing AI solutions in education is the existence of data silos, separate information repositories confined within various proprietary software systems. These silos not only hinder access to data but also impede the holistic analysis necessary for data-driven decision-making.

Addressing this challenge requires a concerted effort to dismantle data silos and embrace a more inclusive approach to data aggregation. By breaking down these barriers and adopting a unified data approach, schools can achieve deeper insights and offer personalized learning experiences, enhancing AI's impact. This not only enhances the capability of AI systems to generate meaningful outcomes but also significantly advances the institution's ability to meet the evolving needs of its students and educators.

Initially, the focus should be on establishing a foundational data management strategy that begins to break down silos and integrate diverse data types. Simultaneously, implementing basic security measures to protect this data is essential. As institutions evolve, so too can their data management and security practices, evolving from simple, initial setups to more sophisticated systems like data lakes and advanced encryption methods.

This approach emphasizes the importance of starting where you are, with what you have, and understanding that perfection is not a prerequisite for progress. Incremental improvements, fueled by ongoing learning and adaptation, are key to building a robust framework capable of supporting the sophisticated needs of AI technologies. Encouraging a culture of continuous improvement and shared responsibility among all stakeholders—administrators, IT staff, faculty, and students—can significantly enhance both data management practices and security postures.

Microsoft's integrated cloud platform, Microsoft Azure, offers a comprehensive solution. Azure simplifies the development of advanced solutions and the use of analytics. Educational institutions using Microsoft cloud solutions can centralize their data management, increase operational flexibility, and provide personalized experiences for students. This solution isn't just about technology; it's about shaping a future where strategic decisions are informed and enhanced by AI. As a result, data driven decisions informed by AI constitute a fundamental shift from storing, accessing, and analyzing data to dialoguing and conversing with your data.

Quality and diversity of data over volume

The true power of AI is unlocked not by the sheer volume of data but by its diversity. Educational institutions have access to a wide range of data types, including academic records, multimedia, and behavioral metrics. However, the integration of these varied data sources is crucial to harness their full potential. For AI systems to function well, they require a broad spectrum of data types. The key to unlocking valuable insights from AI lies in the variety and volume of data. This diversity enables AI to generate more comprehensive insights. The concept of big data is key here—it's not just about large amounts of data, but about varied and comprehensive datasets that feed into large language models, significantly enhancing their performance.

The journey toward effective AI integration in education is marked by learning from challenges, celebrating advancements, and remaining adaptable to the ever-changing digital landscape. Each step forward, no matter how small, contributes to the overarching goal of transforming educational environments through the power of AI, underpinned by solid data management and security foundations.

AI and the future of work

> "If our era is the next Industrial Revolution, as many claim, AI is surely one of its driving forces."
>
> **Dr. Fei-Fei Li**
> Stanford University

Artificial Intelligence, including generative AI, is significantly transforming the landscape of work, necessitating a reevaluation of the skills required in the workforce. As AI integrates into various industries, it creates new opportunities that require a blend of technical proficiency and durable skills like critical thinking and emotional intelligence. Recognizing these shifts, reports from professional organizations underscore the urgency for an updated skills framework, highlighting a growing demand for a workforce adept at navigating a technology-driven environment.

This evolution in the job market calls for a corresponding shift in educational models. Traditional curricula, often criticized for their slow adaptation to technological advancements, must transition towards more dynamic, personalized learning experiences that foster technical literacy and cultivate the skills essential for the AI era such as curiosity and meta-cognition. These skills are essential for understanding AI and harnessing its potential. Proficiency in prompt design is also crucial for effective information retrieval and content creation.

The path forward involves strategic planning that integrates AI and future skills into curricula, fostering partnerships with technology companies, and creating a culture that values innovation and adaptability.

Our evolving educational landscape emphasizes the shift from creating content to analyzing and integrating skills, driven by AI's capacity to rapidly locate and generate content. However, it's important to recognize that generative AI isn't perfect and can sometimes produce inaccurate information or fabrications. Students must be adept at identifying errors and inaccuracies.

To succeed in an AI collaborative world, students, educators, perhaps every member of an educational community must adapt or learn new skills like how to prioritize, delegate, proof, review, and master efficiency. Equipping students and educators with these skills is essential for success in an AI collaborative world.

Microsoft Copilot capabilities

Different ways to interact with Copilot

Copilot is a generative AI tool capable of creating different types of content, such as text, images, music, and code. It can process inputs in the form of text, images, or voice. You can get started by visiting copilot.microsoft.com. It's designed to work on various platforms, including Windows, mobile apps, and the Edge browser, where it's accessible via a sidebar. When used with Edge and Windows, Copilot has additional enhanced features. This section introduces Copilot's features, access methods, and practical applications to boost your creativity and streamline your workflows..

Voice interaction: In Windows, on the website, or in the mobile app, you can use your **voice** to communicate with Copilot. Tap the **microphone icon** at the bottom of the screen, speak your query, and submit it. This hands-free approach can be especially useful when you're busy or multitasking.
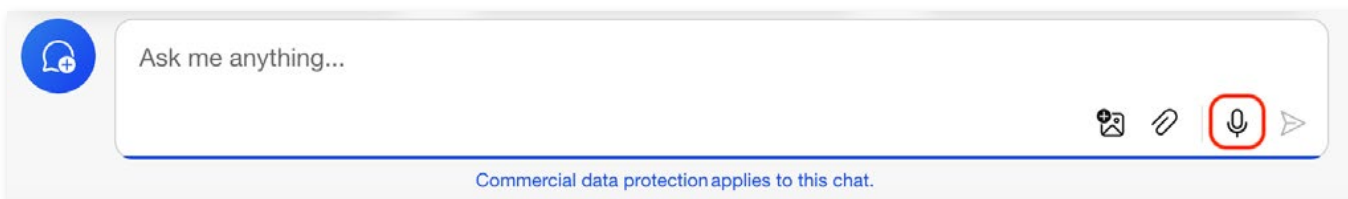

Visual search: Upload photos, artwork, or other images, and Copilot will **analyze** them. This feature can be handy for educators, designers, or any content creators in the educational sector.
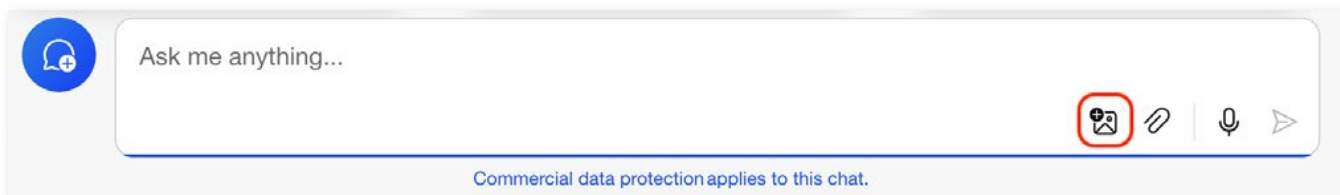
Image generation: Leverage Copilot's **Designer image creator** to generate logos, drawings, visual aids or other images based on your text descriptions. Learn more by reviewing the image prompting 101 guide.

Windows 11 integration: Access Copilot directly from your desktop with **Windows 11** by clicking the **Copilot icon on the Taskbar**. It opens in a sidebar on the right, allowing you to seamlessly interact with Copilot, providing instant assistance without disrupting your tasks.
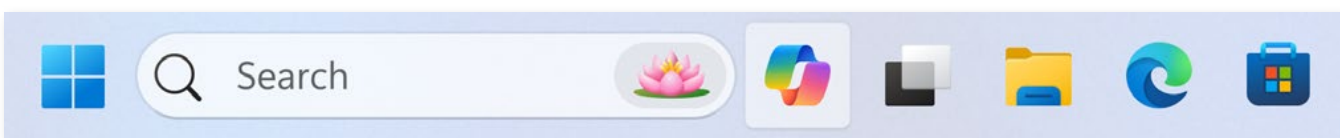
Mobile apps: You can stay connected with Copilot on-the-go. It is available as a **mobile app** for both **iOS/ iPadOS** and **Android**. Download the app to your smartphone or tablet, and you'll have Copilot at your fingertips wherever you go

Optimizing Copilot in the Edge browser

Edge browser sidebar: If you're using the **Edge browser**, there's a unique integration that lets you interact with Copilot through a sidebar. Simply launch Edge and click the **Copilot icon in the upper right corner**. This integration facilitates real-time Copilot assistance while you navigate the web, perfect for research and educational resource exploration.
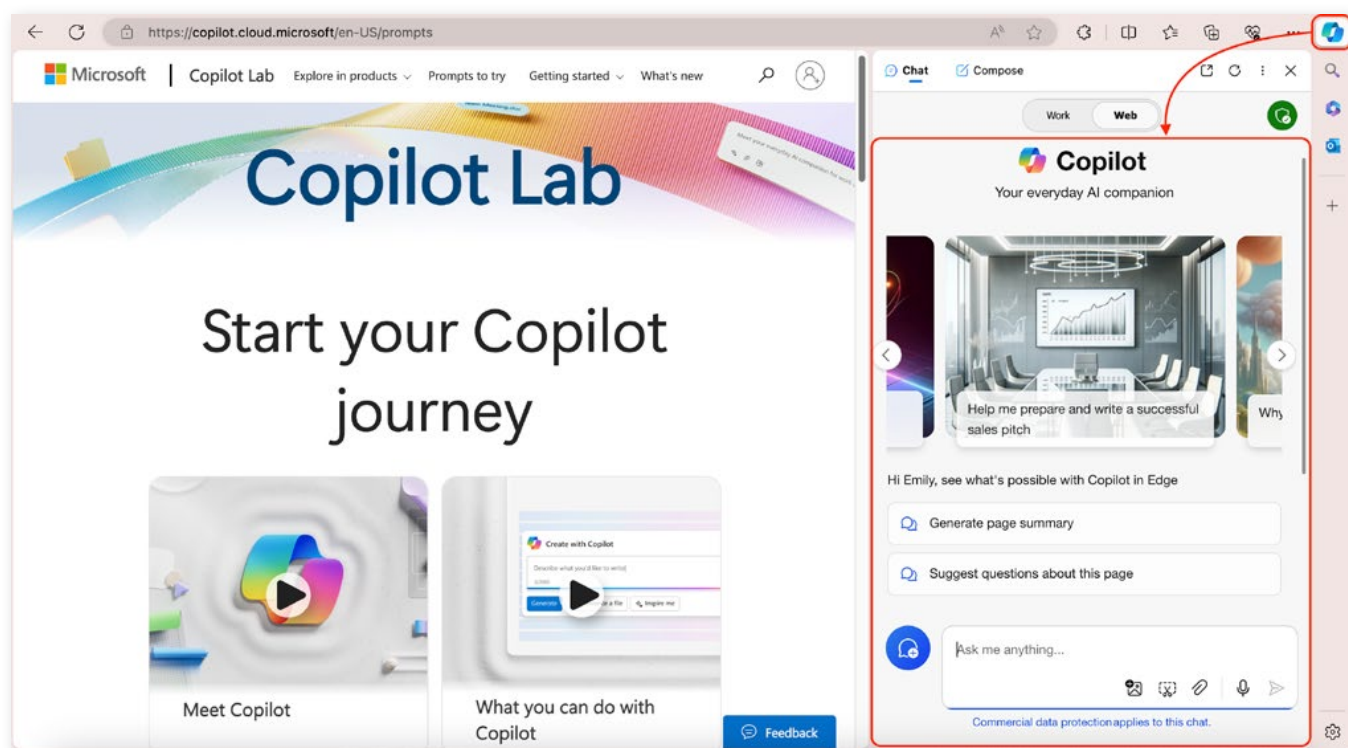
Use a screenshot: In the **Edge browse**r sidebar you also have the option to **take a screenshot** and have Copilot analyze it for you, describe the image, or pull key takeaways out of the image.
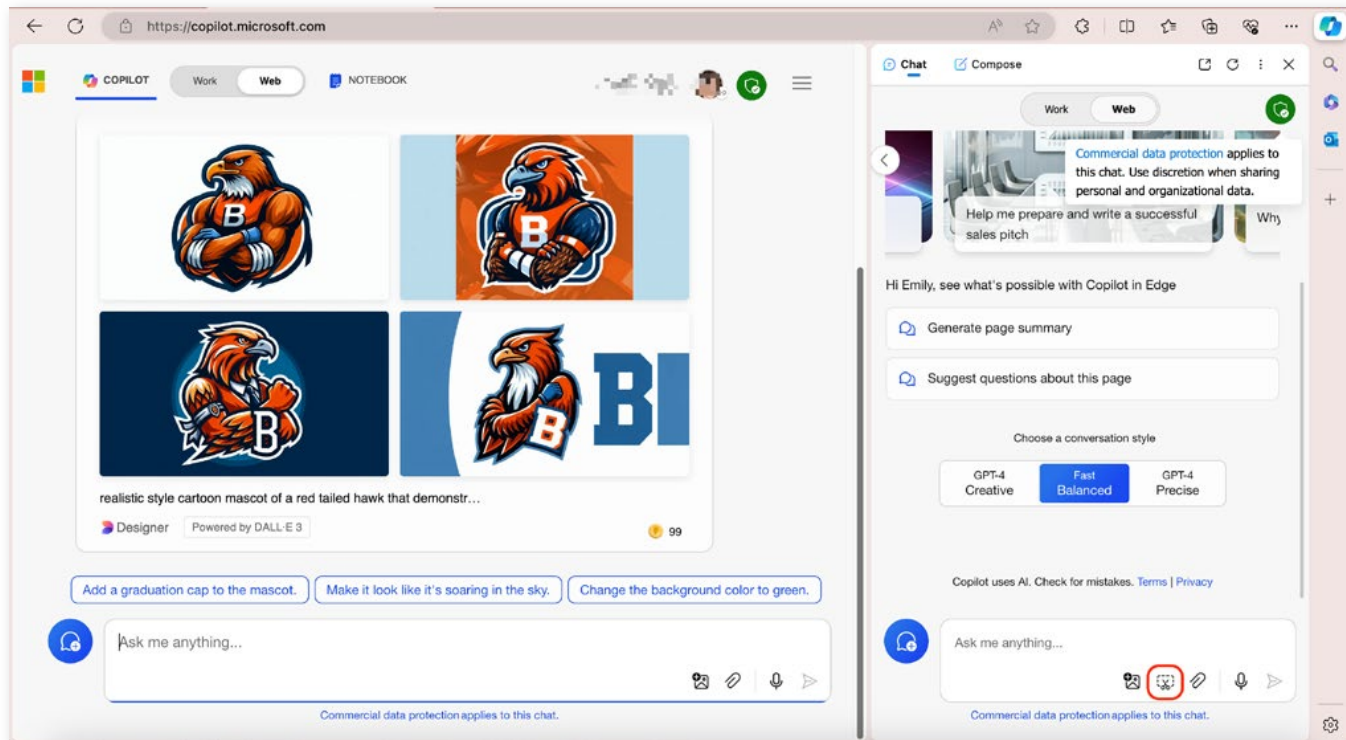
Insightful browsing: When using Copilot through the Edge browser sidebar, it can **provide insights on your current web page**. Whether you're researching, analyzing, or reading articles, Copilot can enhance your browsing experience.

Copilot instructions

Open the **Edge browser** and navigate to an article, PDF, document, or website.
Click the **Copilot icon in the upper right** corner.

Ask Copilot to:

- Provide the 3 top takeaways of an article, or

- Revise the document looking for gaps in knowledge or bias in language, or

- Summarize this PDF into key points and takeaways, or

- Ask a follow-up question to the topic of the article.

Get to know the Microsoft Copilot tools

Microsoft Copilot

AI-powered chat assistant designed to aid users in web browsing and more. Commercial data protection is included for education institutions.

AI chat for the web with commercial data protection

Learn more about Microsoft Copilot

Copilot for Microsoft 365

AI-powered productivity tool that includes access to Microsoft Copilot and integrations with Copilot in Word, PowerPoint, Excel, Outlook, Teams, Loop, and other Microsoft 365 applications.

Works alongside you in the applications you use every day

Learn more about Copilot for Microsoft 365

Copilot in Windows

Copilot in Windows is an AI assistant in Windows 11 that can help you with various tasks, such as changing settings, organizing windows, getting answers, and generating images.

A powerful combination of AI and productivity

Learn more about Copilot in Windows

Copilot for Security

Security-focused generative AI solution enhancing defender efficiency and capabilities. Using natural language assistive experience in various scenarios, including incident response, threat hunting, intelligence gathering, and posture management.

Defend at machine speed with Microsoft Copilot for Security

Learn more about Copilot for Security

Copilot for Dynamics 365

A tool that helps organizations automate tasks, analyze data, and give suggestions to improve school performance and student outcomes.

Turbocharge your staff with a copilot for every job role

Learn more about Copilot for Dynamics 365

GitHub Copilot

GitHub Copilot is a coding assistant that helps you write code faster and smarter by generating suggestions based on your context and description.

Increase developer productivity to accelerate innovation

Learn more about GitHub Copilot

Copilot in Intune

Copilot in Intune offers AI-powered insights to assist IT admins troubleshoot devices and create policy. It features real-time analysis, accelerates incident responses, and simplifies scripting with natural language queries, freeing teams up to focus on strategic initiatives.

Explore new ways to work smarter and faster using the power of AI.

Learn more about Copilot in Intune

Copilot for Power Platform

Microsoft Copilot for Power Platform is a tool that helps educational users create and customize apps, workflows, and chatbots for their schools. It uses artificial intelligence to generate code, suggestions, and solutions based on natural language inputs.

Imagine it, describe it, and Power Platform builds it

Learn more about Copilot for Power Platform

Commercial data protection

Safeguards user and organizational data by preventing prompts and responses from being saved when signed in with a school-issued Microsoft account.

Learn more about Commercial data protection

Customer Copyright Commitment

Customer Copyright Commitment Microsoft defends customers from IP infringement claims arising from the customer's use and distribution of the output content generated by Microsoft's Copilot services.

Learn more about Customer Copyright Commitment

Overview

Plan

Implement

AI Navigators

Research

Copilot for IT leaders

IT leaders play a pivotal role in maintaining infrastructure assets, establishing cybersecurity protocols, protecting private data, and supporting community members with technical assistance. Microsoft Copilot provide ways to simplify and streamline these challenging responsibilities in schools and higher education institutions.

Microsoft Copilot
Increase productivity and save time performing common IT duties like:

- Update Acceptable Use Policy (AUP)

- Create FAQs for adopted technologies

- Draft step-by-step tutorials

Copilot for Microsoft 365
Complete specialized tasks that use Microsoft 365 apps and files like:

- Analyze device inventory spreadsheets

- Translate ticket languages

- Summarize IT candidate resumes

Copilot for Security
Respond to external threats and evaluate risks using natural language queries and prompts designed to:

- Assess incident impact

- Develop remediation plans

- Analyze vulnerabilities

Copilot prompt

Open your institution's *Acceptable Use Policy (AUP)* in the Edge browser. Open Copilot sidebar from the top right and enter the prompt below:

Please review the Information Technology Acceptable Use Policy on the page for potential improvements. Specifically, look for any outdated information, areas in need of clarification, inconsistencies in language, and suggestions for enhancing user understanding. Check for the inclusion of the last update date, ensure accessibility considerations, and provide insights on the scope, monitoring procedures, and contact information. Additionally, analyze the clarity of prohibitions, suggest examples where helpful, and assess the completeness of related sections such as exceptions and definitions. Your feedback should help identify any potential revisions to improve the overall effectiveness, clarity, and user-friendliness of the policy.

Copilot for education leaders

The role of an education leader is more than just managing daily operations; leaders shape and enact policies, make data-based decisions, monitor achievement, implement curricula, and oversee faculty development. Microsoft Copilot helps education leaders accomplish many of these time-consuming tasks.

Microsoft Copilot

Increase productivity when completing administrative duties like:

- Research and compare curricula

- Outline an agenda for professional learning

- Summarize online articles or PDFs

Copilot for Microsoft 365

Use Microsoft 365 apps and files to complete specialized tasks like:

- Summarize internal state reports

- Auto-draft messages to faculty

- Create visualizations from spreadsheets

Copilot in Windows

Simplify Windows 11 device management and perform activities like:

- Troubleshoot audio/video issues during lessons

- Adjust device notifications when planning

- Find documents without knowing the file name

Copilot prompt

Summarize the *2024 National Educational Technology Plan* and Include sections on the digital use divide, digital design divide, and the digital access divide. Provide a 1-2 sentence definition of each digital divide and list 5 steps to take to address the divide in each section. The summary should be written in plain language that's understandable by educators. Cite any source material.

Copilot for educators

As the people most directly responsible for student learning, educators spend the bulk of their working hours writing lesson plans, assessing understanding, facilitating classroom activities, and completing administrative duties. Microsoft Copilot makes common educator tasks more manageable and efficient.

Microsoft Copilot

Increase productivity and save time completing duties like:

- Create a course syllabus

- Write a lesson plan that differentiates instruction

- Level text for emergent readers

Copilot for Microsoft 365

Use Microsoft 365 apps and files to accomplish specialized tasks like:

- Recap Teams meetings for absent students

- Auto-draft emails for families

- Create a rubric from a lesson document

GitHub Copilot

Deploy an AI-powered coding assistant that supports computer science instruction:

- Provide students with just-in-time coding support

- Debug complicated programs and refactor code

- Help students document change logs

Copilot prompt

You are an AI with expertise in physics. Your task is to provide five diverse analogies that can help explain Bernoulli's Principle to high school students preparing for their state exams. The analogies should be simple, concise, and cater to a range of student interests and experiences. Remember, your goal is to aid their understanding of the principle, not to introduce more complexity.

AI for students

By equipping students with the knowledge and tools needed to safely interact with AI products in the classroom, we can better prepare them for the real-world challenges they will encounter. Recent research, sponsored by Microsoft and conducted by the International Data Corporation (IDC), reveals significant insights into the widespread adoption of AI in organizational settings. The study indicates that 71% of organizations have already integrated AI into their operations, with a staggering 92% completing their AI deployments within a year or less. Additionally, for every dollar invested in AI, companies are witnessing an average return of $3.5. However, despite the evident benefits, over half of these organizations (52%) cite a shortage of skilled workers as a major obstacle to effectively implementing and expanding AI initiatives[1]. This underscores the pressing need for educational initiatives that help address this gap and empower students to gain requisite expertise to thrive in the digital economy.

Microsoft's suite of AI-powered solutions plays a pivotal role in fostering inclusive and equitable learning environments. Students gain access to tools such as Copilot and Learning Accelerators at no extra cost, provided they utilize a school-issued Microsoft account and meet the necessary age criteria. This commitment to accessibility ensures that all students, regardless of background or financial means, can leverage cutting-edge technology to enhance their educational journey.

	Students 18+	Students 13+*	All Students
Microsoft Copilot	●	●	
Copilot for Microsoft 365	●		
GitHub Copilot	●	●	
Reading Coach (Learning Accelerators)	●	●	●
Search Coach (Learning Accelerators)	●	●	●

*Currently in private preview.

Most of Microsoft's Learning Accelerators provide AI-powered learning support for students. Two notable examples are Reading Coach and Search Coach. These tools, combined with direct instruction and the guidance of educational practitioners, assist primary and secondary students in developing critical reading, writing, listening, and speaking skills necessary for using AI effectively.

[1] Toward Skilling Excellence: The IDC 2022 Global IT Skills Survey

Learning Accelerators

Get to know Microsoft Learning Accelerators

Reading Progress

Tracks student reading skills and provides educators with actionable insights for targeted improvement areas.

Reading Coach

Offers AI-powered, personalized reading fluency practice, enabling learners to co-create stories and practice challenging words.
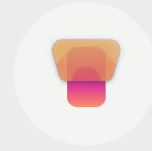
Search Progress

Enables educators to guide students' information literacy skills by monitoring their search activity and query quality resources.

Search Coach

Fosters information literacy by coaching students to develop effective search queries and identify reliable resources.

Speaker Progress

Provides data-driven insights on students' speaking skills.

Speaker Coach

Offers real-time feedback on public speaking elements within PowerPoint and Teams.

Reflect

Reflect encourages students to identify and express emotions and provides educators with insights to offer support.

Math Progress*

Aids educators in creating practice questions and analyzing students' challenges, facilitating personalized feedback and support.

Math Coach**

Enhances math learning with real-time feedback and personalized practice for students.

Education Insights

Integrates data across Learning Accelerators to equip educators with a comprehensive view of each student's academic journey.

* Entering private preview   ** Coming soon

Quick wins

Improving efficiency in K-12 grant writing

How Microsoft Copilot and Copilot for Microsoft 365 can support grant identification and streamline the application process.

K-12 Grant Coordinator

Use generative AI to find and apply to more grants and improve the efficiency of the process.

Goal

Improve efficiency and productivity in identifying and preparing grant applications.

Technology

Copilot

Copilot for Microsoft 365

1. Visit Microsoft Copilot.
   Note: Be sure you are logged in using your school account to ensure commercial data protection is enabled. Additionally, ensure that "Web" is selected for the following prompts. That setting will ensure only publicly available information is accessed and not private data on your PC.

2. Copy-paste the following prompt into Copilot and update the highlighted text to reflect the name of your school district or organization:
   *Analyze available information about my school district, **[School or Organization]**, and identify five key needs that could be addressed by a publicly available grant.*

3. Continue the conversation with Copilot by asking it:
   Are there specific grant programs available for the first item on the list for my school district?

4. Next, ask Copilot:
   Craft a clever title for the grant application and then draft an outline to apply for the first grant program you've identified. For each point in the outline include a 300-word response that addresses the grant application requirements. Be sure to include citations for each section.

5. Use the copy icon in Copilot (or the Export to Word option) after the response in step 4 to copy Copilot's response and paste it into a new Word document.

6. Open the Copilot sidebar in the Word document, select one of the sections of the outline that needs additional information, and enter the following prompt:
   What indices should I include in this section?
   Note: you may have to copy-paste the excerpt into Copilot.

7. Use this outline and summary as the starting point of a grant application. You may also want to use Copilot for Microsoft365 in Word to prompt for additional data or justification for the potential grant application.

Quick wins

Transform student engagement with relatable and relevant content

Microsoft Copilot can help educators increase accessibility by making student learning more engaging, and relevant, ultimately boosting outcomes for all students.

K-12 Educator

Use Copilot to generate relevant examples when explaining new concepts, making the content more relatable and easier to understand for your students.

Goal

Help ensure directions and explanations are accessible for all students.

Technology

Microsoft Copilot

1. Visit Microsoft Copilot

2. Note: Be sure you are logged in using your school account to ensure commercial data protection is enabled. Additionally, ensure that "Web" is selected for the following query.

3. Prompt ideas:
   a. I'm teaching a lesson on ecosystems to English Language Learners (ELL) students from Mexican, Vietnamese, and Somali backgrounds. Can you provide an example of a food chain that includes animals relevant to these cultures?
   b. I'm teaching the Pythagorean theorem to 9th-grade students with interests in basketball, guitar playing, and video game design. Can you provide an explanation of the theorem tailored to each of these interests?
   c. I'm teaching [concept] to [audience] students with [backgrounds/ interests]. Can you provide an explanation of [concept] tailored to each of these interests?

4. Copilot will generate the examples, but don't leave Copilot yet! Copilot can continue the conversation and go deeper.
   Try asking Copilot:
   a. Can you create a quiz question using each of these examples to check for understanding?
   b. What are some common misunderstandings students have about this concept?
   c. What is a hands-on activity we could do to help solidify the learning?
   d. What other real-world contexts could we explore where [concept] is used?

5. When you are finished, export your responses to a Word document, PDF, or text file to share with your students, or copy and paste them to another location for easy access!

Quick wins

Improving cybersecurity with custom cybersecurity promptbooks

How Copilot for Security can improve cybersecurity for technology through collaborative and custom prompts.

IT Cybersecurity Specialist

Achieve consistent expert-level analysis and comprehensive reports across the IT team by creating and sharing custom Copilot for Security promptbooks.

Goal

Improve cybersecurity against evolving threats and vulnerabilities using custom AI prompts tools that save IT admin time and improve protection.

Technology

Copilot for Security

1. Accessing Copilot for Security
   a. Access Azure portal.
   b. Search for and select Copilot for Security. **Note:** Microsoft Copilot for Security will be offered as a consumptive model based on the number of Security Compute Units (SCU) used.

2. Creating a promptbook
   a. Type a question for Copilot for Security and select Send or Enter. Use this sample prompt to get started: If a student is listed in the incident details, show which devices they recently used and indicate if they are compliant with policies.
   b. Select the checkboxes beside the prompts to include them or select the top box to include all prompts in the session.
   c. Select Create to create your new promptbook.
   d. Test your promptbook by selecting the View icon.

3. Sharing a promptbook
   a. Go to the Promptbook library in the main menu and look for your promptbook.
   b. Select . . . , then select Details from the options.
   c. Review the pre-built Promptbook Library.
   d. Select share to get a link to the promptbook that you can share with other users in your organization.
   e. Learn more about effective prompting

Section 2
Plan

Provides valuable resources for leaders to prepare AI programs. These resources emphasize proactive planning, covering responsible AI frameworks, institutional policies, infrastructure and security, and communication strategies. They aim to initiate conversations, start planning processes, and build community support for successful AI programs.

Leveraging responsible AI frameworks

The increasing use and application of generative AI in education holds great promise. Ensuring the responsible use of generative AI in education rests on a combination of the policies, guidelines, and frameworks you set and the tools you choose to adopt; in essence, our shared responsibility. For example, safeguarding student data is dependent on both good policies and effective training so educators and students know what to do and how to do it. For leaders, it is imperative to collaborate with educators, policymakers, and stakeholders to empower all users with the best that AI technology has to offer while upholding the highest standards of responsibility.

This section of the AI Toolkit highlights the importance of responsible AI practices, provides insight into Microsoft's approach to responsible AI and suggests ways ways to help you get your institution and its policies AI-ready. Questions you may want to consider as you review these frameworks and policy examples include:

1. Why might you want to use generative AI tools?

2. How does your institution currently handle the adoption of new technologies? Will that existing model work for AI?

3. Does it make sense for your institution to create one AI policy or modify and adapt many different ones?

4. What systems do you have in place to ensure equitable application of these policies as you consider using AI tools?

5. What are the legal considerations that you need to address?

There are a variety of AI frameworks that might help you answer these questions. For example, the resources from Teach AI include sample school guidance materials and frameworks including a focus on reviewing AI output, checking for incorrect information, transparency, safety, and respect.

Copilot prompt

Assume the role of an education institution leader such as a provost or superintendent for a medium-sized institution. Provide a list of six policies, frameworks, or guidelines (such as Acceptable Use Policies) that should be reviewed and considered for revision to allow for the use of generative AI responsibly and ethically. Additionally, describe three different types of AI use policies that could be developed by schools, universities, or ministries of higher education for reference.

Principles of responsible AI

It is important to consider responsible AI principles when implementing AI in education to ensure these technologies are used responsibly, safely, and in ways that enhance educational opportunities for students while preparing them for the future. Responsible AI principles can be used to help inform policies and usage guidelines adopted by districts, states, and ministries of education. They can help ensure that AI is used in ways that are fair, transparent, and respect the privacy of students and staff. At the core of Microsoft's AI work are six key principles that define and guide responsible AI use.

Microsoft's Responsible AI Principles

Fairness	Reliability & Safety	Privacy & Security	Inclusiveness

Transparency

Accountability

Practical steps for education leaders

Translating these guidelines and frameworks into actionable steps is one of the central challenges that education and leaders face when considering generative AI. As you navigate the evolving landscape of generative AI, there are some easy places to begin so that you can build trust within your organization that your AI roll-out will be fair and responsible.

	Suggested actions	Resources
Revise policies to address generative AI	Review policy documentation like Acceptable Use Policies to incorporate language about the use of generative AI.	*Rethinking Acceptable Use Policies in the Age of AI,* District Administration
Incorporate AI into teaching and learning	Set guidelines for the responsible use of AI tools in lesson planning and course creation.	*Integrating Generative AI into Higher Education, Educause*
Establish monitoring and evaluation standards for AI content	Create a plan to monitor and assess the use of AI.	*ChatGPT and Beyond, Common Sense Education*

Copilot prompt

As a leader in a medium-sized educational institution, such as a provost or superintendent, you are tasked with preparing your institution for the implementation of generative AI. Draft a ten-step plan for integrating generative AI in your educational institution. Focus on policy updates, implementation strategies, and evaluation methods to ensure a smooth transition.

Engaging the community

AI technologies are revolutionizing education, presenting exciting opportunities for teaching and learning. However, implementing AI-driven tools requires thoughtful planning, clear communication, and collaboration with supportive communities. Stakeholders including administrators, educators, students, parents, and community members have diverse responsibilities and seek understanding of how AI tools will influence their daily experiences and future endeavors. This section addresses significant challenges and opportunities in involving your community in the adoption of AI-powered education tools. Additionally, it offers practical advice and strategies for:

- Building trust and support for AI-powered tools in education

- Understanding and addressing your community's concerns

- Matching tools to your goals and needs

- Building a shared vision with your community

Building trust and support with stakeholders

Building trust with stakeholders across educational communities is a crucial aspect of any initiative. There are many ways to build this trust:

- Communicate clearly and frequently about goals, expectations, and progress

- Seek feedback and input from the   stakeholders

- Demonstrate competence and credibility by delivering high-quality results

A reliable method to establish trust involves aligning with shared objectives and values that prioritize student success by offering high-quality learning opportunities. Familiarizing yourself with the key points below will empower you to engage in meaningful discussions with your community partners:

Key point

AI-powered tools help faculty and staff automate or streamline time-consuming tasks that interfere with more crucial learning-related needs.

Email correspondence, exploring data trends, researching new instructional approaches, and drafting detailed syllabi and course information take time away from connecting with and meeting diverse students' needs. Generative AI tools give educators time back so that they can refocus on what matters most. Learn how educators in Wichita Public Schools used Copilot to become more efficient in the *AI Navigators tab*.

Overview

Plan

Implement

AI Navigators

Research

Key point

AI-powered tools can also help address some of the critical challenges and opportunities in education.

Accessibility is a key component of equitable schools. Generative AI tools can help educators create high-interest text for emerging readers, develop multiple means of representation for content, and offer new ways of demonstrating ideas for students. All of this adds up to a more engaging and equitable experience for students. Read about how educators in Wichita Public Schools used Copilot to adapt primary documents for their social studies classes in the AI Navigators tab.

Transformative workplace skills

Understanding how AI is already impacting the workplace, classrooms, and lecture halls, is critical to preparing students and your community for adopting AI. As a fundamental component of the fourth industrial revolution, AI, along with related fields such as machine learning and data analytics, is transforming workplace skills and experiences.[1] Medical research centers, various businesses, municipal operations, and sustainable energy science are all driving rapid innovation. For instance, Walmart uses AI technologies to streamline inventory management, ensuring the availability of the correct products for their customers.[2] Walmart also partnered with nearby Bentonville Schools to provide AI learning experiences for local students.[3]

Your colleagues at schools and institutions have implemented a multi-tiered approach to address evolving workplace needs. This includes the recent introduction of a K–12 vertical program that integrates AI principles into every grade level and subject area.[4] Across campuses nationwide, billions of dollars have been allocated to develop programs, recruit faculty, and construct buildings to establish new AI initiatives aimed at driving ongoing innovation.[5]

For instance, in early 2023, the University of Buffalo launched the National AI Institute for Exceptional Education.[6] Their initial projects include the AI Screener, which identifies each student's needs, and the AI Orchestrator, which assists speech and language pathologists in creating personalized interventions.

[1] mckinsey.com/featured-insights/mckinsey-explainers/what-are-industry-4-0-the-fourth-industrial-revolution-and-4ir

[2] tech.walmart.com/content/walmart-global-tech/en_us/news/articles/walmarts-ai-powered-inventory-system-brightens-the-holidays.html#:~:text=Our%20AI%2Ddriven%20systems%20leverage,to%20differentiations%20by%20zip%20codes.

[3] core-docs.s3.amazonaws.com/documents/asset/uploaded_file/3173/Bentonville/2197839/News_Release_Ignite_Program_Expansion.pdf

[4] schools.gcpsk12.org/page/32147

[5] insidehighered.com/news/tech-innovation/artificial-intelligence/2023/05/19/colleges-race-hire-and-build-amid-ai-gold

[6] buffalo.edu/ai4exceptionaled.html

Understanding and addressing your community's concerns

As you meet with different community members, you will encounter a multitude of concerns, interests, and needs. Take advantage of this opportunity to cultivate empathy by actively listening to their worries, demonstrating your AI knowledge and leadership expertise, and inspiring their support for your AI initiative.

Leadership and administrators

Schools are increasingly the target of cyberattacks that target student data. Consequently, school leaders are dedicating more thought, resources, and funding towards protecting user data.

"Student privacy is one of our biggest concerns especially when it comes to AI tools. We are committed to vetting any tool before it's introduced to our classrooms to make sure that we know how our data is used and that, ultimately, it's safe and protected. We're able to use Copilot for Security to enhance and extend our ability to identify threats, automate our responses, and remediate any issues."

School leaders may have concerns about equity and accessibility when it comes to integrating AI. Schools want to ensure that AI tools are accessible for all students, including those with disabilities, and that the tools do not exacerbate existing inequalities.

"We will evaluate all AI tools to make sure they can be equitably accessed and used by students from various socio-economic backgrounds, different levels of technology access and diverse learning needs. We aim to understand how AI can help us build a fairer educational landscape and remediate any issues, as exemplified by institutions like the University of Texas."

Educators and practitioners

Based on past experiences, educators may feel that new programs and initiatives are introduced, supported for a short time, and then forgotten. Some teachers are hesitant to adopt technology unless they are comfortable with their own skills and can support any questions or issues their students may encounter.

"We are committed to making sure that you and your students know how to use AI tools responsibly. Our plan includes age-appropriate instructional materials, suggested conversation starters, guidance on modeling appropriate use, and taking an iterative approach to adapting policies. You can also refer to resources like Microsoft Learn's Equip your students with AI and tech skills for today—and tomorrow and Empower educators to explore the potential of artificial intelligence courses for self-paced learning."

Educators focus on the positive impact of instructional strategies and tools on learning. They are generally more receptive to concepts or tools that are easy to adopt and have both immediate and lasting effects.

"Early research indicates that students benefit from AI-generated explanations, outperforming those who only receive correct answers.[7] We also have Learning Accelerators available that provide learners immediate, personalized coaching to help develop foundational and workplace skills."

[7] papers.ssrn.com/sol3/papers.cfm?abstract_id=4641653

Students and families

Families may have reservations about big corporations profiting from children's data and AI inquiries. They may recall past instances of broken trust by companies and aim to shield their children from similar experiences.

"We prioritize your student's privacy by thoroughly examining each company's privacy policies. We ensure that their data practices align with our values, prioritizing options that prioritize privacy and responsible data use. We believe privacy is a fundamental right and only work with providers who share this belief."

Families rely on schools to equip their children for their future aspirations and careers. They anticipate that students will have access to the latest technologies and opportunities that pave the way for a successful transition into adulthood.

"We've integrated AI features into the tools students use daily for learning, creativity, and productivity. Additionally, we're exploring how other schools have implemented AI guardrails. These guardrails help students access school-specific chatbots designed to support their individual learning requirements."

"Integrating AI tools into our instruction is part of our commitment to preparing students for the future. Experts at the World Economic Forum and McKinsey & Company have highlighted AI's significance in defining the workplace.[8,9] By incorporating AI into our teaching methods, we're ensuring that our students have the skills they need to thrive in this evolving landscape."

[8] weforum.org/press/2020/01/the-reskilling-revolution-better-skills-better-jobs-better-education-for-a-billion-people-by-2030
[9] mckinsey.com/featured-insights/mckinsey-explainers/what-are-industry-4-0-the-fourth-industrial-revolution-and-4ir

Navigate back to table of contents

The wider community

In addition to the previously mentioned concerns about having a high-performing school system and ensuring student safety, the broader community expects their tax dollars to be used efficiently and responsibly.

"We've been looking into how AI can enhance our data analysis efforts in schools. What we've discovered is quite promising. With AI-powered tools, we can analyze data in ways previously unimaginable. This means we can make informed decisions on how to optimize our resources and staffing to best support our students. Whether it's adjusting bus routes, optimizing utilities, or refining staffing allocations, AI enables us to pinpoint areas for improvement and redirect our focus and funds toward what truly matters: the learning experience of our students."

AI tools have limitations and sometimes produce inaccurate information. We want our students to graduate with solid knowledge and useful skills, so we should be careful about how we use AI in our classrooms, if at all.

"We're excited to announce our plans to introduce age-appropriate, custom chatbots for our students, inspired by successful initiatives like those in New York City Public Schools. These chatbots will be tailored specifically for our students, ensuring that the data used by the model comes from trusted sources and that we have control over our users' data. This means our students will have access to AI tools in a protected and safer environment compared to public tools. We're committed to providing innovative yet secure learning experiences for our students."

Continuing the conversation

No matter where you are in the process, you will continue to speak with a wide variety of stakeholders—think educators, instructional leaders, school or college administrators, students, families, and community members. Maintain a healthy relationship with these thought partners with open dialogue.

How can I protect the privacy and security of students' data when using AI-powered tools?
"We start by reviewing each AI tool's terms of service and privacy policy to ensure that they are committed to privacy and are aligned to our expectations. We know that Microsoft's generative AI solutions like Copilot, Copilot for Microsoft 365, and Azure AI Studio support FERPA compliance and student data privacy protection. They use advanced encryption and data handling policies to secure sensitive information. Microsoft's AI solutions provide access controls and transparency in data usage, undergoing regular compliance audits to maintain high standards of privacy and security. We can customize privacy settings to align with our specific compliance requirements and data governance policies."

How do these AI solutions enhance student engagement and improve learning outcomes? Are there studies or evidence demonstrating their effectiveness in educational settings?
"AI's impact on instruction will keep evolving as practices, tools, and usage grow. Early findings show that including generative AI explanations of concepts in instruction has a positive effect on learning when compared with just giving corrective feedback."[10]

How can I prevent academic dishonesty and plagiarism when using AI-powered tools?
"Protecting our school's academic integrity begins with all users learning how to use AI responsibly. We're starting with professional development for educators, modeling responsible use, and having open discussions. We've also paired our training with a clear policy

How can these AI solutions be customized to align with our district's specific curriculum standards, instructional goals, and educational objectives?
"We're able to create customized AI-powered teaching assistants and configure data dashboards that help address our unique challenges. Even better, the data that we use in our schools is kept private within the organization and is not used to train larger models."

[10] papers.ssrn.com/sol3/papers.cfm?abstract_id=4641653

How can I support students with diverse learning needs and preferences when using AI-powered tools?

"*Our educators can use tools like Copilot and the Learning Accelerators to personalize instructional content to meet individual student needs. With Copilot, educators can quickly adapt content into different languages or reading levels. Furthermore, they can use prompts to create custom explanations or analogies that build upon age-appropriate knowledge or a student's interests. Copilot supports multiple means of generating prompts including text- or voice-based and Copilot for Microsoft 365 includes screen reading capabilities.*"

Learn more at the Accessibility tools for Copilot for Microsoft 365 resource page.

Your empathy, pedagogical prowess, and expert communication skills will help you successfully implement AI-powered tools in your schools or institution. Continue to collaborate with stakeholders and practice transparency as you address your community's concerns, needs, and goals.

Institutional policy considerations

Practical preparation

Establishing policies creates structure and guidelines for your faculty, staff, students, and community. Before you get started, consider these practical suggestions:

	Start now. Your students and staff are likely using AI already and need guidance. Create initial policies and iterate as you go.
	Identify key areas of need and critical questions that will guide your process.
	Establish what needs policy and what doesn't. Focus on the largest areas of impact.
	Learn from peers and familiarize yourself with resources like the TeachAI toolkit, developed with support from Microsoft.[1]

As your school or institution develops its AI strategy, it's natural to shift your focus to areas that are affected, especially policies that may need updating to address recent changes. Start by consulting government guidelines and requirements and reviewing your existing policies. Then, consider curating a set of exemplary policies that can be customized to meet your specific needs.

[1] teachai.org/toolkit

Organization policy considerations

Crafting, updating, and approving new policies is a critical task. We encourage you to take an iterative approach to policy making that emphasizes ongoing improvement. In the case of AI, schools are still exploring the full extent of its use and impact, and a successful policy is one that is regularly reviewed and revised to meet the current needs of the school and community.

This section begins by examining a hypothetical academic integrity policy and outlines how a school could enhance it for better guidance on students' use of AI. The latter part offers concise recommendations for reviewing other policies.

Academic integrity policy

Early research reveals that students who have access to explanations created by generative AI perform better than students who only have access to correct answers.[2] AI's impact goes beyond tool usage and user considerations. It involves how every member of the school or higher educational community adopts and uses AI tools. Your school, like many others, aims to define clear guidelines for academic integrity considering increased student use of generative AI tools. It's crucial to evaluate the effects of policies, whether highly restrictive, fully encouraging, or a mix of both, on students, their education, and the overall fulfillment of academic standards.

Questions to lead your discussion

- Are your students allowed to use AI on assignments?

- Which policy model will guide your practice?[3]

- What impact will that have on your current academic integrity policy?

Policy spotlight

South Australia's Department for Education led a pilot program that introduced a custom chatbot for students to use. Their policy provides structure and guidance around how learners can responsively use generated content.[4]

---

[2] papers.ssrn.com/sol3/papers.cfm?abstract_id=4641653
[3] oue.fas.harvard.edu/ai-guidance#:~:text=POLICIES%20FOR%20THE%20USE%20OF%20AI%20IN%20COURSES
[4] education.sa.gov.au/parents-and-families/curriculum-and-learning/ai#:~:text=AI%20and%20AI%2Denabled%20technology,security%20and%20students'%20learning%20needs.

Academic integrity highlight: Refining a policy

Below is one possible evolution of an academic integrity policy. Each step in the evolution includes a sample policy which is followed by a quick analysis of its effectiveness.

Initial policy

Presenting another person's work as your own is an act of dishonesty. This behavior undermines your integrity and contradicts the principles upheld by [our institution]. We maintain the belief that academic success is contingent upon the dedication you invest in your studies.

Analysis

This policy addresses human-authored texts. Given the many ways that students can use generative AI tools, clear guidance on responsible AI use is essential to maintain academic integrity and prevent plagiarism.

Revised policy

Presenting another person's work or content created by a generative AI tool as your own is an act of dishonesty. This behavior undermines your integrity and contradicts the principles upheld by [our school]. We maintain the belief that academic success is contingent upon the dedication you invest in your studies. We expect you will approach your assignments honestly, as your work reflects your capabilities.

Analysis

This policy covers generative AI. It broadens the range of permitted uses for students beyond mere assignment copying but does not offer appropriate uses for AI. We recommend setting guidelines for additional generative AI uses like revising work, seeking formative feedback, and utilizing AI as a brainstorming partner.

Leadership teams can create prompts to assess existing policies for improvement and explore various wording options. For instance, Copilot can analyze a revised policy, review it for potential biases, and request a simplified version in plain language accessible to all student and community groups.

Apply your learning

Open your institution's academic integrity policy in the Edge browser. Open Copilot sidebar from the top right and enter the prompt below:

As the CAO of a school district, analyze our existing academic integrity policy, focusing on AI's ethical use by students. Evaluate the policy's current consideration of implicit biases, cultural, and socio-economic diversity. Suggest concrete, actionable improvements to enhance inclusivity, fairness, and clarity, ensuring the policy is understandable and accessible to all students. Provide examples of best practices from other policies and include a revised policy draft incorporating these elements.

Sample policy developed with Copilot

At [our school], we prioritize academic integrity as a core principle. We anticipate that all students will complete their assignments with honesty, understanding that their work showcases their abilities. Additionally, we emphasize responsible AI usage, which involves thoroughly reviewing content rather than merely copying and pasting generated material. To promote responsible AI use and ensure fairness, we provide the following guidelines:

Attribution and AI content
- When using AI-generated content, always provide proper attribution.
- Presenting AI-generated work as your own is strictly prohibited. Faculty will set clear expectations regarding responsible AI use for their class using approved categories. Sample policy language:
  - ✓ Highly restrictive: No AI use is allowed.
  - ✓ Fully encouraging: AI is fully available for student academic use. No restrictions.
  - ✓ Hybrid: AI use is for brainstorming and AI tutorials, but not for submitted assignments.

For additional informtion or language, refer to the AI guidance & FAQs from Harvard.[5]

Cultural sensitivity
- We respect diverse cultural norms related to collaboration and attribution.
- Students should be aware of these differences and adapt their practices accordingly.

Implicit bias awareness
- Our academic integrity process aims to be unbiased and consider individual circumstances.

Education and resources
- We offer workshops, tutorials, and online resources on citation practices and responsible AI use.
- Students are encouraged to learn and apply these principles.

Equitable enforcement
- Violations will be addressed consistently, regardless of socio-economic status or cultural background.
- Fairness and equity guide our approach.
- If assignments allow or require AI use or specific tools, those tools must be readily available and provided for each student.

By adhering to these guidelines, students contribute to a respectful and inclusive academic community. Let us work together to foster integrity, learning, and growth.

Analysis

This policy outlines student expectations, emphasizing the many ways that students may use generative AI tools in their workflow. It reflects the school's dedication to fairness and outlines efforts to teach students responsible AI skills.

[5] oue.fas.harvard.edu/ai-guidance#:~:text=POLICIES%20FOR%20THE%20USE%20OF%20AI%20IN%20COURSES

Additional policy considerations

After exploring the process of evaluating and drafting an academic integrity policy, let's apply the same strategies to other policy areas. Consider how your team can implement the methods discussed earlier in these new contexts.

Data protection and privacy

Large language models (LLMs) depend on user data to produce results. It's important that data and privacy are core considerations when approving AI tools. Further, take the time to transparently communicate to students, staff, and the community about how the school and tools use and protect their data. Use these guiding questions to lead your discussion:

- What does student privacy mean in the AI era?

- How well do our data protection and privacy policies align with legal regulations.

- How do we communicate our data usage policies and practices to students, staff, and families? Is there an opt-out option?

Staff and faculty use

AI tools can enhance educator efficiency and personalize student content. Clear guidelines for AI tool usage are highly recommended. The generative AI benefits for educators range from creating lesson plans, content curation, task automation, and generating communication (e.g., emails). Use these guiding questions to lead your discussion:

- How might we improve learning through using AI for instructional purposes?

- What instructional uses do we want to encourage? What might we restrict?

- How will we support our staff through professional learning?

Policy spotlight

Educators in Wichita Public Schools have used Copilot to develop instructional resources and individualize their students' learning. In this scenario, the educators would benefit from a combination of focused professional learning alongside established guidelines in the district's policies.

Classroom syllabi

Educators utilize syllabi to communicate expectations, instructional resources, and experiences, often incorporating academic integrity statements. Consider offering educators a standardized statement for inclusion or adaptation in their syllabi. Use these guiding questions to lead your discussion:

- What message needs to be included on all class syllabi?

- How can this statement reiterate broader policies?

- To what extent can educators adapt the statement for their classes?

Accessibility and Universal Design for Learning (UDL)

AI tools have the potential to make learning more accessible for all learners. From simply adapting content into more accessible formats to building entirely new instructional content based on an individual student's needs, AI tools offer great promise for making learning more accessible and equitable. Use these guiding questions to lead your discussion:

- What are the accessibility needs of our students and staff?

- How might AI tools help us increase our ability to make learning accessible for all?

- What government guidelines need to be followed as we evaluate AI tools and structure our school's AI program?

Policy spotlight

California State University San Marcos expanded the traditional use of "accessibility" by creating AI tools that enabled custom communication to better reach diverse groups of students such as first-generation college learners.

The importance of a secure foundation

Education leaders know that protecting data and preventing cyberattacks are essential for safe, secure, and effective learning environments. Data-rich organizations like schools, universities, and ministries of education are targeted by bad actors and cybercriminals, as shown by increased attacks and new social engineering threats.

- Approximately 80% of all malware exploits occur in the field of education, a figure that is substantially higher than any other industry.
- Microsoft blocked an average of 4,000 password attacks per second in 2023.
- The global average cost of a data breach was $4.45 million in 2023.[1]

The U.S. Cybersecurity and Infrastructure Security Agency (CISA) launched a campaign to address the spike in cyberthreats impacting education over recent years. Beginning with the *Protecting Our Future* report, federal security experts and the Department of Education outlined key recommendations that increase security and privacy in schools.[2] In late 2023, President Biden codified additional ways AI systems must be secured when he signed the Executive Order on the *Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence.*[3] The Executive Order called for public and private organizations to make sure that AI systems are resilient against misuse and modifications, function as intended, ethically developed and deployed in a secure manner.

Schools and universities across the country are listening to the government's calls for increased cybersecurity protection and close examination of security and privacy in AI systems. More and more states are adopting policies for safely using AI systems in K–12 school districts with help from companies like Microsoft and government agencies. Microsoft is also working closely with higher education institutions like the University of Michigan to deploy copilots that are as secure as other existing infrastructure.[5] And with the launch of the Secure Future Initiative (SFI) in 2023, Microsoft accelerated work on their AI-based cyber defense systems so that organizations like schools and institutions have machine-speed security.

[1] ibm.com/reports/data-breach
[2] cisa.gov/resources-tools/resources/report-partnering-safeguard-k-12-organizations-cybersecurity-threats
[3] whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/
[4] er.educause.edu/articles/2024/2/how-and-why-the-university-of-michigan-built-its-own-closed-generative-ai-tools
[5] doi.org/10.1016/j.platter.2023.100779

But what can you do if you want to provide secure AI systems but don't know where to start?

This section of the AI Toolkit offers suggested actions to help you safely and securely implement generative AI tools. You will also discover how Microsoft's AI systems and A3/A5 Microsoft 365 Education plans can enhance your security with tools designed to give you the necessary control and protection to effectively manage AI within your school's infrastructure.

Understand the importance of a responsible AI framework

A secure AI foundation begins with reviewing Responsible AI practices and understanding any potential issues with using AI in your educational setting. As you evaluate AI systems, consider the following questions:

1. Does the AI system follow responsible AI practices?
2. How did developers and designers follow responsible AI practices when developing their solutions?
3. Does the AI system align with jurisdictional laws and regulations for my school or institution?

Responsible AI implications

It's important to research and understand how generative AI systems are built before developing or deploying a tool in your environment. Consider an example from K–12 education:

> Stanford researchers found that seven different GPT systems falsely identified over 50% of Chinese students' essays for an 8th grade Test of English as a Foreign Language (TOEFL) as "AI-generated" when they were not.[6] There were no inaccuracies when the GPT systems analyzed 8th grade essays written by native English speakers.

Fairness issues–like assessing writing differently when a learner is a non-native speaker–is a Responsible AI principle that should be examined when considering AI systems. Vendors should be able to articulate how their systems address all of the Responsible AI principles, so consider asking them questions about the development process or the steps that are taken to ensure the AI system remains responsibly designed.

Microsoft develops AI systems using Responsible AI principles. From development to deployment and long after, engineers and technicians follow the Microsoft Responsible AI Standard to check that AI systems provide "similar quality of service for identified demographic groups, including marginalized groups.

Before moving on, evaluate how AI systems generate content and conduct research on reports of bias in outputs.

---

[6] cisa.gov/sites/default/files/publications/Incident-Response-Plan-Basics_508c.pdf

Identify outcomes and data sources for AI systems

It can be helpful to create a list of the desired outcomes you want the AI system to accomplish and what data might be required. Keep the following questions in mind:

1. What are some pain points in your school or institution?
2. What needs do community members have that an AI system might be able to address?
3. How does the AI system use data to generate responses?

Goals

AI systems perform different functions and have different capabilities. For example, Microsoft Copilot helps people increase their productivity and creativity whereas Copilot for Security provides critical incident response, threat hunting, intelligence gathering, and posture management for IT administrators. Knowing what you want the AI system to accomplish–your goals–will help you find the right solutions for your institution.

It's helpful to begin by making a hierarchical list of needs or pain points that an AI system might address. Place the most urgent items at the top of the list. You might want to ask colleagues from other departments to offer input on what you identified.

After you have your list, consider re-writing the pain points into goal statements. For example:

Pain point: IT administrators struggle to prioritize threats because of the number of signals that emerge each day.

Goal statement: Any security-focused AI system should help administrators prioritize threats and give guidance on steps to take to respond appropriately.

Compare your goal statements against the capabilities of any AI systems that you are considering. If there's alignment between your goal and the AI system, review how it addresses some of the responsible AI requirements.

Data sources

AI systems use data to generate responses. Sometimes AI needs access to files on your computer or network, like when you ask Copilot for Microsoft 365 to summarize important points from a notes document. There are also instances when AI requires access to critical systems to perform specialized tasks. For example when you build a custom Copilot with Azure AI Studio, you have options to connect private data sources to increase customization and deliver fine-tuned responses. Regardless of which AI system meets your goals, be mindful of the data requirements and laws that govern data privacy for your jurisdiction.

The following activities can help you make informed decisions about data handling:

- Form a committee that includes compliance officers, security administrators, and other leaders. Review and revise the goals you wrote, identify any data sources required in the AI systems under consideration, and list any compliance requirements that must be met before implementation.

- Draft a list of data governance questions that you can ask vendors. Key topics include what data sources are required, how data is kept safe, and what mechanisms help you manage risk.

- Microsoft provides commercial data protection for Microsoft Copilot and Copilot in Windows. Neither Copilot tool saves prompts or responses, data is not used to train models, and no one at Microsoft can view school data when a user logs in with a Microsoft-issued account.

Before moving on:

✓ Align your stated goals with the capabilities of AI systems under consideration.
✓ Determine what data is required to use an AI system.
✓ Evaluate data requirements against any laws or regulations that govern your school or institution.

Establish data governance, roles, and responsibilities

After you have identified an AI system that's secure, compliant, and addresses a goal, begin exploring data governance for your school or institution. Keep the following questions in mind:

1. Does my school or institution have the infrastructure required for AI applications to access data securely, quickly, and at scale?
2. What infrastructure and resources are available to support AI deployment?
3. Who is going to be responsible for ongoing monitoring, troubleshooting, and communication?

Develop a plan and consider roles

It's important to assess your infrastructure's readiness for safe, secure AI experiences. Sometimes you will find an AI system that meets or exceeds the security requirements dictated by laws, but your infrastructure or staff are not prepared to safeguard and monitor interactions. Having a plan will help you think through data governance issues that might be specific to your school or institution.

Some questions to consider as you develop your plan:

- Would it be better to buy a pre-built AI system, develop AI applications in-house, or update existing AI systems?
- Should data for AI systems be stored on-premises or in the cloud?
- What data platform architecture is necessary to run the AI system? Do the requirements match what is allowed by law for my school or institution?

In addition to assessing infrastructure capabilities, you also need to examine the extent to which your IT administrators can monitor and assess any AI system that goes into your environment. The Cyber Security and Infrastructure Security Agency (CISA) recommends establishing an incident manager, technology manager, and a communication manager to oversee AI systems.[6]

The **incident manager** leads the response when an incident with an AI system occurs. They manage communication flows and delegate tasks but do not perform any technical duties.
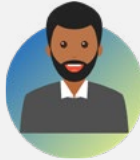
The **tech manager** is the subject matter expert for all AI systems. They should have knowledge of AI, data security, and appropriate response measures.

The **communication manager** communicates with internal and external stakeholders about important decisions or incidents.

If you can't identify who might serve in these capacities, consider hiring someone who might have the expertise to perform the functions. These roles are important! Assigning people to roles and including them in any implementation plans will help you gather diverse perspectives and build teamwork well before the school community begins using the AI system.

The A3/A5 Microsoft 365 Education plans and security add-ons include applications that help monitor AI activities and data flow. For example:

- Microsoft Defender for Cloud: Monitor AI system usage across cloud, multi-cloud, or hybrid infrastructures, understand associated risks, and approve or block access by browsing a catalog of 400+ generative AI applications.
- Microsoft Purview: Detect data security risks in Copilot for Microsoft 365 through Purview's AI hub. The AI hub aggregates usage statistics and applies a risk level to over 100 of the most common AI applications. Purview also uses sensitivity label citation and inheritance for additional security with AI systems.
- Microsoft Purview eDiscovery: Identify, preserve, and collect relevant AI data and interactions litigation, investigations, audits, and inquiries.

Before moving on:
✓ Evaluate your organization's Zero Trust security posture and overall capabilities.
✓ Determine data management requirements like cloud-based or on-premises storage.
✓ Identify colleagues who have the expertise to serve in AI-specific roles.

Determine data privacy procedures and safeguards

Data privacy is a central concern when using AI systems or any type of technology in K-20 settings. Understanding how data is kept safe and secure is one piece of information that you need to assess. It's also important to review internal policies and identity access protocols prior to deploying an AI system. Keep the following questions in mind:

1. What are the known privacy risks with the AI system?
2. How is data shared, used, and stored in the AI system?
3. How do people access and use the AI system?

Privacy impact assessments

Privacy impact assessments (PIA) are tools that government agencies use to evaluate information technology (IT) systems for privacy risks and options for mitigating these risks. Learning how agencies approach evaluating privacy and data risks in a privacy impact assessment can help you assess solutions that you are considering. A privacy impact assessment typically includes:

- Known privacy risks;
- Options for mitigating known privacy risks;
- Instructions on how to properly handle privacy issues;
- Processes for analyzing the legal compliance with privacy laws and regulations;
- Documentation on the flow of personal information; and
- Public assurances that personal information is protected.

If you can address each one of these points when you evaluate an AI system, you will have enough information to make an knowledgable decision about data privacy protection.

Privacy policies

Vendors should clearly articulate how data is used, stored, and shared when discussing AI solutions with you. After all, schools and institutions are charged with helping protect the privacy of students, so AI solutions need to provide adequate security and protection built into the application design.

It's wise to ask vendors for data privacy documentation or a legal Privacy Policy for any AI systems you are considering. Reviewing data privacy and security statements can help you make informed, legal decisions about what's best for your school or institution. For example, Microsoft publishes how data is used in each one of its AI systems:

| Microsoft Copilot | Copilot in Windows | Copilot for Microsoft 365 |

| Copilot for Security | Azure AI Studio |

Infrastructure settings

Your computing infrastructure and security services can add additional layers of privacy protection depending on how everything is configured. Offering secure identity access protocols and creating user polices are two ways to increase privacy without relying on built-in protection within AI systems. Take time to speak with IT administrators so that you are aware of your system's capabilities.

Microsoft offers two solutions that help you maintain data privacy when using AI systems:

- Microsoft Entra ID: Manage access to Microsoft Copilot and underlying data with secure authentication procedures and risk-based adaptive policies.

- Intune for Education: Apply security, configuration, and compliance policies to devices so that school-issued endpoints have baseline protection when working with AI systems.

Consider asking vendors how their AI systems integrate with Microsoft solutions or whatever products you use to control access and manage policies.

Before moving on:
- Use the parts of a privacy impact assessment to assess your institution's data privacy protocols.
- Obtain a copy of any privacy and security documentation for the AI system.
- Evaluate your existing infrastructure for ways to bolster identity access control and implement security policies.

Develop an incident response plan to address issues that arise

Having an incident response plan ensures that you can respond accordingly when an issue arises. Incidents occur in even the most secure infrastructure, so having a response plan before you launch an AI system will help you think through necessary logistics and procedures ahead of time. Keep the following questions in mind:

1. What constitutes an incident with an AI system?
2. What parts go into an incident response plan?
3. Who should be notified when an incident occurs?

Incident response plans

Before diving into incident response plans, you should understand what constitutes an incident. Microsoft defines an incident as a group of correlated alerts that humans or automation tools deem to be a genuine threat. Although one alert on their own might not constitute a major threat, the combination of alerts might indicate a possible breach.

Well-designed, secure AI systems that run inside carefully managed infrastructure still face threats that lead to incidents. Some common points of failure include:

✓ Security breaches that give cyber criminals access to sensitive data;
✓ Unintentionally disclosing private information that would not otherwise be shared; and
✓ Discriminatory or misleading information in responses.

Developing an incident response plan that handles issues like these will enable you effectively address the issues that will arise. CISA recommends schools and institutions layout a 6-stage incident response plan.[7]

1. Preparation

Document and share policies and procedures for incident response, configure security systems to detect suspicious and malicious activity, create roles and assign responsibilities, and educate users about the AI system.

2. Detection and analysis

Define processes that are implementable, gather baseline information to monitor and detect anomalous or suspicious activity, and outline the differences between an authorized use and an incident.

3. Containment

Develop an approach to contain or minimize threats and identify known security containment strategies for common incidents.

4. Eradication and recovery

Outline how artifacts from an incident can be eliminated, create mitigation steps to address exploited vulnerabilities, document how evidence will be collected, establish a regular back-up plan, and list steps for recovery and return to normal operation.

5. Post-incident activity

Outline how incidents should be documented and reported, identify steps for hardening security, and develop ways to share and apply lessons learned.

6. Coordination

Identify who needs to be informed when an incident occurs depending on the severity of the threat.

A great way to create an incident response plan is to form a committee with colleagues who have expertise in each area. If you identified an incident manager, technology manager, or communication manager in step 3, invite these people to contribute to the incident response plan for AI systems. For additional information on developing your own cybersecurity incident response plan, check out CISA's Incident Response Plan (IRP) Basics or the K12 Six Essential Cyber Incident Response Runbook.[8,9]

---

[7] 2.ed.gov/notices/pia/index.html

[8] cisa.gov/sites/default/files/publications/Incident-Response-Plan-Basics_508c.pdf

[9] static1.squarespace.com/static/5e441b46adfb340b05008fe7/t/62cc8e3843251c6d2b2cb0a5/1657572921164/K12SIX-IncidentResponseRunbook.pdf

Data governance

Ensuring the security and integrity of your data assets has become a top priority for organizations across all sectors. Creating a strong security posture includes a well-defined data governance framework. Data governance and security are fundamentally intertwined, each reinforcing the other to safeguard the confidentiality, availability, and integrity of data. By combining effective data governance with robust security measures, organizations can defend against a wide range of cyber threats, ensuring that their data is both well-managed and highly secure.

Cloud data consolidation

In an educational setting, migrating data to cloud storage offers significant advantages. A cloud data governance framework acts as a strategic blueprint, guiding the storage and management of your data in the cloud. Tools enable your team to monitor and understand data movements, while your governance framework establishes the rules, roles, procedures, and processes for securely managing and controlling these data flows within cloud storage. This approach helps ensure safe and efficient data handling in schools.

Data governance and privacy needs

We understand that, as Information and Instructional Technology leaders, you face a delicate balance between needing to manage data safety and privacy while adopting new technology. Your expertise is pivotal in creating a secure, effective, and innovative educational environment. This includes responsibly adding AI into your schools, ensuring it not only improves learning but also respects and safeguards the privacy and integrity of all data and individuals involved.

Generative AI has many potential applications in education, however, generative AI also poses significant challenges for data governance and privacy, as it may involve processing sensitive or personal data. This document provides a practical guide for you on addressing these challenges and implementing generative AI responsibly.

Data governance in AI

Data governance is the process of defining and implementing policies, standards, and practices for managing data quality, security, and compliance. This also helps establish processes that keep your data secured, private, accurate, and usable throughout its life cycle.

A healthy data governance strategy is crucial for any organization that relies on data to improve decision-making and ensure successful outcomes. When collecting vast amounts of data, establish a strategy that manages risks, reduces costs, and executes your objectives effectively. Data governance is essential for ensuring that generative AI is used for legitimate and beneficial purposes, and that the risks of data misuse, leakage, or corruption are minimized.

In the context of AI, data governance transcends regulatory compliance, serves as the foundation for responsible and effective AI deployment in education. Evaluate your existing framework with these key questions in mind:

- Data security: Regarding your current security measures for your organization's data, can you detail the process of documenting these security measures and how you manage data loss prevention efforts within your organization?

- Data policies: Have you considered the development and implementation of comprehensive data policies to govern the use and sharing of data within your AI systems? How do these policies ensure transparency and uphold ethical standards, especially when handling sensitive student data?

- Data sources: Have you reflected on the diversity and reliability of the data sources underpinning your data governance framework? How do these sources impact the integrity and effectiveness of your data management strategies?

- Data compliance: Consider how data compliance, beyond mere adherence to regulations, plays a foundational role in your data governance framework. How might this influence the efficacy and responsibility of your data management practices?

- Data quality: Think about the measures you've taken to ensure the accuracy, consistency, and reliability of data, particularly in an educational context. How do you verify the integrity of student performance data, demographic information, and the relevance of learning materials?

- Data management: Reflect on your data management practices, specifically regarding the handling, storing, and retrieving of data How have you ensured that your data architecture not only meets the operational needs of AI systems but also aligns with the strategic goals of the educational institution?

Along with managing these key components, you often:

- Craft and enforce data governance frameworks that align with your organization's mission and goals.

- Set up teams or committees responsible for various aspects of data governance.

- Evolve your organizational policies as AI advances and changes.

- Stay on top of legal requirements like FERPA in the United States and GDPR in Europe.

It requires a blend of technical expertise, foresight, and leadership to ensure your organization remains compliant and leverages its data effectively.

Copilot prompt

Examine the overlooked elements in implementing data governance in public educational institutions. Address the roles of stakeholders like IT leaders, administrators and educators, and the challenges with types of data such as student performance and privacy. Provide actionable insights for improved governance.

Data privacy considerations in AI-driven education

Safeguarding students' personal data is paramount, especially as many AI applications, particularly those that are data-driven or utilize machine learning, require access to large datasets to learn, adapt, and provide personalized experiences. The challenge is to balance the functionality and benefits of these AI applications with the imperative to protect sensitive data. Data privacy helps ensure individuals have control over their personal data's collection, usage, and sharing. Key considerations include:

Student, educator, and faculty data privacy

The integration of AI in education necessitates careful management of both student and faculty data, encompassing academic performance, learning behaviors, and sensitive personal details. Safeguarding the privacy of this data is crucial to preventing breaches that could jeopardize the privacy of students and educators alike, as well as the reputation of your institution.

Compliance

Educational institutions are bound by laws and regulations like the Family Educational Rights and Privacy Act (FERPA) in the U.S., the General Data Protection Regulation (GDPR) in the EU, and other regional data protection laws. Adhering to these regulations while implementing AI systems is a complex but necessary task.

Practical tips

- Ensure the data you are collecting and using is the minimum needed for the task. The less data you collect, the less risk there is of a harmful data breach.

- Where possible, anonymize student data to protect student identities. This could involve removing personally identifiable information (PII) or replacing it with pseudonyms.

- Have a plan in place for responding to data breaches. This should include steps or identifying and containing the breach.

Section 3
Implement

Provides valuable overviews of Microsoft AI, summaries of Copilot tools, and recommended practices and resources for professional learning. This section highlights how various members of a school community can benefit from AI tools and includes example prompts to try.

Getting started with Microsoft AI

Sitting down at a computer to learn how to use a generative AI tool is difficult when you are managing a school district, running a technology department, or operating a university. There's often too little time and too many pressing issues for deep exploration and trial. This section provides instructions, links, and additional resources to help you begin your AI journey.

Consider some of the responsibilities that leaders like yourself assume in your role and how generative AI tools might help you save time or be more efficient.

Superintendent's cabinet
Revise an acceptable use policy for secondary school students to include emerging technologies like AI.

Provost's office
Analyze data and automatically identify insights in a reporting spreadsheet.

IT Department
Help educators troubleshoot audio or video issues on their devices.

Directors of Technology
Gather IP addresses, ASNs, and known activities of malicious websites that pose cybersecurity risks for students and educators.

K-20 Ministries of Education
Understand key insights from school reporting data.

Microsoft Copilot tools and services

Microsoft Copilot helps you accomplish time-consuming tasks. For most of the tools, all that's needed is a basic understanding of how to get started. Write new content like policy frameworks, analyze reporting data in spreadsheets, or conduct research on security threats.

This section provides instructions, links, and additional resources to help you begin your AI journey. Once you know which Microsoft Copilot will help you with a task, just follow the steps and try it for yourself.

Microsoft Copilot

Find the right information, create original content, and get things done quickly without disclosing sensitive data.

Copilot for Microsoft 365

Use content in Microsoft 365 applications like Word, PowerPoint, and Teams to create new information, summarize, and more.

Copilot in Windows

Receive help, get answers, and jump start projects within the Windows 11 operating system.

Copilot for Security

Simplify incident response, threat hunting, intelligence gathering, and posture management.

Azure AI Studio

Build your own custom copilot using GPT, DALL-E, and Whisper large language models.

Copilot in Intune

Real-time analysis, accelerated incident responses, and simplifies scripting with natural language queries.

Microsoft Copilot

Microsoft Copilot is an AI assistant that helps leaders find the right information, create original content, and complete common tasks. It uses a chat interface and natural language prompts to generate responses that summarize, analyze, compare, and more. Copilot is available on the web and mobile devices through Edge or other modern browsers.

When a user logs into Copilot using a free, school-issued Microsoft account, all prompts and responses are covered by commercial data protection and Microsoft's Customer Copyright Commitment. These features help protect sensitive data when included in chat prompts and increase confidence in using responses from Copilot.

- Commercial data protection: Helps safeguard user and organizational data because prompts and responses are not saved when signed in with a school-issued Microsoft account. Microsoft has no eyes-on access, and chat data is not used to train the underlying model.

- Customer Copyright Commitment Microsoft defends customers from IP infringement claims arising from the customer's use and distribution of the output content generated by Microsoft's Copilot services or Azure OpenAI Studio so long as the customer used the guardrails and content filters we have built into our products and implemented required mitigations.

Microsoft Copilot

Users

- Administrators

- Staff

- Educators

- Higher education students age 18 and older

How to use Microsoft Copilot

1. Go to copilot.microsoft.com. Microsoft Copilot is also available as a shortcut in the Edge browser sidebar.
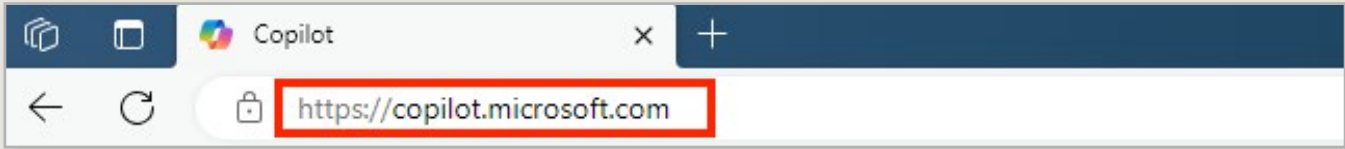
2. Sign in with a school-issued Microsoft account.
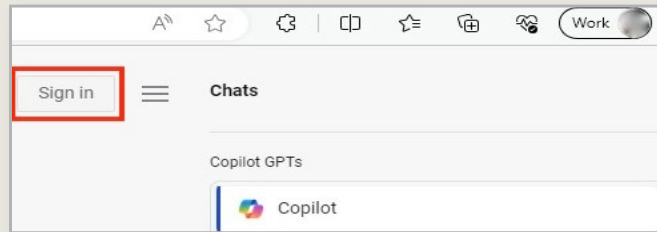
3. Check for a green **Protected badge** in Copilot. This badge indicates that commercial data protection is enabled.
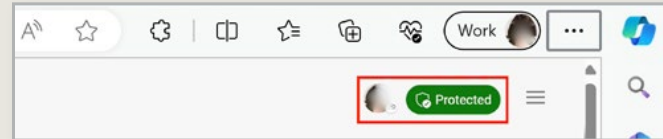
4. Select **work** to access Copilot for Microsoft 365 to chat using knowledge from your organization or select **web** to access Copilot on the web.
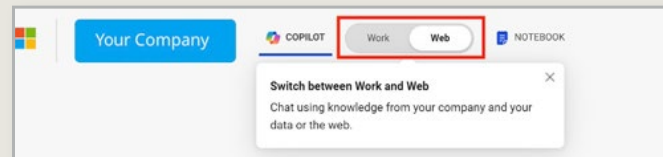
5. Select a conversational style. **Precise** is more search-focused, **Creative** gives responses that are more descriptive, and **Balanced** is somewhere in-between.
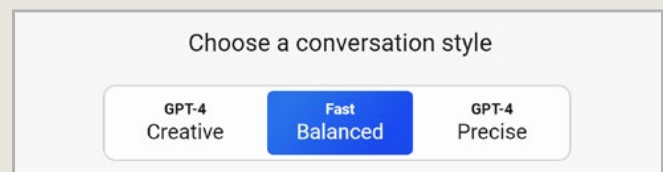
6. Create a prompt by following the Creating effective prompts section of this toolkit. Type the prompt directly into the chat area, use your voice to speak your prompt, or add an image. Select the **Send** button.
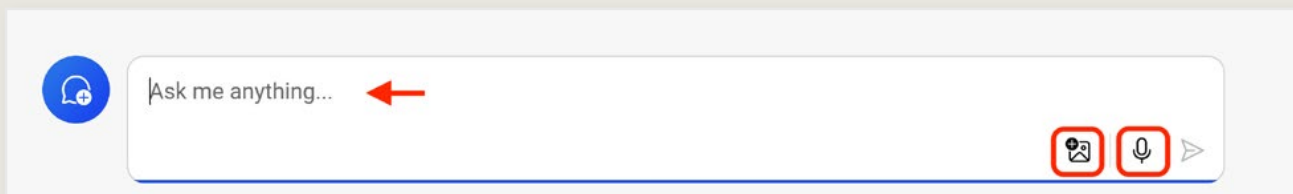
7. Review Copilot's response by checking the listed sources and reading for inaccuracies. Copilot uses footnotes to cite sources within the response and includes links at the end to check source material.

In summary, Gödel's incompleteness theorems remind us that mathematics is an ever-expanding realm, and no finite set of rules can exhaust its depths. They continue to shape our understanding of logic, computation, and the very nature of truth in mathematics [1] [2]. ☀

Learn more   1 ⚡ britannica.com   2 ◈ vaia.com   3 ⚲ bing.com   4 ⚡ britannica.com

👍 👎 ▢ ↓ ◁))

(?) What are some practical implications of Gödel's theorems?   How did other mathematicians react to these theorems?

Can you provide an example of a true but unprovable statement in arithmetic?
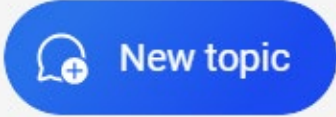
8. Copy, download, or read aloud Copilot's response.

9. Select New Topic to clear Copilot and begin a new prompt.

New topic

Try Microsoft Copilot

Superintendent's cabinets or university administrators can quickly draft policy guidelines on generative AI using Microsoft Copilot. Use the prompt below to see its capabilities.

Copilot prompt

Create a comprehensive policy on plagiarism and academic integrity specifically addressing the use of artificial intelligence (AI) within our school district, which caters to a diverse audience of 20,000 students, their families, and educators. Write in a clear, direct tone that is accessible to a general audience, including young students and individuals without a background in technology. All sources of information and guidelines must be cited accurately and clearly within the document, following APA citation style.

Copilot refinements

Add these refinements into the chat area to revise Microsoft Copilot's response.

- Add a section about the Benefits of AI after the section on Artificial Intelligence.

- Include information from tech.ed.gov/ai/ in the Benefits of AI section.

Learn more

- Announcing Microsoft Copilot, your everyday AI companion

- Expanding Microsoft Copilot access in education

- Adoption Kit

- Documentation

Copilot for Microsoft 365

Copilot for Microsoft 365 combines powerful large language models to enhance productivity and amplify creativity with Microsoft 365 apps. Like Microsoft Copilot with commercial data protection, Copilot for Microsoft 365 uses natural language prompts to easily complete tasks in popular applications like Word, PowerPoint, Excel, Outlook, OneNote, Microsoft Teams and more.

Schools and institutions can purchase Copilot for Microsoft 365 as an add-on to their exisiting A3/A5 Microsoft 365 Education plan.

Copilot for Microsoft 365

Users

- Administrators

- Staff

- Educators

- Students age 18 and older

How to use Copilot for Microsoft 365

1. Go to office.com and sign in with a school-issued Microsoft account. Copilot for Microsoft 365 is only available after your organization has purchased the product.

2. Open a Microsoft 365 app like Word, PowerPoint, Excel, Outlook, or Teams. The steps in this guide use PowerPoint to demonstrate Copilot for Microsoft 365, so choose this app to follow along.

3. Select the **Copilot** button in the **Home** ribbon of a new presentation.

4. Select **Create a presentation from (file)**.

5. In the chat box, select a suggested file or start typing the title of the file and it will populate. Then hit send and then Copilot creates a presentation from the content in your Word document!
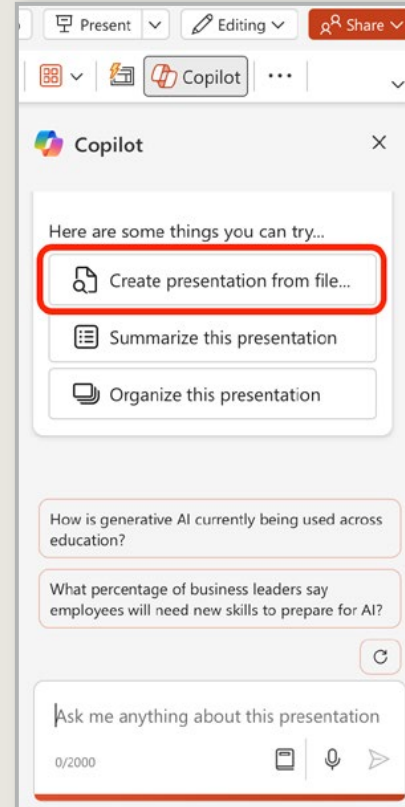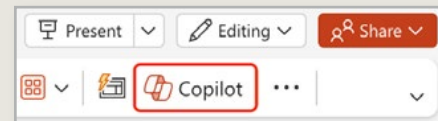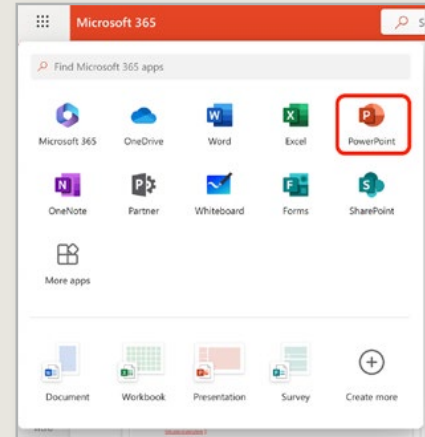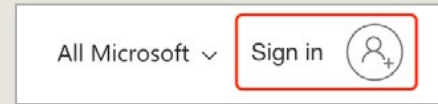
Try Copilot for Microsoft 365

A provost's office might want to create a PowerPoint presentation from board meeting notes to share with deans and faculty members. By linking Copilot in PowerPoint to a Word file with meeting notes, Copilot for Microsoft 365 generates a first draft that's ready for editing and reviewing. If your school has an add-on license, create a PowerPoint presentation from your own Word document or try a different Microsoft 365 app with Copilot.

Copilot prompt

As the university's Provost, draft a concise email to the Technology Director expressing interest in Microsoft 365 Copilot, emphasizing its collaborative and data analysis tools. Highlight the potential for improved university workflows and productivity, especially in research and student engagement. Propose a meeting with a Microsoft partner for tailored solutions, stressing the urgency for the upcoming academic year.

Copilot refinements

Add these refinements into the chat area to revise Copilot's response.

- Include information from support microsoft.com/copilot in the paragraph about Copilot for Microsoft 365.

- Add a postscript or PS at the end of the email. Include a sentence about data privacy and security for Copilot for Microsoft 365 with citations.

Learn more
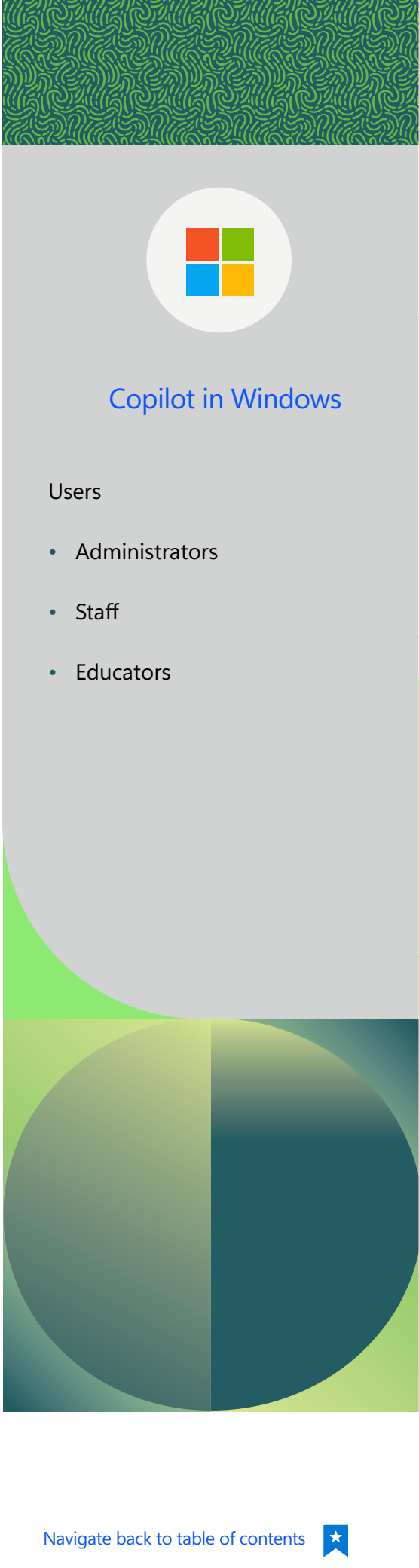
- How Microsoft Copilot for Microsoft 365 works

- Microsoft Copilot, a whole new way to work

- Copilot for work

- Adoption kit

- Documentation

Copilot in Windows

Copilot in Windows is an AI-powered assistant that provides answers from across the web, supports creativity and collaboration, and assists with tasks on Windows 11 devices. It also offers a convenient way to change Windows settings and launch troubleshooters when issues arise.

Copilot in Windows is built into updated versions of the Windows 11 operating system and runs from the taskbar. It is free to install on Windows devices and is protected by commercial data protection with a school-issued Microsoft account.

Copilot in Windows

Users

- Administrators

- Staff

- Educators

How to use Copilot in Windows

Sign into a Windows device using a school-issued Microsoft account. *Copilot in Windows is not available when signed into a device with a local account.*

1. Select the **Copilot** button in the taskbar.
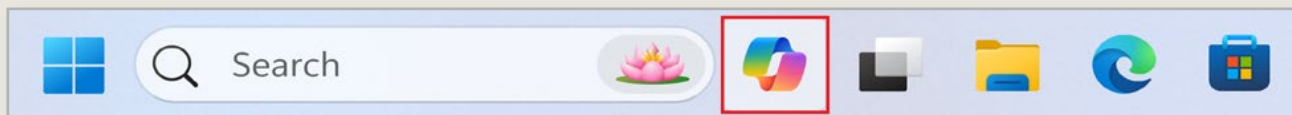
2. Select a conversational style. **Precise** is more search-focused, **Creative** gives responses that are more descriptive, and **Balanced** is somewhere in-between.
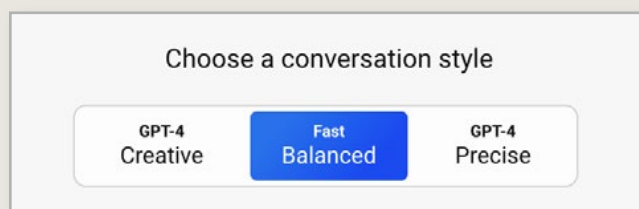
3. Create a prompt by following the *Creating effective prompts* section of this toolkit. Type the prompt directly into the chat area, use your voice to speak your prompt, or upload an image or screenshot. Select the **Send** button.
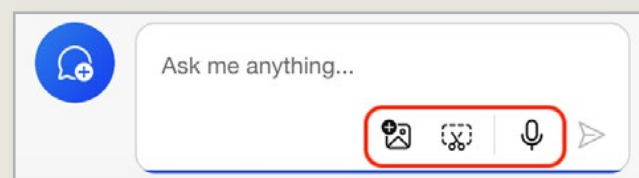
4. If the prompt generates new content, check for inaccuracies and review cited sources. Otherwise, follow the instructions to perform the requested task.
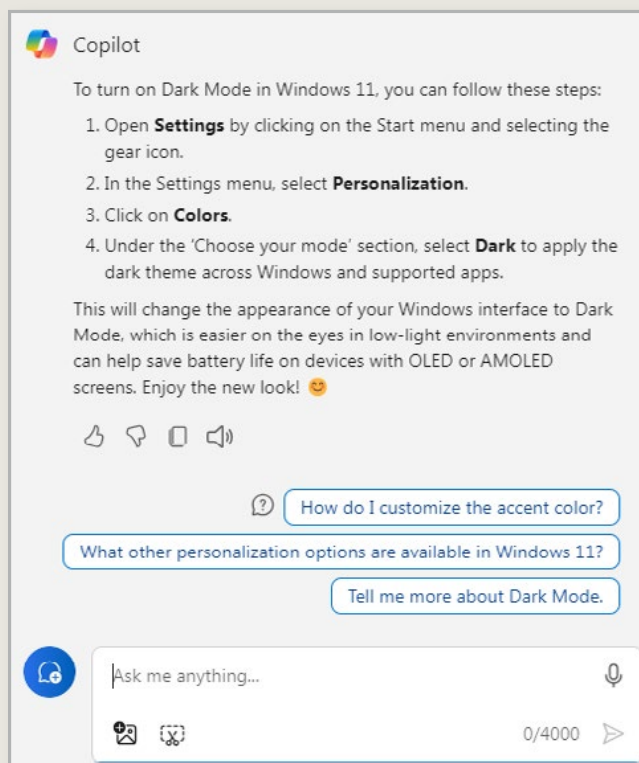
5. Select **New Topic** to clear Copilot and begin a new prompt.

Try Copilot in Windows

IT leaders or administrators often rely on multiple programs with many open applications when triaging an incident. Copilot in Windows can help you organize open applications by typing the prompt, *Create snap layout.*

Copilot prompt

As an IT administrator conducting a workshop for your colleagues at a large university, prepare a guide titled "Top 5 Ways Copilot in Windows Boosts IT Staff Productivity". For each point, provide a brief explanation and an example of a Copilot in Windows command that can be used. The command examples should be ready to use in Copilot in Windows.

Copilot refinements

Add these refinements into the chat area to revise Copilot in Windows response.

- Include the same content but add a section called FAQ which should contain 5 questions and answers about Copilot in Windows.

- Include the same content but add an additional question in the FAQ that contains a question and answer about data privacy and security with Copilot in Windows.

Learn more

- [Announcing Windows Copilot](#)

- [Welcome to Copilot in Windows](#)

- [Date and privacy](#)

- [Documentation](#)

Copilot for Security

Copilot for Security is an AI-powered security solution that increases an IT administrator's efficiency and capabilities. It uses an assistive copilot experience and end-to-end scenarios for incident response, threat hunting, intelligence gathering, and posture management. It also responds to natural language security questions and learns from user interactions and enterprise preferences.

Schools can access Copilot for Security in two ways:

- Access Copilot for Security: Open Copilot for Security through a portal at securitycopilot. microsoft.com. This portal connects licensed Microsoft products and third-party services like Service Now so that administrators can run queries that rely on security signals from multiple products.

- Portal: Open Copilot for Security through a portal at securitycopilot.microsoft.com. This portal connects licensed Microsoft products and third-party services like Service Now so that administrators can run queries that rely on security signals from multiple products.

Copilot for Security is generallyavailable. Schools must have a Microsoft Entra P1 or P2 license and a Microsoft Defender for Endpoint P2 license. **Note**: The steps in this section use the Copilot for Security portal to demonstrate how to get started.

Copilot for Security

Users

- IT administrators

How to use Copilot for Security

1. Navigate to securitycopilot.microsoft.com and log in with authorized credentials. you must be an early access customer to log in.

2. Select the **Manage plugins** button in the dashboard.
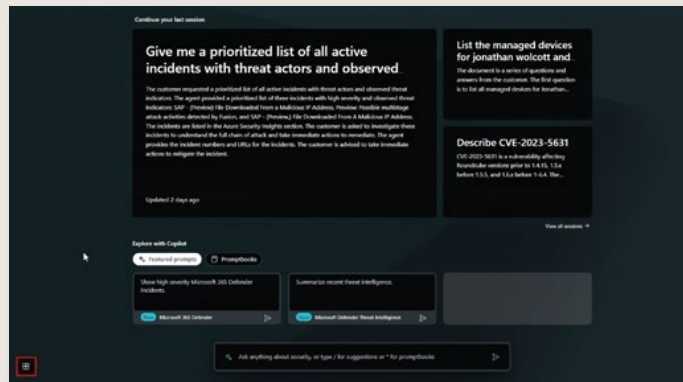
3. Toggle the switch for **Defender External Attack Surface Management, Microsoft 365 Defender, and Microsoft Defender Threat Intelligence.** The remaining steps in this section use these plugins to demonstrate Security Copilot capabilities Licenses for each service is required.
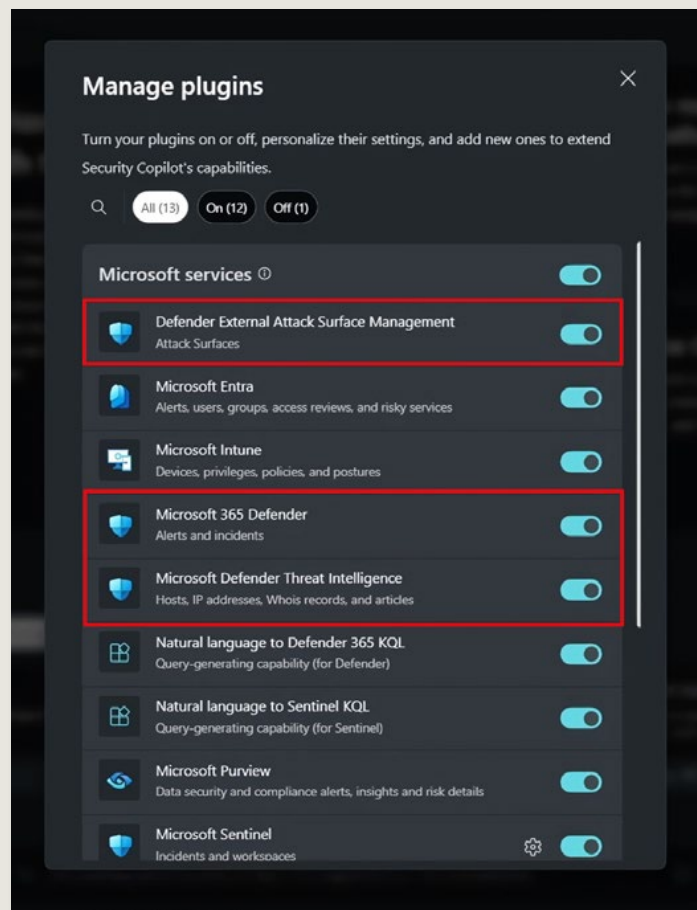
4. Close the **Manage plugins** window.
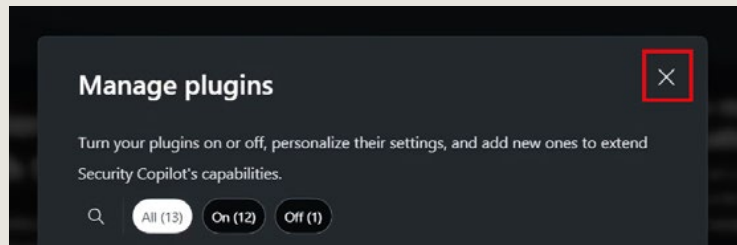
5. Type a prompt into the chat area and press **Send**.
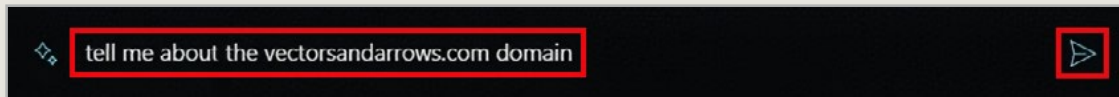
6. Security pilot provides relevant cited information from its security-tuned LLM.
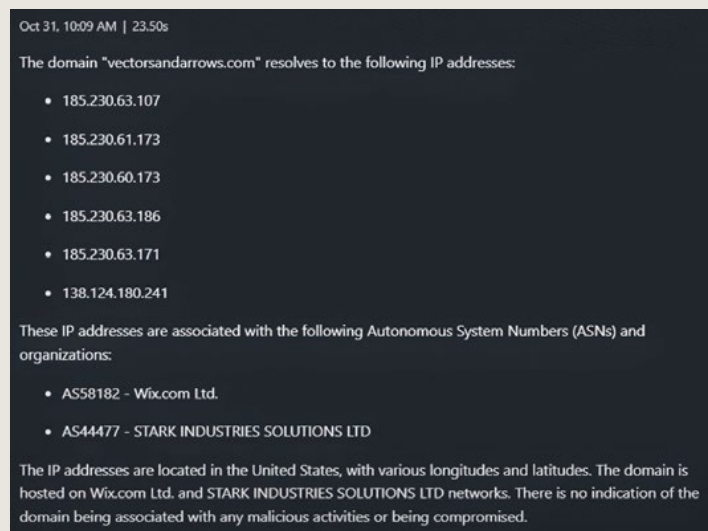
7. For additional ways to use Copilot for Security, explore **Featured prompts** for pre-created queries that run common security tasks. Promptbooks run a series of prompts in sequence with each prompt building on the previous.
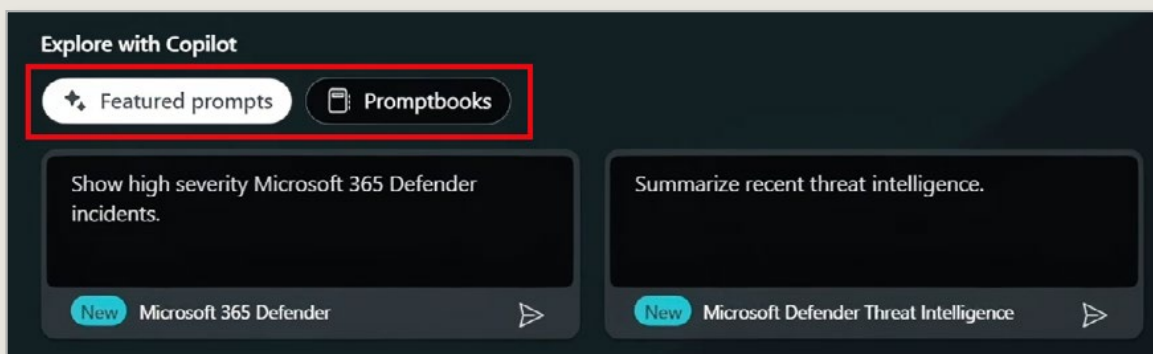
Try Copilot for Security

Directors of Technology and IT administrators often investigate malicious websites that pose cybersecurity risks. Copilot for Security provides critical information like IP addresses, ASNs, and what's known about websites using Microsoft's global threat intelligence. Simply type, T*ell me about the INSERT_URL* domain and Copilot for Security does the research for you.

Copilot prompt

As the Director of Technology managing a small school district's IT staff, compile a desktop reference guide featuring 10 Copilot for Security prompts. Each prompt should have a title, a brief explanation, and a ready-to-use command example. Maintain a formal tone throughout the guide.

Copilot refinements

Add these refinements into the chat area to revise Copilot for Security's response.

- Include all the same information in the desktop reference guide but also link each prompt to the website where it came from.

- Include all the same information in the desktop reference guide but also include 5 additional prompts focusing on security reporting at the end of the guide. Link each prompt to its source website.

Learn more

- Microsoft Copilot for Security

- How Microsoft Copilot for Security works

- Introducing Microsoft Copilot for Security for Empowering defenders at the speed of AI

- Documentation

- Onboarding
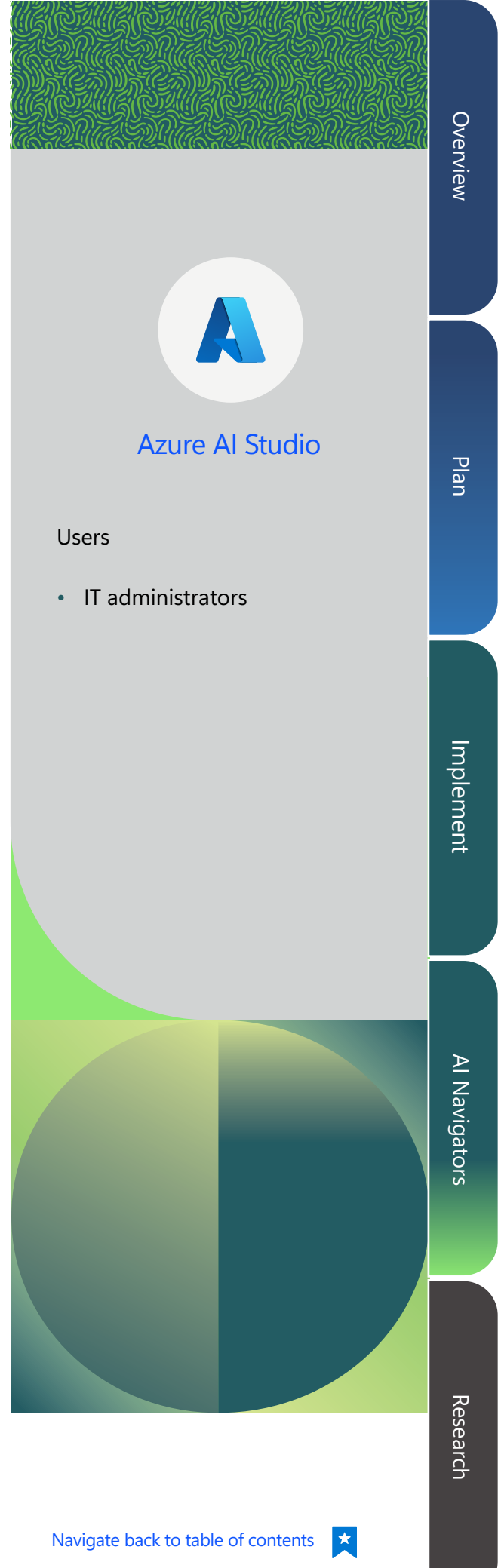
Azure AI Studio

Azure AI Studio is a development environment that schools and institutions can use to build custom copilots from popular LLM like GPT, DALL-E, and Whisper. With a custom copilot, schools can deploy an AI application that uses internal data for a tuned chat experience.

Azure AI Studio is supported by Azure OpenAI Services so that administrators can monitor undesirable inputs, outputs, and misuse with their custom copilots. Because Azure AI Studio is a part of the Azure platform, deployments are backed by Microsoft's enterprise-grade security protection.

Customers with an Azure subscription can add Azure AI Service rafter requesting access. Once activated, customers can use the Azure AI Studio platform. Pricing follows a pay-as-you-go (PAYG) structure and includes Provisioned Throughout Units (PTUs) to ensure copilots are ready for use.

Azure AI Studio

Users

- IT administrators

How to use Azure AI Studio

1. Apply for access to Azure AI Service and confirm that you have an active Azure subscription.

2. Open Azure AI Studio by going to oai.azure.com. Select the appropriate directory, Azure subscription, and Azure AI resource after signing in with your access credentials.

3. Select **Chat playground** on the landing page. The following steps cover how to build a custom chat copilot.
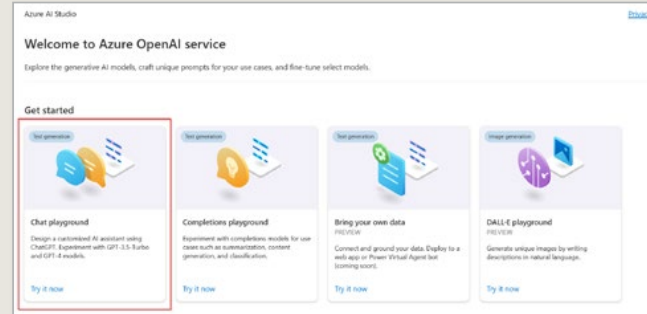
4. In the Assistant setup panel, write a System message or use a pre-built template that users see when interacting with the copilot. Select **Add your data** to include sources that the copilot will reference when generating responses.
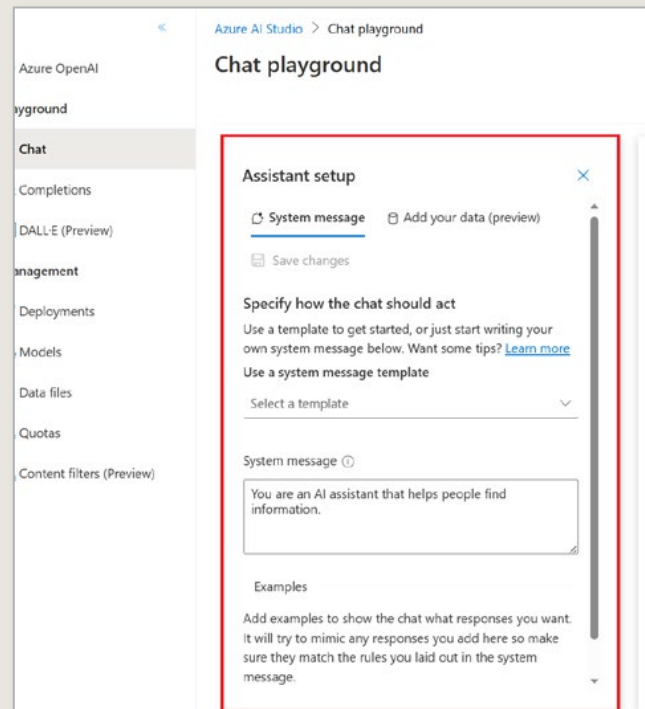
5. In the Configuration panel, use the **Deployment tab** to choose the model for the copilot. The **Parameters tab** includes settings for adjusting the model's temperature, max length, top probabilities and more.
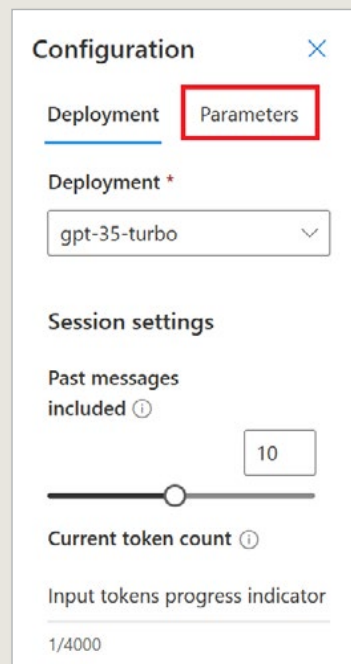
6. Type test prompts in the **User message field** to evaluate the copilot's performance before deployment.

7. Select the **Deploy to** button to create a new web app or publishto an existing web app when the copilot is ready for implementation.
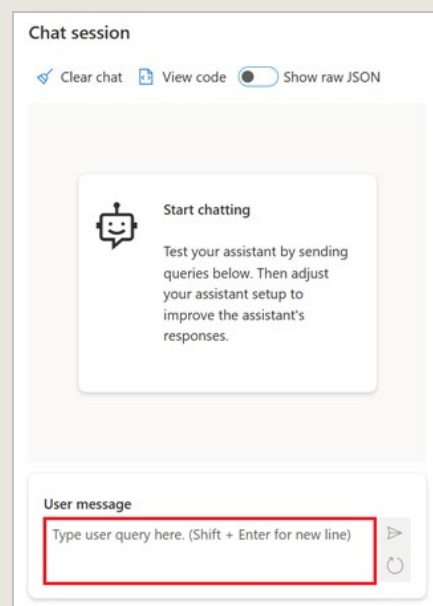
8. Share the web address of the copilot with people at your school or institution. Be sure to review the Azure AI Studio documentation for detailed instructions, troubleshooting steps, and the FAQ about building a custom copilot for your institution.

Navigate back to table of contents
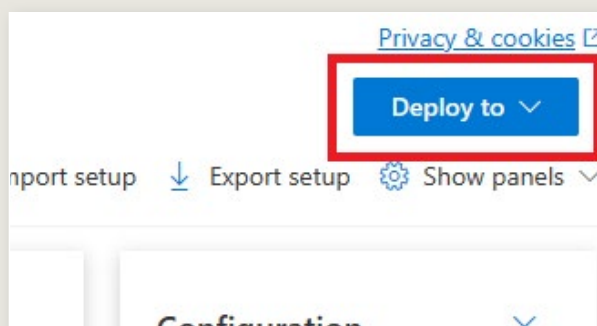
Try Azure AI Studio

Azure AI Studio simplify the process that a K-20 Ministry of Education would follow to build a custom copilot for their schools. It enables IT administrators and developers to easily link school-specific data sources with large language models for secure, tailored results.

Copilot prompt

As a K-20 education ministry leader supporting 50 schools, compose an email to school principals about Azure AI Studio security and privacy. Explain its function, advantages over generic AI models, and data privacy measures in everyday language with citations. Conclude by announcing upcoming AI chat experiences.

Copilot refinements

Add these refinements into the chat area to revise Microsoft Copilot's response.

- Include the same information in the message but begin with a customer story such as this one.

- Include all the same information in the desktop reference guide but also include 5 additional prompts focusing on security reporting at the end of the guide. Link each prompt to the website where it came from.

Learn more

- Fundamentals of Azure OpenAI Service

- Documentation for Azure OpenAI Service

- Documentation for Azure AI Studio

- Data Privacy and Security

Creating effective prompts with Microsoft Copilot

Microsoft Copilot can assist in content creation and delivery in education. It is designed to support IT teams, educational leaders, and educators by helping to increase productivity and collaboration. Copilot contributes by providing relevant answers and offering tailored solutions to benefit the entire educational community.

To make the best use of Microsoft Copilot, you need to be skilled in creating effective prompts that will help it to generate results that will help you. Prompts are the messages or requests you make of Copilot using the chat interface. As AI continues to advance, the techniques for effective prompting will also evolve—it's an ongoing learning process. This section of the AI Toolkit will help you learn the basics of creating high-quality prompts to get the best results.

Accessing Microsoft Copilot

There are four ways to access Copilot:

- Copilot.microsoft.com

- Microsoft Edge sidebar

- Windows 11 taskbar*

- Microsoft Edge app on mobile

Copilot in Windows 11 may not be available on your PC

After navigating to your preferred access, make sure to sign in with your work account. You will see a green protected tag next to your credentials. This helps ensure your data is protected while you are using Copilot.

Built-in safety

Microsoft prioritizes the protection of educational environments using Copilot, with commercial data protection. User and organizational data are safeguarded, and chat prompts and responses in Copilot are not saved or accessed by Microsoft for training purposes. Our Customer Copyright Commitment further assures education customers that they can use our services and generated content with confidence about copyright claims.

Precision prompting

Generative AI models operate much like students following instructions for a task. When you ask students to write an academic paper, they might explore assorted topics. However, if you instruct them to write specifically about the impact of child labor laws during the Industrial Revolution, you'll likely receive more focused papers.

This analogy extends to instructing generative AI. Through a well-crafted prompt containing specific instructions or questions, users can guide the AI's responses towards desired outcomes, ensuring relevance, coherence, and accuracy. This not only enhances the AI's interpretability and utility but also promotes a collaborative and efficient interaction between humans and machines. It unlocks the full potential of generative AI applications across various domains.

Try it

Examine these examples to discern the differences between a poorly crafted prompt compared to a well-crafted one.

First let's look at this example of a poorly crafted prompt. This prompt is too vague. It lacks context, specific topics and learning objectives, and types of activities. It is overly general and lacks lesson plan elements. It links out to some websites for further exploration.

Create a 9th grade lesson plan for science

Response from a poorly crafted prompt

Now try this prompt

The prompt below provides specific instructions, standard alignments, a topic, and desired components. Notice the detail is much more specific to the topic, it linked to NGSS standards, created many elements of a good lesson plan, and offered options. This provides the educator with a much more detailed plan that they can then customize around their specific needs.

Copilot prompt

Design a detailed lesson plan for a 9th-grade biology class focusing on cellular respiration, aligned with the Next Generation Science Standards (NGSS). Please structure the lesson into distinct segments: a 10-minute warm-up activity to introduce the topic, a 20-minute engaging lecture with interactive elements, a 30-minute hands-on activity to reinforce learning, and a 10-minute formative assessment to gauge student understanding. Include in your plan: specific learning objectives, materials needed for each segment, strategies for student engagement, differentiated instruction methods for diverse learning styles, and clear assessment criteria based on the learning objectives. Ensure the lesson is designed to be completed within a standard class period

Now add an additional refinement to your results.

- Please provide 5 different analogies to help students remember the 3 three stages of cell respiration.

- How might I make the lecture more interactive? Provide 3-5 ideas for this lesson.

- What are some scaffolds I could use with students that might be struggling with this content?

Crafting effective prompts

Crafting clear and specific prompts is critical for receiving accurate and effective responses. The more specific, and clear the prompt is the better the results will be for the user. This practice, known as prompt engineering, ensures better outcomes when using generative AI.

Persona

Ask the tool to take on a role.
- Act as a mentor who provides personalized feedback, guidance, and encouragement to educators.
- You are a technology integration specialist who helps educators integrate technology tools in the classroom.
- You are the leader of a K–12 district that wants to improve the quality, equity, and efficiency of education.

Objective

What do you want the AI to do?
- Review and offer suggestions on improving a policy.
- Outline a budget for the next school year.
- Create an action plan based on the minutes of a board meeting.

Audience

Specify who it's for.
- Parents and guardians of our high school students
- Elementary educators that teach art and music
- The president of the university
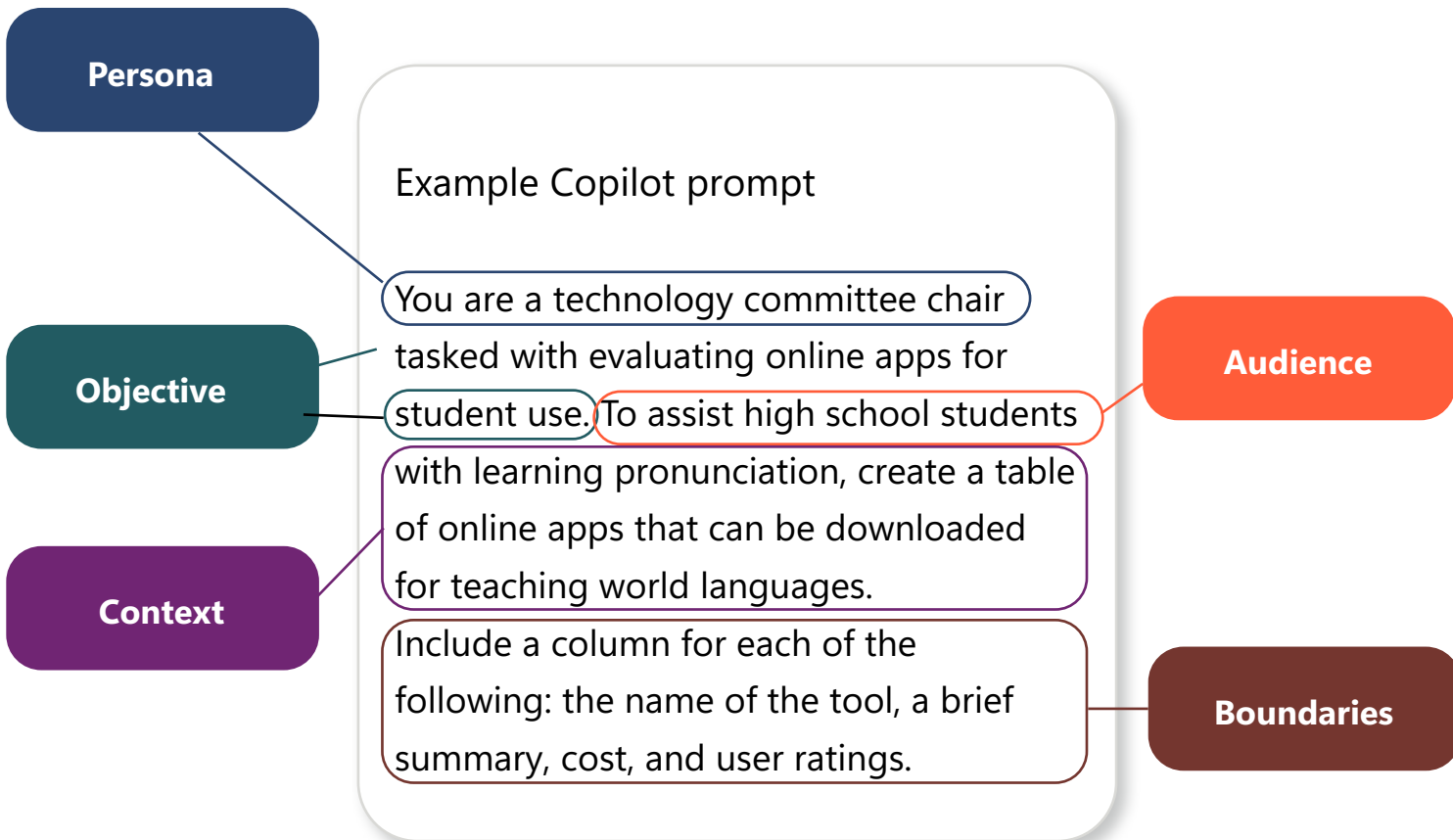
Context

What does the tool need to know?
- Background information
- Type of output (table, image, email, etc)
- Specific details related to the task

Boundaries

Set directions or limitations.
- In less than 500 words
- A friendly and courteous tone
- Make columns for x, y, and z

Persona

Example Copilot prompt

You are a technology committee chair tasked with evaluating online apps for student use. To assist high school students with learning pronunciation, create a table of online apps that can be downloaded for teaching world languages.

Include a column for each of the following: the name of the tool, a brief summary, cost, and user ratings.

Objective

Context

Audience

Boundaries

Copilot prompt

You are a technology committee chair tasked with evaluating online apps for student use. To assist high school students with learning pronunciation, create a table of online apps that can be downloaded for teaching world languages. Include a column for each of the following: the name of the tool, a brief summary, cost, and user ratings.

Refine your prompt

Experimenting with various instructions, techniques, or word choices can yield different responses. If the results don't match your expectations or lack specificity, consider adjusting your prompt for better outcomes. The key to refining AI responses to meet your unique needs is to explore different strategies. Don't be afraid to try different approaches until you find what works best for you!

Tips for getting better results

If you are struggling to get the results you need, refine your prompt using these suggestions.

Be clear and specific	Provide specific instructions about the task to be performed, explain the data context, and output requirements. Leave as little to interpretation as possible.
Give examples	Use high quality and diverse examples to guide the AI to generate more relevant and accurate responses.
Be descriptive	Use analogies and provide details.
Don't use slang, jargon, or informal language	This may cause the AI to give low quality, inappropriate, or unprofessional responses.
Don't assume prior knowledge	Don't assume the AI has knowledge outside of the given prompt. Always provide context and set expectations.
Re-purpose a successful prompt	If you create a prompt that works well for one task, try using it as a template and adjust it for similar tasks. Example: *Design a lesson plan for a [course and level] that aligns with [standards] and concentrates on the topic of [topic]. The lesson should include [list of required parts]. It should be structured [requirements].*

Conversation styles

In addition to creating a better, more specific prompt, selecting the style in Copilot is important too. There are three styles available in Copilot: Creative, Balanced, and Precise. They will yield different results so you can try comparing results too!

Understanding Conversation Style in Copilot

GPT-4 Creative	**Fast** Balanced	**GPT-4** Precise
Original and imaginative chat	Information and friendly chat	Concise and straightforward chat

Checking for accuracy

Remember AI is an assistant, not a replacement, for a human review and it can make mistakes, leading to inaccurate or fabricated information. Always review your AI responses for accuracy, grammar, and style. Additionally, verify the content created by AI is factual and check for any irrelevant or inappropriate material.

Interactive prompts

Try using the following prompts in Microsoft Copilot and then refine them to meet your needs. You can also compare the results using different conversation styles.

Copilot Prompt

You are an academic administrator who works on revising policies. Develop a policy framework on plagiarism and academic integrity when using AI for a university. This is an important topic because AI tools can generate original and realistic content that can be used for academic purposes, but they can also pose ethical and academic challenges, such as cheating, plagiarism, misrepresentation, falsification, or fabrication of data. You need to consider how to prevent, detect, and address these issues and promote ethical and responsible use of AI tools in academic contexts. Your policy framework should include the following elements:

    a. A definition of plagiarism and academic integrity with AI, and why they are important for learning and education.

    b. A list of the main challenges and opportunities of using AI tools for academic purposes, and how they affect plagiarism and academic integrity.

    c. A set of principles and guidelines for using AI tools ethically and responsibly in academic contexts, and how to cite and credit AI-generated content.

    d. A summary of the benefits and limitations of your policy framework, and how it can be implemented and evaluated.

Your policy framework should be written in a formal and academic style, and it should be no longer than 1000 words. You should use reliable and credible sources to support your arguments and claims, and you should cite them using the APA style.

Copilot prompt

As a seasoned school administrator, create a feedback rubric for evaluating teachers' instructional methods This rubric, for use by fellow administrators, should feature four performance tiers, encompass ten formative assessment aspects, align with the school's ethos and standards, and employ encouraging, growth-oriented language. It should exclude non-instructional elements and not supersede ongoing professional development efforts.

Copilot prompt

As a cybersecurity expert, develop a straightforward tutorial for school staff on spotting phishing emails and social engineering attacks. The aim is to improve staff's ability to recognize phishing attempts, minimize the risk of falling for such attacks, and safeguard the school's data. The tutorial should be applicable across various email platforms, focus on practical, non-technical measures, and include relevant examples.

Copilot prompt

As a friendly and helpful instructional designer, your task is to assist teachers in explaining the concepts of logos, pathos, and ethos to 10th and 11th graders in an AP Language class. The students have no prior knowledge of these concepts. Develop clear and simple yet detailed explanations, analogies, and examples for each concept. Remember, your goal is to make these concepts easily understandable for the students.

Build your own prompt

Now that you are familiar with the elements used in building an effective prompt try building your own:

Persona	Who would be considered the expert in this area?
Objective	What is the task you want the AI to complete?
Audience	Who is this for?
Context	What does the tool need to know to give the best results?
Boundaries	What specific directions or limitations do you want to set on the tool?

Professional learning

Generative AI brings new technology and new learnings. A well-developed professional learning plan for your community will facilitate informed adoption of generative AI, and promote responsible practices, while ensuring your institution stays relevant and responsive to technological advancements. For any tool adoption, the best place to start is low-stakes experimentation. We recommend you practice with the Copilot prompts within all of the sections of this toolkit.

1   **Conduct a needs assessment** to identify the gaps and opportunities for the adoption of generative AI in your institution. Consider the different roles and levels of your learners and how they can benefit from AI skills.

2   **Define clear and measurable objectives** that align with your AI priorities and vision. Think about what you want your learners to know and do after completing the AI learning plan.

3   **Select relevant and engaging content** that covers the topics and skills your learners need. You can use existing resources or create your own, depending on your context and goals.

4   **Choose the most appropriate delivery** methods for your content, based on your audience and resources. You can opt for in-person or online, synchronous or asynchronous, or a combination of modes to suit your learners' preferences and needs. Note: If you are looking for support with organizational professional development explore the Global Training Partners.

5   **Collect feedback and evaluate the effectiveness** of your AI learning plan. Use data and evidence to monitor the progress and outcomes of your learners, and adjust your plan as needed to improve the quality and impact of your AI education.

6   **Foster a community of practice among your learners and educators**, where they can share their experiences, challenges, and best practices with AI. Encourage them to continue learning and exploring new AI technologies as they emerge.

Microsoft Learn

Microsoft offers a variety of free resources that can support you in designing and implementing your AI learning experiences. Microsoft Learn provides technical documentation and self-paced professional learning experiences for different roles and levels.

Microsoft Learn documentation and resources

Track the training progress and certifications of your learners within your tenant by using the Microsoft Learn Organizational Reporting Overview.

Learning for K–12 educators can be found at AI for Education where they can discover the AI for education learning path as well as the Classroom toolkit where they can unlock generative AI safely and responsibly with students ages 13–15.

For educators looking for resources to teach AI and tech skills and provide students with opportunity to earn verified credentials from Microsoft, we recommend the Microsoft Learn for Educators Program - Applied Skills.

Microsoft Learn self-paced professional learning experiences

MS-012 Prepare your organization for Copilot for Microsoft 365

This 3-module learning experience examines the Microsoft Copilot for Microsoft 365 design, as well as its security and compliance features, and provides instruction on how to implement Copilot for Microsoft 365.

Format:
Microsoft Learn learning path
Audience:
Higher education IT leadership and IT department: K-12 IT leadership and IT department

Preparing for AI: The AI learning journey for technical leaders

Gain essential knowledge to set up, deploy, and use AI solutions. Learn which features you need to enable to use or build internal AI solutions.

Format:
Microsoft Learn collection
Audience:
Higher education IT leadership and IT department; K-12 IT leadership and IT department

Preparing to use AI: How business leaders can build a foundation for AI success

As you prepare to use AI, discover the five pillars of AI success. Check out this guide for business leaders, and help your organization thrive on its path to AI transformation. We recommend this training for business leaders and all learners.

Format:
Microsoft Learn collection
Audience:
Higher education IT leadership and IT department; K-12 IT leadership and IT department

GitHub Education

GitHub is another location to explore professional learning experiences and learning paths. It offers free developer tools, training, and support for students, teachers, and schools.

Artificial Intelligence for Beginners—A Curriculum

A deep dive into Symbolic AI, Neural Networks, Computer Vision, Natural Language Processing, and more. Perfect for beginners, it covers TensorFlow, PyTorch, and AI principles.

Format: GitHub curriculum with hands-on lessons, quizzes and labs
Audience: Higher education faculty and students; Higher education IT department; K–12 IT department

Mastering GitHub Copilot for Paired Programming

A 6 Lesson course teaching everything to know about harnessing GitHub Copilot and an AI Paired Programing resource.

Format: GitHub Education course
Audience: Higher education faculty, leadership, IT leadership, and IT department

Copilot prompt

As the IT Department Director, you're tasked with enhancing educational strategies through technology. Design a detailed 1-hour professional development session for middle school educators focused on integrating Microsoft Copilot or ChatGPT to improve student writing across subjects. Specify:
- Session Goal: Clarify the main objective.
- Learning Objectives: List specific skills or knowledge the educators will gain.
- Hands-On Activities: Detail interactive tasks involving ChatGPT, tailored to writing improvement.
- Materials Required: Itemize resources needed for the session.
- Ethical and Pedagogical Framework: Allocate time for discussing the responsible use of AI in education.
- Evaluation Methods: Describe how educators' understanding and session effectiveness will be assessed.

Ensure the plan is practical, directly applicable to classroom settings, and addresses educators' current familiarity with AI tools.

Section 4

AI Navigators

A global collection of best practices and technical implementation guides

Education AI Navigators

Microsoft is excited to share the stories of institutions leading the way with research, experimentation, testing, and deployment of generative AI solutions in education–the AI Navigators. These trailblazers span a range of countries and educational organizations–from Ministries and State Departments of Education to institutions of higher education as well as primary and secondary schools. Each story highlights a common theme including:

Improved cybersecurity	**Greater efficiency**	**Insights from data**	**Increased accessibility**

Microsoft Education's AI Navigators are leading the way in establishing best practices that unlock the full potential of generative AI. Use these materials to follow in their footsteps to assess your organization's AI readiness, acquire the necessary technology, and take the first steps toward building your own AI capability while using their implementation as your guide.

Overview

Plan

Implement

AI Navigators

Research

Institution	Theme	AI Tool	
California State University, San Marcos	Higher education	Insights from data	Dynamics 365	Learn more
Department for Education, South Australia	Ministry of Education	Improved cybersecurity	Azure AI Studio	Learn more
Indonesia Ministry of Education and Culture	Ministry of Education	Greater efficiency	GitHub Copilot	Learn more
New York City Public Schools	K-12	Insights from data	Azure AI Studio	Learn more
Oregon State University	Higher education	Improved cybersecurity	Copilot for Security	Learn more
Sikshana Foundation	Education Foundation	Greater efficiency	Azure OpenAI Service	Learn more
University of South Florida	Higher education	Increased accessibility	Copilot for Microsoft 365	Learn more
University of Sydney	Higher education	Greater efficiency	Azure OpenAI Service	Learn more
Washington State Office of the Superintendent of Public Instruction	State Department of Education	Increased accessibility	Microsoft Copilot	Learn more
Wichita Public Schools	K-12	Greater efficiency	Microsoft Copilot	Learn more

Navigate back to table of contents

Wichita Public Schools

Wichita educators use Microsoft Copilot to make learning more accessible and bring a greater diversity of learning experiences to the classroom.

Increased accessibility

Greater efficiency

With nearly 50,000 students and over 100 different languages spoken, the amount of time and energy required of Wichita educators to individualize their lessons was becoming unsustainable. They needed a solution that could bring diverse, tailored learning experiences into the classroom—swiftly and efficiently.

As existing Microsoft 365 A5 account users with Surface devices and Entra ID, the Wichita IT team seamlessly led an early adoption program of Microsoft Copilot. Educators used generative AI capabilities to increase their efficiency, quickly creating instructional materials that were accessible at different reading levels and in different languages. They also found that they could generate authentic, project-based learning experiences at different levels and streamline individualized student feedback on assignments.

- How do your current needs align to the rationale behind Wichita's story? Is this implementation model a good fit for you?

- What are the advantages of introducing Microsoft Copilot to faculty and staff?

- What AI usage guidelines (privacy, data protection) must be in place before taking the technical steps toward implementation?

"There is a highly documented anxiety 'ping' that affects teachers each Sunday evening. We wonder if we are ready for the coming week and if we have time to get ready. When teachers embrace Microsoft Copilot and begin to understand the time savings it represents, I see the anxiety fade away, replaced by sighs of relief."

— Dyane Smokorowski
Coordinator of Digital Literacy
Wichita Public Schools

AI Tool: Microsoft Copilot

Overview

Plan

Implement

AI Navigators

Research

Technical implementation guide for Wichita Public Schools

Technical requirements

1. Open the Microsoft Edge browser.
2. Visit https://copilot. microsoft.com.
3. Ensure users have logged in using their school credentials so their data is protected.

Preparing for success

Ready to recreate Wichita Public Schools' success?
Consider the following first steps:

- Purchase the IT infrastructure, licenses, and software required to introduce Copilot to your educators and staff.

- Find a cohort of school and instructional leaders who are enthusiastic about developing both the AI program and opportunities for professional learning.

- Communicate with stakeholders to fully understand their concerns when it comes to deploying AI safely and responsibly. Create a plan that will address their concerns. Refer to the *Engaging your community* section in this toolkit for additional information.

- Familiarize yourself with a step-by-step technical overview of how to recreate Wichita's success in the *Implementation roadmap.*

Implementation roadmap for Wichita Public Schools

Follow these steps to get started in building your own AI capability.

1. Verify or purchase a Microsoft 365 Education A1, A3, or A5 license.

2. Open Entra ID and select Single sign-on (SSO) from the sidebar. Follow the prompts to configure the SAML protocol.
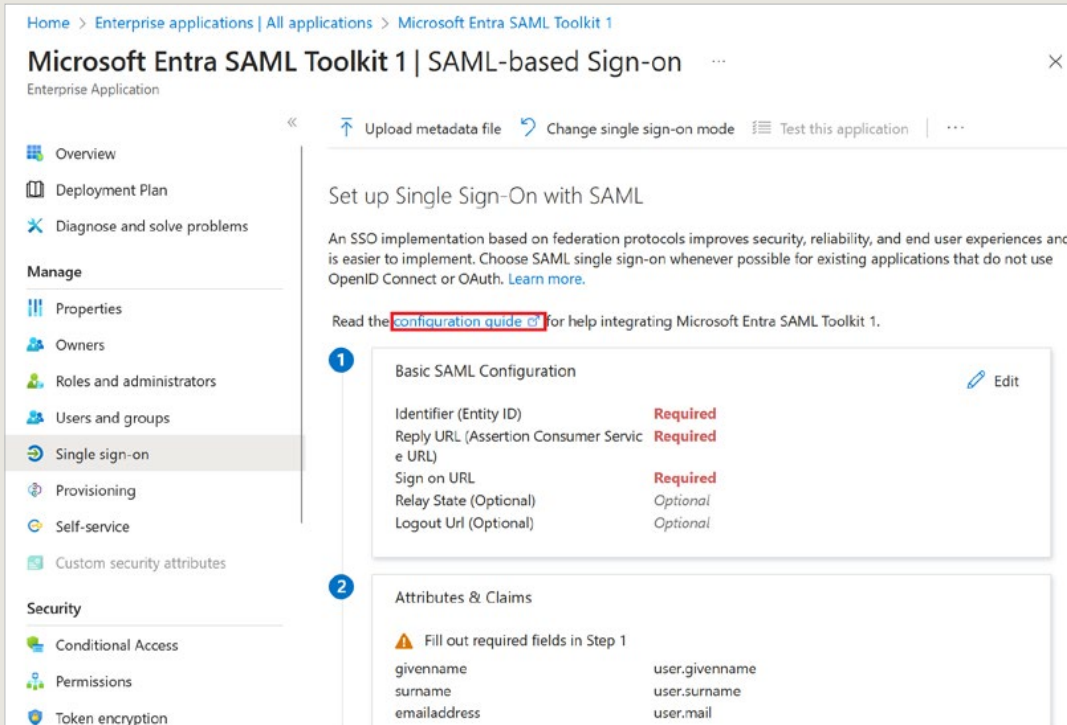
3. Open Powershell in the Azure portal and enable the Commercial data protection for Microsoft Copilots service plan. The Copilot service plan is included with A1, A3, or A5 Microsoft 365 Education plans.

4. Optional: To require Copilot with commercial data protection for all users, update the DNS configuration by setting the DNS entry for www.bing.com to be a CNAME for nochat.bing.com.

5. Support educators with the Enhance teaching and learning with Microsoft Copilot course to help write effective prompts.

Technical guides to follow

- Microsoft Copilot with commercial data protection

- Microsoft Copilot Adoption Kit

- Microsoft Learn: Copilot commercial data protection

- Microsoft Learn: Enhance teaching and learning with Microsoft Copilot

New York Public Schools

A custom AI-powered teaching assistant multiplies teacher effectiveness while reducing burn-out

Visit website

Greater efficiency

Insights from data

As the largest public school system in the world, with more than 1 million students and 1,700 schools, many NYC educators and district staff reported feeling overworked and overwhelmed. The district needed a solution that could help reduce the workload while meeting the individual needs of students and families.

District IT leaders partnered with Microsoft to create a data hub of close to 2 billion records, forming the foundation for a custom-built AI teaching assistant and family communication tool with Azure AI Studio. Educators used the AI assistant to scaffold feedback and help students discover answers on their own, multiplying their ability to be several places at once. And when the custom chatbot was introduced to the district website, call volume decreased by 30%—leading to reduced overhead costs and fewer frustrated families.

- How do your current needs align to the driving forces behind NYC's story? Is this implementation model a good fit?

- What are the advantages of building your own custom AI application?

- What district-level data management solutions must be in place before taking the first steps toward building an AI chatbot?

"Our mission is for students to graduate on a pathway to a rewarding career and long-term economic security, equipped to be a positive force for change. If we are not using AI in education, we're putting our students at risk of being behind."

—Tara Carrozza
NYC Director of Digital Learning Initiatives

AI Tool: Microsoft Copilot

Technical implementation guide for New York City Public Schools

Technical requirements

- Purchase a license for Microsoft Azure and set up an account.
- Apply for access to Azure OpenAI Service.
- When access has been approved, purchase, set up, and manage your Azure OpenAI Service environment. Choose from the available Azure OpenAI plans: Pay-As-You-Go (PAYG) or Provisioned Throughput Units (PTUs).

1. Set up an account: https://azure.microsoft.com/en-us/free/ai-services/
2. Apply for access: https://go.microsoft.com/fwlink/?linkid=2222006&clcid=0x409
3. purchase, set up, and purchase: https://learn.microsoft.com/en-us/azure/ai-services/openai/chatgpt-quickstart?tabs=command-line%2Cpython&pivots=programming-language-studio
4. Provisioned Throughput Units (PTUs): https://go.microsoft.com/fwlink/?linkid=2258290

Preparing for success

Ready to recreate NYC Public Schools' success? Consider the following first steps:

- Purchase the IT infrastructure, licenses, and software required to introduce Azure AI Studio and to your school.

- Review the Overview of Responsible AI Practices and Azure OpenAI's Transparency Note for guidelines of responsible use of the service and system limitations that may apply.

- Find a cohort of school and instructional leaders enthusiastic about developing the AI program and professional learning opportunities.

- Communicate with stakeholders to fully understand their concerns when it comes to deploying AI safely and responsibly. Create a plan that will address their concerns. Refer to the Engaging your community section in the Plan tab for additional information.
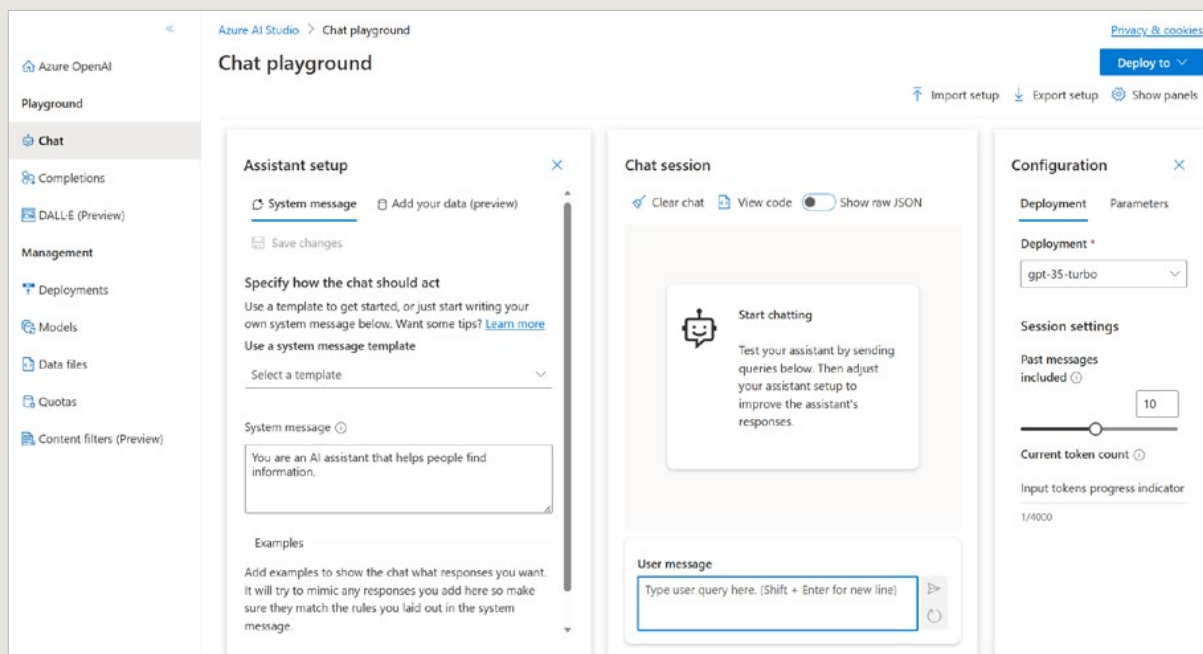
- Familiarize yourself with a step-by-step technical overview of how to recreate NYC Public Schools' success in the *Implementation roadmap.*
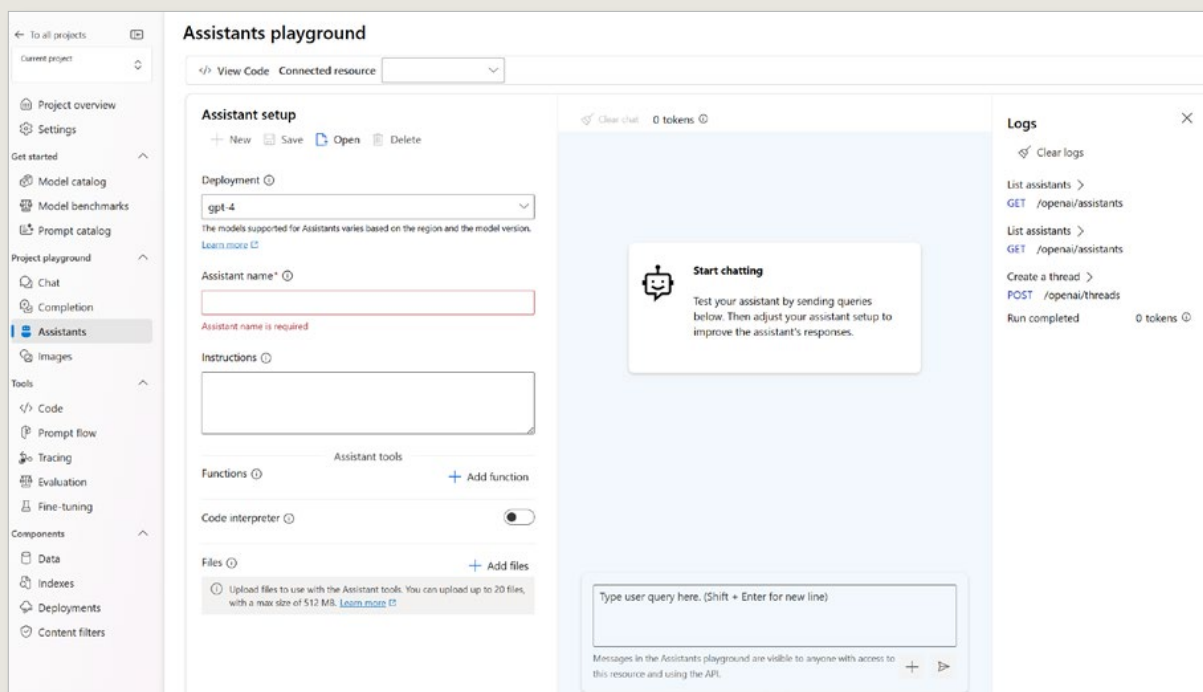
Implementation roadmap for NYC Public Schools

Follow these steps to get started in building your own AI capability.
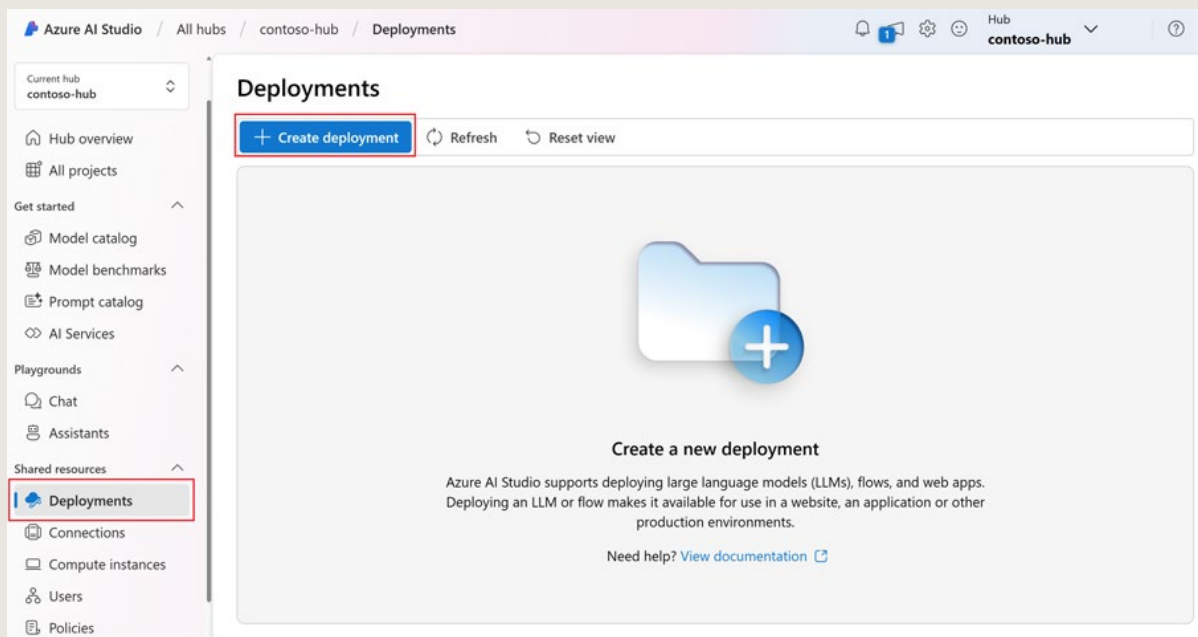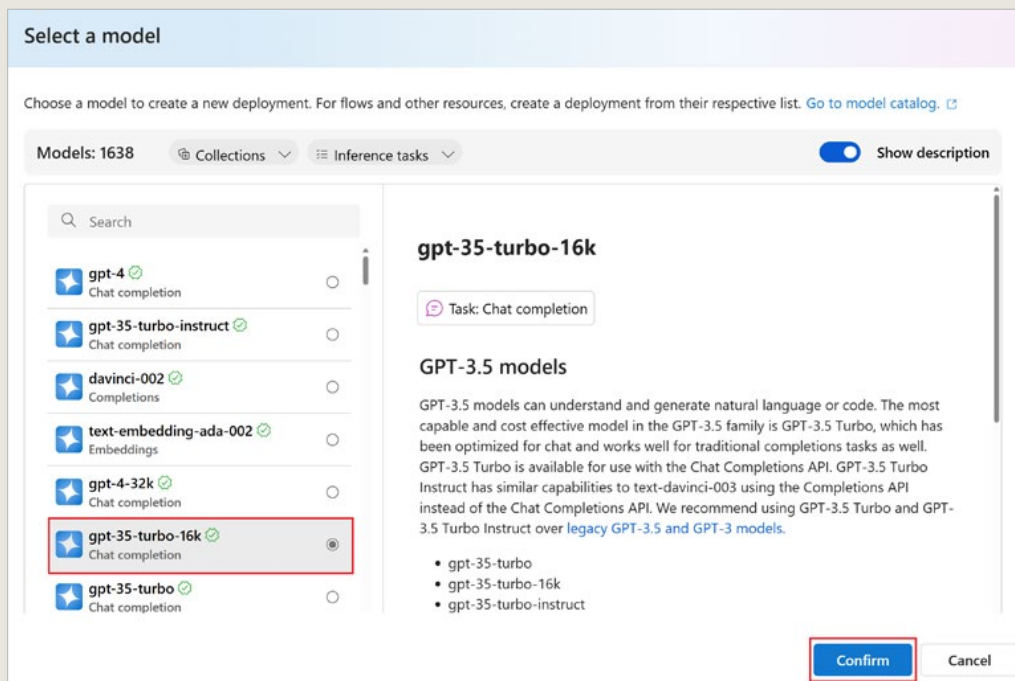
1. Explore the Playground.

2. Use the assistant setup.

Build, test, and revise models in Azure AI Studio's playgrounds

1. Deploy a chat model.

2. Select a model.

Navigate back to table of contents

3. Generate code.

4. Generate images.

5. Use your own data.

6. Deploy your generative AI model.

7. Configure authentication and privacy settings.

Technical guides to follow

- Microsoft Learn: What is Azure AI Studio?

- Microsoft Learn: Fundamentals of AzureOpenAI Service

- Microsoft Learn: Get started with Azure OpenAI Service

Department for Education, South Australia

South Australian students are supercharging their creativity and critical thinking with AI in the classroom.

Visit website

Increased accessibility

Greater efficiency

The Department for Education, South Australia is driven by a mission to equip their students for a future where AI is everywhere. Leaders wanted to instill AI literacy and bring generative AI into classrooms, but one question loomed large—how to do it responsibly?

IT leaders relied on Microsoft's Azure AI Content Safety, an AI-powered platform that blocks inappropriate input queries and filters any harmful responses. This allowed them to responsibly deploy EdChat, a custom student-facing chatbot built with Azure AI Studio that is empowering students with the skills they need to thrive in the era of AI. EdChat helps students find quick answers before discussing more complex and nuanced questions with their teachers. Students are also learning how to use AI prompts for feedback on their schoolwork, stimulating their creativity and critical thinking.

- How do your current needs align to the driving forces behind South Australia's AI story? Is this implementation model a good fit?

- What are the advantages of building your own custom AI application?

- Does this model effectively address your stakeholders' biggest concerns when it comes to deploying AI safely and responsibly?

"I think that if we had buried our heads in the sand and banned AI and chatbots in schools, students would likely have continued using it at home to simply generate answers and churn out assignments. By introducing it in schools as part of learning, we're ensuring that they really understand how it can supercharge their thinking and creativity rather than replace it."

— **Martin Westwell**
Chief Executive of the SA Department for Education

AI Tool: Azure AI Studio

Navigate back to table of contents

Technical implementation guide for Department for Education South Australia

Technical requirements

- Verify or purchase a license for Microsoft Azure and set up an account.
- Apply for access to Azure OpenAI Services.
- When access has been approved, purchase, set up, and manage your Azure OpenAI Services environment. Choose from the available Azure OpenAI plans: Pay-As-You-Go (PAYG) or Provisioned Throughput Units (PTUs).

1. Set up an account: https://azure.microsoft.com/en-us/free/ai-services/
2. Apply for access: https://go.microsoft.com/fwlink/?linkid=2222006&clcid=0x409
3. Purchase and set up: https://learn.microsoft.com/en-us/azure/ai-services/openai/chatgpt-quickstart?tabs=command-line%2Cpython&pivots=programming-language-studio
4. Provisioned Throughput Units (PTUs): https://go.microsoft.com/fwlink/?linkid=2258290

Preparing for success

Ready to recreate South Australia's success? Consider the following first steps:

- Purchase the IT infrastructure, licenses, and software required to build your own custom AI application with Azure OpenAI Service.

- Review the Overview of Responsible AI Practices and Azure OpenAI's Transparency Note for guidelines of responsible use of the service and system limitations that may apply.

- Find a cohort of school and instructional leaders eager to pilot an AI program.

- Create a plan that fully addresses the concerns of all stakeholders, including your community members. For support, refer to the Engaging your community section within the toolkit.

- Familiarize yourself with a step-by-step technical overview of how to recreate South Australia's success in the *Implementation roadmap.*

Implementation roadmap for Department for Education South Australia

Follow these steps to get started in building your own AI capability.

1. Open Azure AI Studio. Explore the Playground features and use the assistant setup tool to get started.
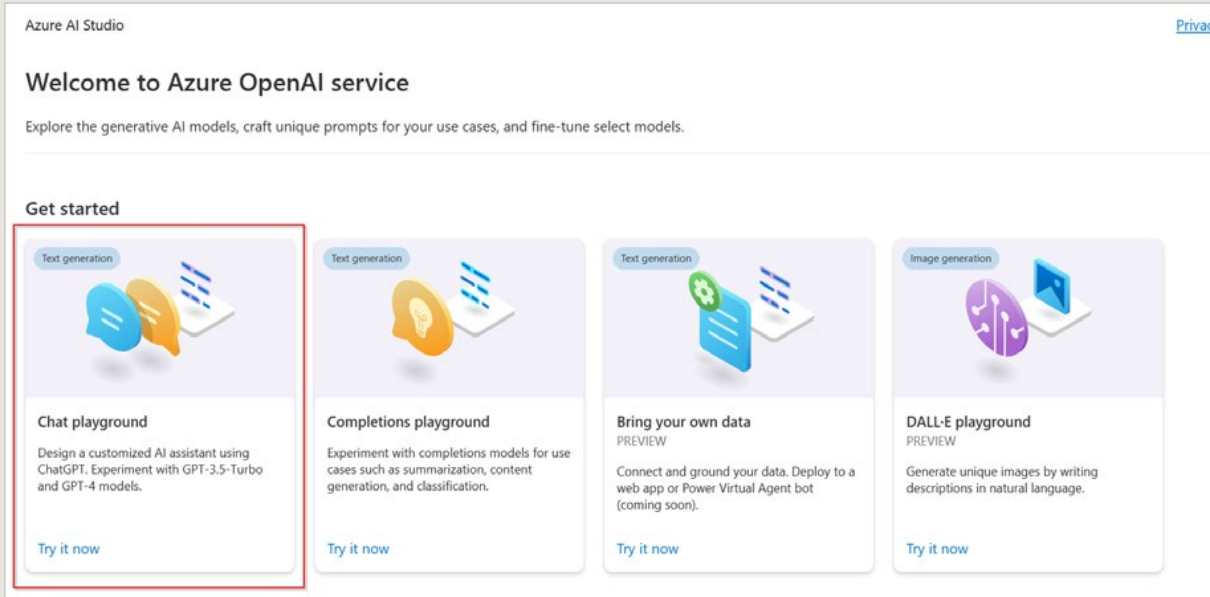

2. Build, test, and revise models in Azure AI Studio's playgrounds. Follow the steps to first deploy and test a chat model without your data. After the deployment is created, select **Open in playground**.
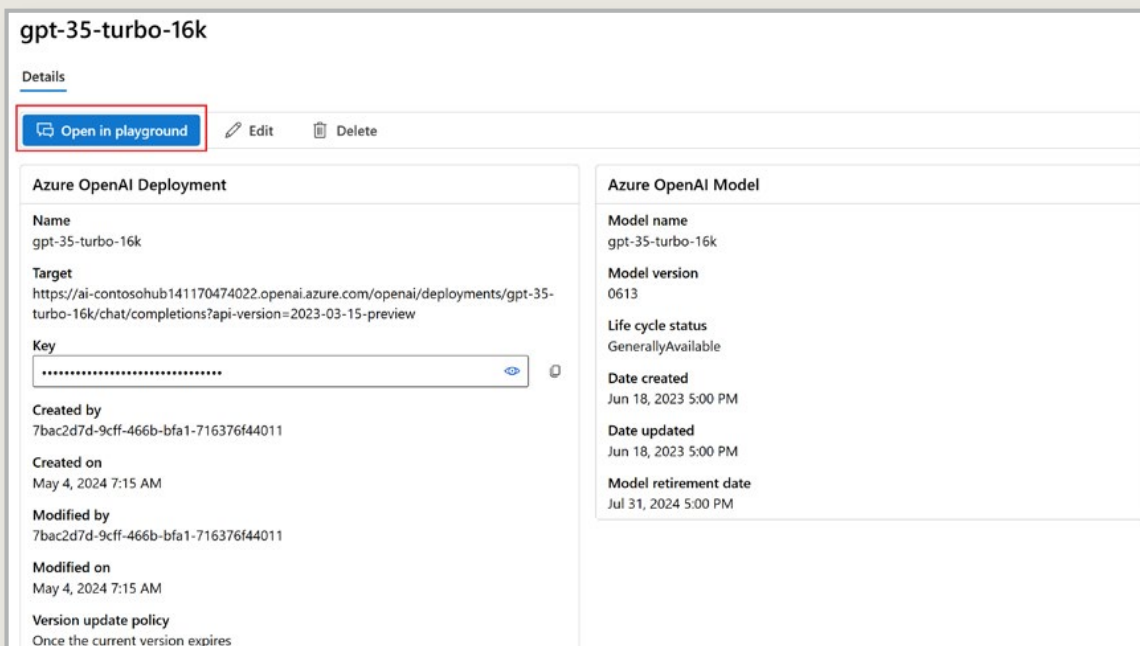
3. Select your deployed GPT chat model from the Deployment drop-down menu and follow the **Assistant setup** prompts to customize your chatbot.
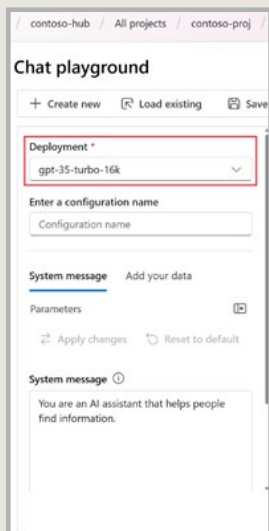
4. Follow the steps to **add your own data** to the chatbot model. You can upload data files or select from data sets in Azure Blob Storage. Note that Azure OpenAI needs both a storage resource and a search resource to access and index your data. Your data is stored securely within your Azure subscription.
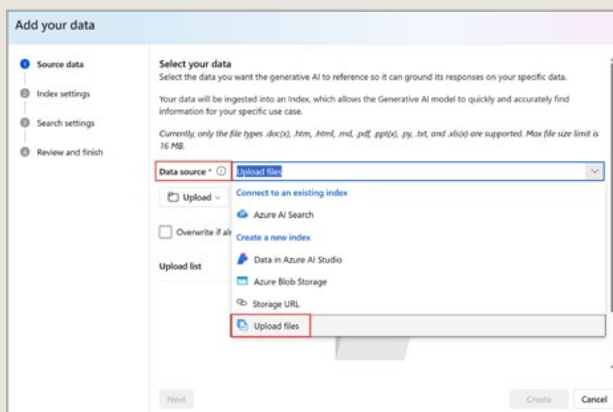
5. Once you're satisfied with the experience in Azure AI Studio, you can deploy your model as a standalone web application. Follow the steps to **deploy your web app**, using the assistant setup for guidance.
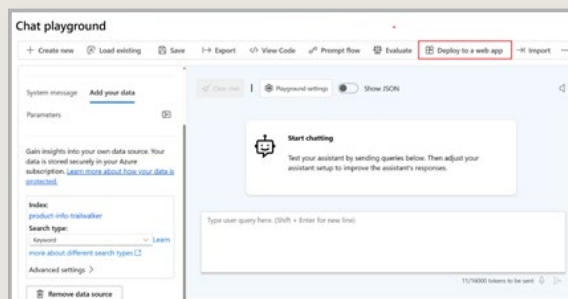
6. Configure your chatbot **authentication and privacy settings**. Add an identity provider and create a new app registration.

7. Set up Azure AI Content Safety services and moderate the available features. Choose how you want to moderate text content, moderate image content, and monitor online activity within your chatbot. The Quickstarts can guide you through the technical details and generate code for making service requests.
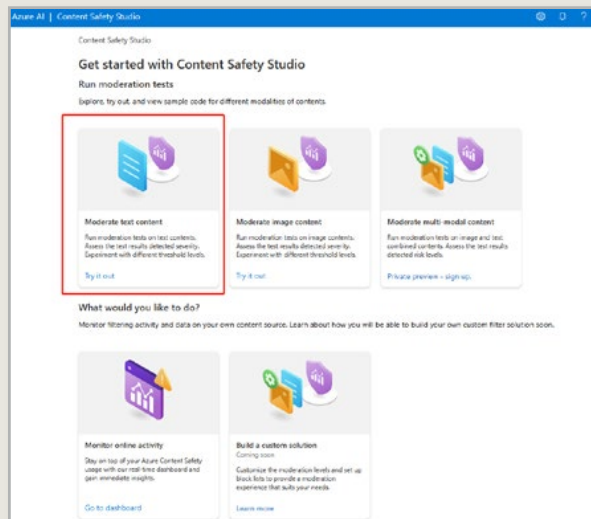
8. Access the How-to guides for using the service in more specific or customized ways. Concepts will provide in-depth explanations of Azure AI Content Safety service functionality and its features. You'll find useful tables that explain the different levels of severity, so you can make informed decisions about which content you want to filter.

Violence severity levels

⌞⌝ Expand table

Severity Level	Description	Example Text
Level 0	Content that contains non-violent actions or violence-related terms used in a general sense that is harmless for all target audiences, including children. This includes: • Common objects when not used as weapons • Toy guns, non-realistic or pretend guns • Mentions of ropes when not used as a noose	"According to our child and parent testers, here are the best long-range soakers for soft blasters for toddlers suitable for epic water battles."
Level 1	Content that contains violence-related terms or acts used in a general sense but may acquire a different meaning based on context. This includes: • Subsets of texts that contain descriptions of violent acts, where the contextualization of the full text does not possess violent intent • Official statistics and documentation on guns, weapons, domestic violence, warfare, military, etc. • Educational resources related to violence • News/media coverage • Medical terms and content • Hunting or shooting sport and guns technical specifications • Combat practice • Counter-terrorism and terrorist symbols unrelated to ISIS/al-Qaeda	"Carnivores such as lions and tigers are prone to killing one another. Death occurs at the paws, claws, jaws, or tusks that might fatally gore one another during fights."

9. Finally, recruit a small but diverse cohort to pilot the chatbot program and provide feedback data. Return to Azure AI Studio and Azure AI Content Safety to further refine the chatbot's features and functionality.

Technical guides to follow

- Microsoft Learn: What is Azure OpenAI Service?

- Microsoft Learn: What is Azure AI Content Safety?

- Microsoft Learn: Fundamentals of Azure OpenAI Service

- Microsoft Learn: Get started with Azure Open AI Service

- Microsoft Learn: Create a project in Azure AI Studio

California State University, San Marcos

University leaders use Dynamics 365 and the power of AI to establish a personalized connection with every student.

Visit website

🔆 **Insights from data**

👤 **Increased accessibility**

As a university with many first-generation students, CSUSM wanted to increase graduation rates and empower social mobility for its diverse population. To do this, they knew they had to find a way to connect with each student, personalize their college experience, and meet their individual needs.

CSUSM used Dynamics 365 Customer Insights "journeys" to tailor the faculty's communications for each student—both digitally and in person—while responding to students' unique interactions and preferences. Dynamics also transformed the school's systems, which were fragmented and siloed, and consolidated their data. University leaders used AI-powered insights to individualize communications and points of interest for every student, resulting in greater attendance and engagement at school-sponsored events and support that continued beyond graduation.

- How do your current needs align to the driving forces behind CSUSM's story? Is this implementation model a good fit?

- What are the advantages of seeking insights into your students' communication preferences?

- Would this model effectively streamline your current data management systems?

"Universities can be complicated for any student, but it can be especially challenging for first-generation students. It's important to know where each of our students are in their lifecycle journeys. To do that, we needed AI technologies that are flexible and can grow with the university."

— **Tony Chung**
   Chief Information Officer
   CSUSM

AI Tool: Dynamics 365

Navigate back to table of contents

Technical implementation guide for California State University, San Marcos

Technical requirements

- Verify or purchase a license for Dynamics 365 Customer Insights with Copilot.
- Self assess your preparedness with the Dynamics 365 Implementation Readiness Review tool

1. Dynamics 365 Customer Insights with Copilot: https://www.microsoft.com/en-us/dynamics-365/products/customer-insights
2. Dynamics 365- Implementation Readiness Review: https://learn.microsoft.com/en-us/assessments/561d1647-3a8a-43b8-b749-fa5cdd29a8f1/

Preparing for success

Ready to recreate CSU San Marco's success? Consider the following first steps:

Purchase the IT infrastructure, licenses, and software required to consolidate your current data management systems.

Work with stakeholders to come up with a comprehensive communication plan that includes students, both prospective and current, as well as faculty and staff.

Complete the Dynamics 365- Implementation Readiness Review to proactively assess your institution's readiness to start a Dynamics 365.

Familiarize yourself with a step-by-step technical overview of how to recreate CSU San Marco's success in the *Implementation roadmap*.

Implementation roadmap for California State University, San Marcos

Follow these steps to get started in building your own AI capability.

1. Address any categories from the Dynamics 365-Implementation Readiness Review that influenced your results. The results of the assessment will provide actionable recommended practices to prepare for a successful project start.
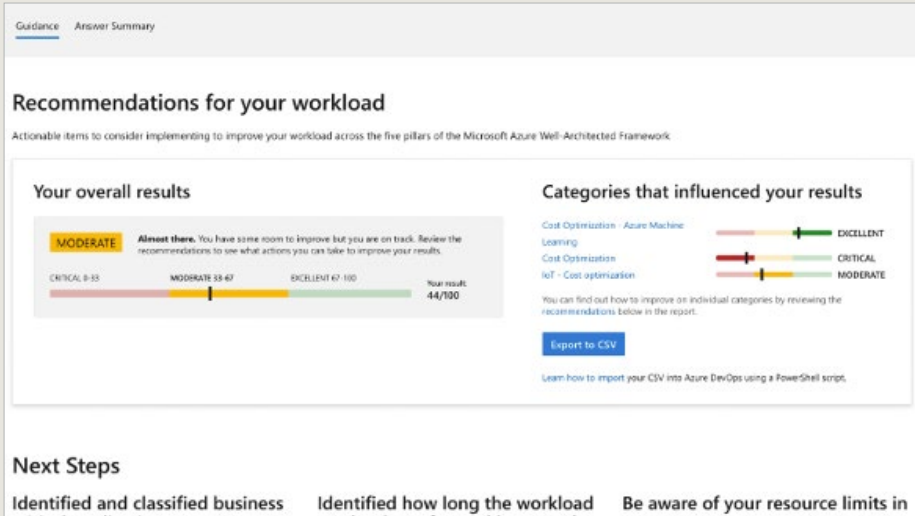
1. Log into the Dynamics 365 Implementation Portal to get started with building your project.

2. From the Projects tab, choose **Create/Join Project.** Follow the prompts for Project Onboarding to Dynamics 365.

3. Create a new project or join an existing one. Use the **Implementation Wizard** to capture the scope, partner details, and go-live timeline.

4. Define your project characteristics and implementation details. From the **Project Profile** tab, manage your project data and define your users.
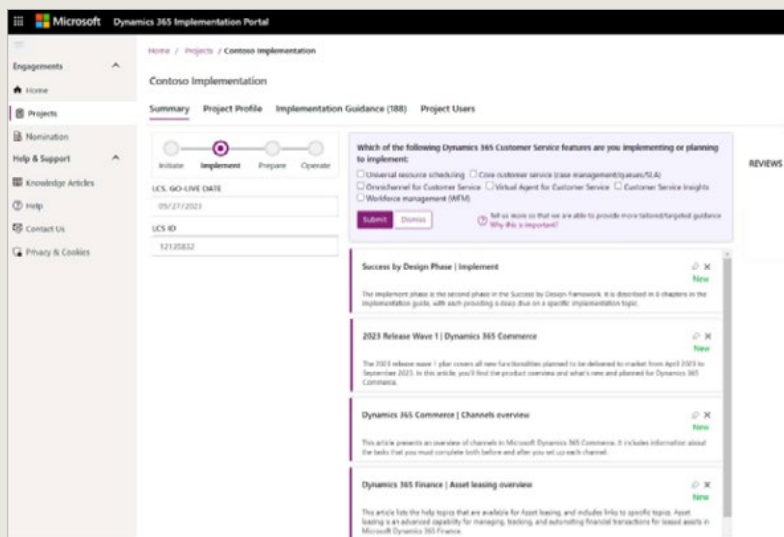
5. Enhance your project with pre-built products and features for Dynamics 365. From the list of features, choose **Customer Journeys** to unify your students' data and gain AI-powered insights into their communication preferences and online engagement.
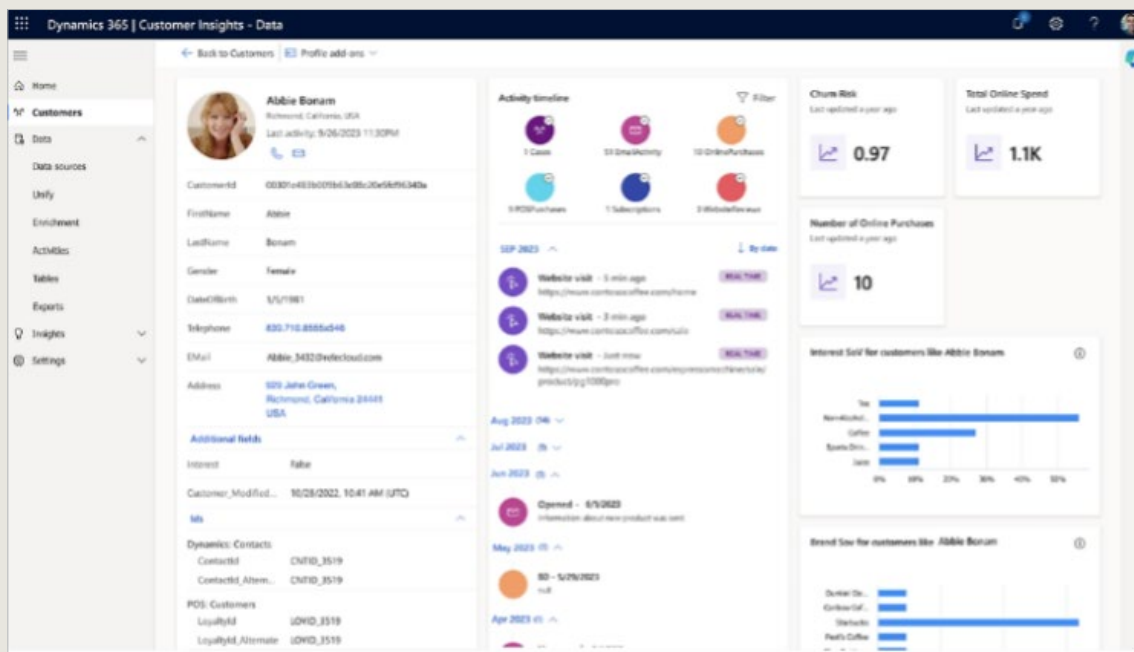
6. From the **Implementation Guidance** tab, filter and explore resources tailored to your project needs. Read through the documentation and download relevant training materials.
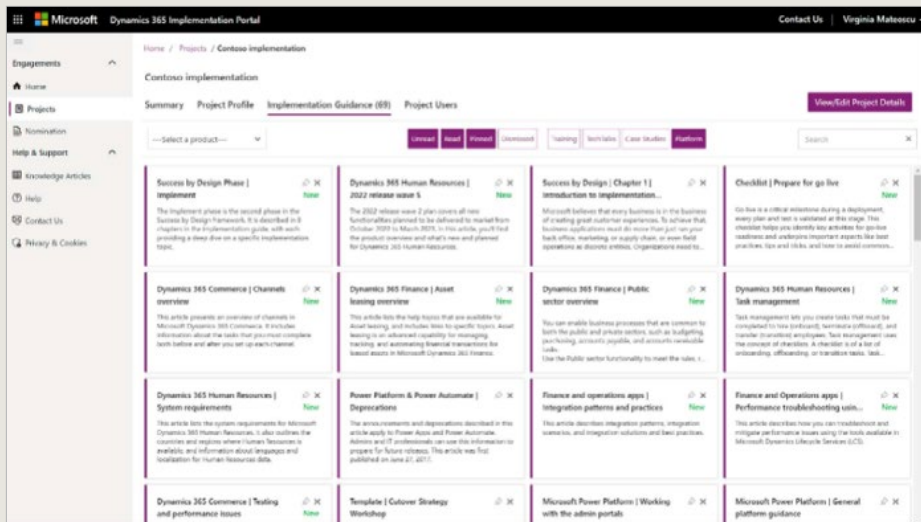
7. Conduct project reviews with the **Go-live Readiness Review** tool. This will help identify any potential risks prior to deployment. View the tool's mitigation recommendations and best practices, then make updates to the project as needed.
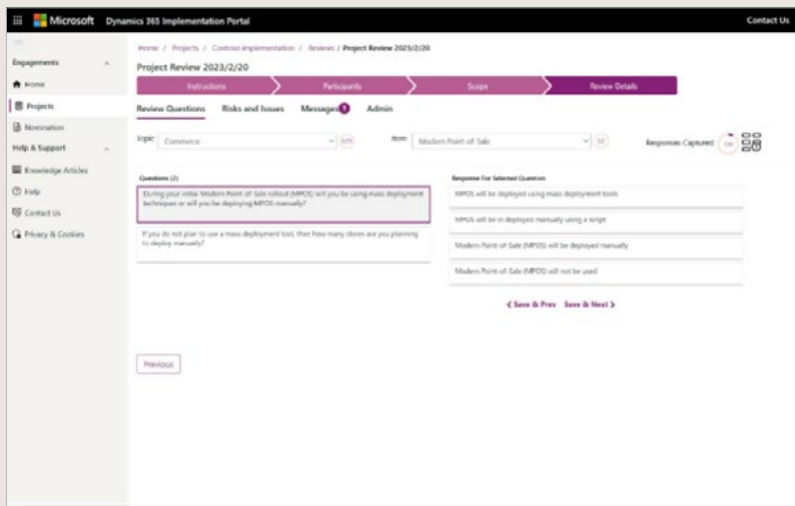
8. Deploy the project. Use the Success by Design methodology for guidance in maintaining the long-term health of your solution.

Technical guides to follow

- Get Started with Dynamics 365 Customer Insights—Data

- Get Started with Customer Insights—Journeys

- Microsoft Learn: Work with Dynamics 365 Customer Insights Data

- Microsoft Learn: Product overview for Dynamics 365 Customer Insights

Washington State Office of the Superintendent of Public Instruction

[Visit website](#)

Washington leaders take proactive steps toward AI implementation with statewide guidance and integrated AI teaching and learning standards.

Increased accessibility

Education leaders in Washington state, led by Superintendent Chris Reykdal, are taking proactive steps when it comes to AI use in schools. Washington is among the first states in the U.S. to publish official state-level guidance on AI use in schools, including an implementation roadmap and guidelines for appropriate AI usage for both staff and students.

Driving Washington's AI roadmap is a central human-to-AI-to-human approach: "Start with human inquiry, see what AI produces, and always close with human reflection, human edits, and human understanding of what was produced." This approach is also helping to drive the development of new teaching and learning standards in ELA, Science, and Math that include AI as an embedded component of the curriculum, rather than being siloed into a separate supplemental area. School leaders are confident that the new standards will provide an opportunity for all students to develop the skills they'll need to be ready for the world of work with AI.

"Our focus remains steadfast on ensuring that every student benefits from these advancements while upholding the highest standards of safety and ethical use."

— Superintendent,
a WA school district

AI Tool: Human-centered AI guidance[1]

[1] ospi.k12.wa.us/sites/default/files/2024-01/human-centered-ai-guidance-k-12-public-schools.pdf

Navigate back to table of contents

University of South Florida

University of South Florida faculty and students adopt Copilot for advanced research, data management, and administrative efficiency.

Visit website

Greater efficiency

Increased accessibility

The University of South Florida, a pioneer in research and innovation, has taken a significant step toward ensuring equity. They have become one of the first universities to provide all students, staff, and faculty with equal access to technology by fully implementing the Microsoft 365 Copilot program. This initiative underscores their commitment to creating an inclusive environment where everyone in the organization has the same opportunities to thrive.

USF adopted a "platform approach" to AI that includes integrations with all areas of campus life, from student and faculty research to administrative efficiencies. University leaders like CIO Sidney Fernandes have found that "generative AI and the copilot we have started to use have shown us that a single person can do much more work." With this increased efficiency, faculty and students are finding more time to work on meaningful research, while the IT service desk is focusing more time on solving problems rather than performing triage.

"Copilot now gives me the time that I need that I can be working on building new projects, or really building those relationships. Generative AI is an absolute game changer."

— Tim Henkel,
Assistant Vice Provost/Teaching & Learning Director, USF

AI Tool: Microsoft Copilot

Navigate back to table of contents

Oregon State University

OSU takes protection to the next level with Microsoft Copilot for Security.

🔒 **Improved cybersecurity**

⚙️ **Greater efficiency**

Oregon State University is dedicated to conducting open and collaborative research while also prioritizing the protection of sensitive data and upholding the institution's reputation. This delicate balance requires a cybersecurity approach that is both robust and responsive.

Partnering with Microsoft, OSU was able to widely implement tools such as Copilot for Security, Microsoft Sentinel, and Microsoft Defender quite rapidly. These tools helped the university to use natural language to dialogue across security data to detect and respond to incidents rapidly, reducing response times from weeks to mere minutes. It redefined their approach, shifting from a time-consuming and reactive strategy to a more efficient and proactive one.

- How do your current needs align to the driving forces behind OSU's story?

- What are the advantages of leveraging Copilot for Security to protect your students, staff, and their data?

- Would this model effectively streamline your current cybersecurity and data management systems?

"We once had the ability to detect incidents in the timescale of weeks. Now we detect things in matter of minutes."

—David McMorries
Chief Information Security Officer
Oregon State University

AI Tool: Copilot for Security

Overview

Plan

Implement

AI Navigators

Research

Sikshana Foundation

Educators leverage generative AI to save time with customized lesson plans

Greater efficiency

Insights from data

India faces challenges such as larger class sizes (average teacher-student ratio of 1:33 versus 1:23 in other countries) and educators managing multiple grades and subjects. The Sikshana Foundation aims to improve education quality by focusing on the concept of "Shiksha," a Sanskrit term encompassing instruction, lessons, learning, and the study of skills.

Understanding the time constraints faced by educators, Microsoft Research India has developed the Shiksha copilot. This mobile-ready tool, powered by generative AI, assists educators in creating personalized learning experiences, assignments, and activities.[1] Importantly, it also lightens the workload for educators. The Shiksha copilot, using the Azure OpenAI Service, seamlessly integrates educator insights with curriculum requirements and learning objectives, thereby enhancing efficiency and effectiveness. It is designed to support multiple languages and various input methods, making it accessible to a diverse range of users.[2]

- How do your current needs align to the driving forces behind Shiksha Foundation's story? Is this implementation model a good fit?

- What are the advantages of creating custom copilots to enhance personalization and alleviate workloads?

- What AI usage guidelines (privacy, data protection) must be in place before taking the technical steps toward implementation?

"Shiksha copilot is very easy to use when compared to other AI we have tried, because it is mapped with our own syllabus and our own curriculum."

— **Gireesh K S, Teacher,** *Government High School, Jalige*

AI Tool: Azure AI Studio

[1] timesofindia.indiatimes.com/gadgets-news/microsoft-develops-shiksha-copilot-to-help-indian-teachers-create-study-material/articleshow/104922133.cms
[2] timesnownews.com/technology-science/how-microsofts-shiksha-copilot-is-helping-teachers-in-india-prepare-better-lessons-article-107524567

Overview

Plan

Implement

AI Navigators

Research

Indonesia Ministry of Education and Culture

Indonesia's Education Ministry uses GitHub Copilot to enhance IT team efficiency and consistency.

Greater efficiency

Indonesia's Ministry of Education, one of the world's largest school systems, serves over 50 million students. With an IT team of only 160 members, or twelve engineers per million students, Indonesia prioritizes tools that enhance efficiency and save time on tasks like generating code snippets and creating documentation. GitHub Copilot has enabled the IT team to maintain consistent code and increase productivity without needing to expand the staff.

In 2021, Indonesia launched a Reading Progress pilot program to combat low literacy rates through personalized feedback and custom passages. Two years later, the Ministry introduced Platform Merdeka Mengajar, utilizing Azure OpenAI Service to provide personalized teaching and learning, offering educators high-quality resources and tailored learning paths for students.

- How do your current needs align to the driving forces behind Indonesia's Ministry of Education's story? Is this implementation model a good fit?

- What are the advantages of creating custom copilots to enhance personalization and alleviate educators' workloads?

- How might your school or institution benefit from improved efficiency and consistency from a tool like GitHub Copilot?

Photo: Yayasan Plan International Indonesia

"With just a dozen engineers per million MAUs, maximizing the productivity of every engineer is critical for our organization. We A/B tested the usage of [GitHub] Copilot within our engineering teams, and we found a +42% uplift in development velocity. More than 85% of our engineers also stated that their work is more enjoyable with Copilot's assistance."

— **Ibrahim Arief,**
CTO of Govtechedu

AI Tool: GitHub Copilot

Overview

Plan

Implement

AI Navigators

Research

Technical implementation guide for Indonesia Ministry of Education and Culture

Technical requirements

- Verify or purchase a license for GitHub Copilot.
- Deploy GitHub Copilot for desired accounts

Preparing for success

Ready to recreate Indonesia's success? Consider the following first steps:

Purchase the licenses, and software required to introduce GitHub Copilot to your IT team, students, and staff.

Find a cohort of school and instructional leaders eager to pilot a GitHub Copilot program.

Create a plan that fully addresses the concerns of all stakeholders, including your community members. For support, refer to the Engaging your community section within the toolkit.

Familiarize yourself with a step-by-step technical overview of how to recreate Indonesia's success in the Implementation roadmap.

Implementation roadmap

Follow these steps to get started in building your own AI capability.

1. Log into GitHub Copilot.

2. Enable access to users as needed by selecting one of the two tabs.
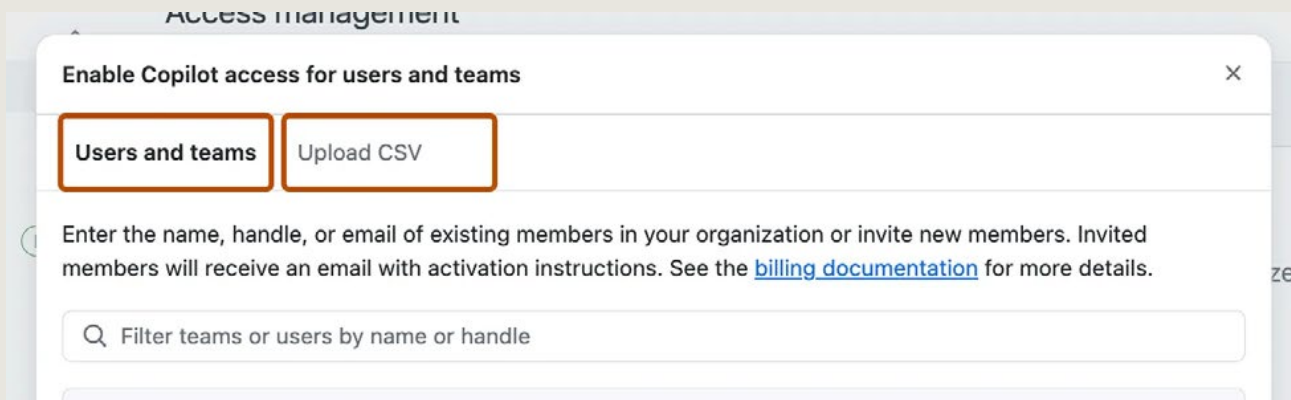
3. Install the GitHub Copilot extension in Visual Studio Code.

4. Create a new JavaScript (*.js) file in Visual Studio Code to get your first suggestion.

5. Select the Copilot Chat icon in the Visual Studio Code activity bar to open the Copilot Chat window.
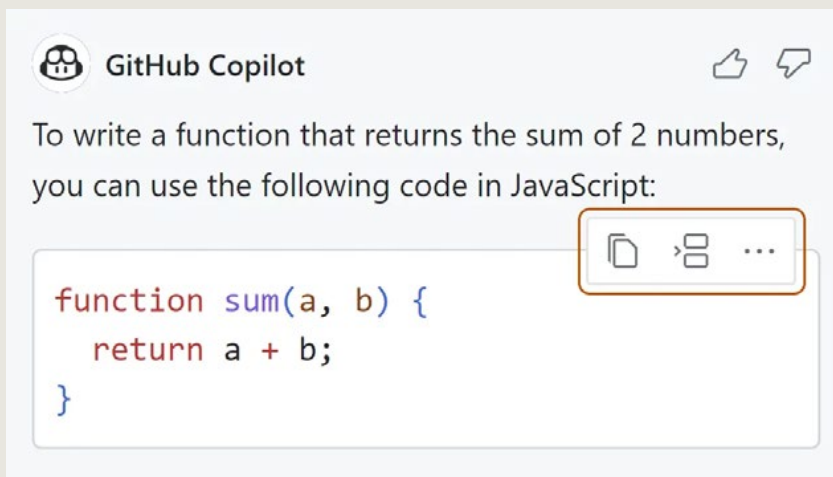
Technical guides to follow

- GitHub Copilot

- GitHub Copilot Quickstart Guide

- Getting started with GitHub Copilot

- About GitHub Copilot Enterprise

University of Sydney

The University of Sydney developed Cogniti, a secure AI assistant on Microsoft Azure, to enhance student learning safely and boost efficiency.

Greater efficiency

The University of Sydney recognizes the importance of generative AI in preparing students for the evolving workforce. They reviewed policies and practices to create clear guidance for appropriate AI use. To address data privacy concerns, they custom-built Cogniti, an AI assistant on the university's secure Azure platform. This ensures prompts and responses remain confidential and are not used for training AI models, safeguarding intellectual property and data privacy.

Developed by educators, Cogniti empowers them to create custom AI chatbots tailored to their instructional needs. The platform enhances student learning through personalized interactions, freeing educators' time for deeper engagement and feedback while also improving prompt writing and AI skills.

The University of Sydney plans to expand Cogniti's capabilities, explore voice interfaces, and share the platform with other institutions, setting a new benchmark for AI in education.

- How can involving your educators and staff in tool design, like the University of Sydney's approach with Cogniti, address your institution's needs?

- How might enhancing personalized student interactions and providing deeper learning experiences, similar to the capabilities of Cogniti, address your institution's educational goals?

- How might using an Azure OpenAI tool like Cogniti, help free up educators time to focus on more impactful, personalized student interactions?

"Cogniti augments teachers, not replacing them. Cogniti provides the framework a teacher needs—a pedagogically informed framework—so that they can strengthen their relationships with students. We want Cogniti to be community developed: built by educators for educators. I mean, Cogniti cannot be a static thing. It must have life."

— Adam Bridgman

AI Tool: Azure OpenAI Service

Section 5
Research

Research Contents

Microsoft Insights

Planning Support

Data and Insights

Thought leadership

Academic reasearch and books

Navigate back to table of contents

Microsoft insights

Includes a selection of detailed reports and comprehensive product guides from Microsoft, focusing on the integration and utilization of artificial intelligence in education. These resources are designed to offer educators, technology coordinators, and policy makers insights into Microsoft's latest AI tools and solutions, providing practical guidance on deployment, usage, and best practices.

Accelerate AI Transformation with Skill Building: Why Organizations Should Invest in AI Skill Building with Microsoft

Microsoft • March 2024

The report from Microsoft highlights a critical moment for businesses to invest in AI skill building due to the rapid increase in artificial intelligence (AI) adoption. This report offers statistics that point to critical shortage of skilled professionals, making talent scarcity the main barrier to AI implementation at scale. The report recommends that companies develop a comprehensive AI adoption strategy that includes a widespread skill-building initiative for all levels of employees. It offers suggestions and resources for companies to undertake skill-building efforts.

AI in Education: Microsoft Special Report

Microsoft • March 2024

This report synthesizes the latest insights from Microsoft, partner organizations, and academia on the opportunities and challenges of AI in education. Drawing on research findings, the report focuses on four key areas: the need for clear communication and guidelines on AI use, improving operational efficiency and productivity, potential benefits of AI for personalized learning, and the skills students need to prepare for the future.

Microsoft New Future of Work Report 2023

Microsoft • December 2023

This report analyzes two recent generational shifts in workplace dynamics, fueled by years of research and development. The first shift highlights the rise of remote and hybrid work technologies during the COVID-19 pandemic, emphasizing the scientific guidance available for their effective use. The second shift focuses on the integration of generative AI, particularly large language models, into daily work processes, recognizing its growing value across various industries. The study underscores the transformative impact of these technologies on how work is conducted.

Copilot Lab

Microsoft • 2024

The Copilot Lab provides all the resources necessary to start using Copilot tools. It includes introductory videos, overviews for getting the most out of Copilot in each Microsoft app, examples of effective prompts, tips for better prompting, and information on how Copilot protects your privacy. This page serves as a comprehensive guide to help you begin your journey with Copilot tools.

What's New in Copilot for Microsoft 365

Microsoft • February 2024

This monthly blog brings you the latest updates, features, and more information to help you get the most out of your Copilot Microsoft 365 experience.

Data and insights

A collection of specially commissioned reports, comprehensive datasets, and infographics that explain the use and impact of artificial intelligence in educational contexts. These resources have been developed to provide educators, administrators, and policymakers with detailed analyses and visual representations of AI's current trends, challenges, and opportunities.

2024 AI Index Report

Stanford University • April 2024

The 2024 AI Index report dives into AI's increasing societal impact, featuring coverage on technical advancements, public perceptions, and geopolitical dynamics. This edition introduces new data on AI training costs, analyses of responsible AI, and a chapter on AI's influence in science and medicine. It has a section dedicated to education exploring trends in AI and computer science education. The report serves as a vital resource for policymakers, researchers, and the public, providing rigorously vetted data to enhance understanding of AI's complexities.

Finding High-Impact Opportunities for AI in Education

IDC and Microsoft • March 2024

International Data Corporation conducted a global study, sponsored by Microsoft, to understand how K-12 and higher education institutions are approaching and benefiting from AI implementation. Educational institutions are adopting AI in classrooms and administrative settings to improve student satisfaction, enable faster innovation, and enhance faculty/staff productivity and operational efficiency. This study includes data on the rise of AI in education, top use cases, the need to advance AI strategies, challenges, and steps towards adoption.

Thriving in an AI-Driven Future: Defining Critical Skills and Tolls as Jobs Evolve

IDC supported by Microsoft • March 2024

This IDC InfoBrief examines the essential skills and tools necessary for success in the era of pervasive AI. The study targets both IT roles and business functions such as marketing, sales, HR, operations, and finance. It highlights the importance of not only technical skills but also the ability to communicate, collaborate, and enhance productivity. The InfoBrief emphasizes the need for enterprises to invest in both technical and human skills development across IT and business roles.

National 4-H Council Youth AI Survey

National 4H Council working together with Hart Research and supported by Microsoft • November 2023

    This resource is a national survey of 1,510 young people ages 9-17 by Hart Research and supported by Microsoft. The survey shows that while most young people (66%) express at least some understanding of what generative AI is and how it can be used, many kids (72%) are also seeking support from adults in learning how to use these tools correctly and with confidence. Findings conclude kids as young as age 9 have a solid understanding of generative AI tools and concepts and the adults involved in their learning to also understand and engage with GenAI tools.
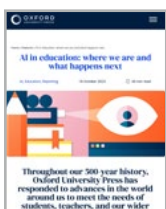
AI in Education: Where We Are and What Happens Next

Oxford University Press with support from Green Shoots • October 2023

    This report provides a comprehensive analysis of AI's role in education, based on insights from a global network of experts. It explores how AI affects teachers and students, highlighting the growing digital divide and varying levels of AI integration across regions. The study emphasizes the need for developing appropriate skills and implementing safeguards against misinformation. It also discusses AI's dual potential to either enhance educational equality or exacerbate the digital divide due to unequal access to technology. The report concludes with five strategic recommendations for school leaders and policymakers to ensure that educational advancements are driving, rather than following, technological adoption, thereby fostering a more inclusive and well-prepared learning environment.

Future-Ready Education: Empowering Secondary School Students with Digital Skills

Capgemini Research Institute • May 2023

    This report highlights the critical need for improved digital literacy among students to effectively manage the challenges of a misinformation-rich online environment. It reveals a notable gap in digital confidence particularly among rural secondary students compared to urban peers, and discusses the controversial role of AI in education, with a focus on tools like ChatGPT. Despite mixed opinions on AI's educational use, over half of the teachers support its integration into curricula, calling for significant societal and corporate investments in digital education to prepare students for future digital challenges.
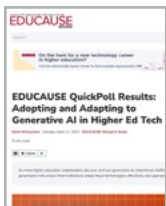
Adopting and Adapting to Generative AI in Higher Ed Tech

EDUCAUSE Review • April 2023

The report provides initial insights into generative AI's emergence in higher education, examining its increasing use and the potential long-term implications for staff and institutional operations. The findings reveal that attitudes towards generative AI are becoming more positive, with a growing integration into daily activities within educational institutions. Consequently, there is an urgent need for these institutions to develop appropriate staffing and governance frameworks to manage the adoption and application of generative AI technologies effectively.

Navigate back to table of contents

Overview

Plan

Implement

AI Navigators

Research

Academic research and books

Research on the effective use and adoption of generative AI technologies in education has become a significant focus as numerous educational institutions and organizations explore and integrate these tools.

Impact of AI Assistance on Student Agency

Computers & Education: An International Journal • March 2024

This study investigates the impact of AI-powered learning technologies on student agency and self-regulation through a randomized controlled experiment involving 1625 students across 10 courses. The research highlights that while AI can enhance learning activities by providing personalized feedback and scaffolding, students may become dependent on such technologies, potentially undermining their ability to self-regulate. The findings suggest that hybrid approaches combining AI with self-regulated strategies do not significantly enhance outcomes compared to AI assistance alone, raising important questions about the optimal use of AI in educational settings and its long-term effects on student learning behavior.

How AI Revolutionizes Regional Language Education

Sholar's Press - Publisher • March 2024

This book explores the pivotal role of language as a cornerstone of culture, identity, and learning, and how artificial intelligence (AI) can transform language education in regional contexts. It discusses how AI can break down linguistic barriers, enhance inclusivity, and provide personalized learning experiences through technologies like AI-powered translation tools. The book offers a comprehensive overview of the challenges and opportunities in using AI to foster more accessible and effective education. It also addresses the ethical and practical considerations of integrating AI in educational settings, emphasizing a balanced approach that prioritizes the needs of students and teachers.

Navigate back to table of contents

Overview

Plan

Implement

AI Navigators

Research

Artificial Intelligence for Human Learning: A Review of Machine Learning Techniques Used in Education Research and a Suggestion of a Learning Design Model

American Journal of Education and Learning • February 2024

This research paper explores the use of AI and ML (Machine Learning) in designing learning support systems, proposing the Self-regulated Learning with AI Assistants (SLAA) model, and categorizing AI and ML techniques into nine distinct types to enhance educational methods. It reviews existing approaches and discusses both the potential benefits and the challenges, emphasizing the need for careful integration of AI to improve learning outcomes, support personalized education, and address technological and pedagogical considerations. The paper serves as a comprehensive guide for educators and curriculum developers on leveraging AI and ML for more effective and interactive learning experiences.

Teaching C550 with AI: Leveraging Generative Artificial Intelligence in Computer Science Education

Harvard University • February 2024

In summer 2023, a suite of AI-based tools was developed for Harvard University's CS50 course, aimed at simulating a 1:1 teacher-to-student ratio. Initially deployed to 70 students and later expanded online and on campus, these tools were designed to guide students towards solutions, acting as a personal tutor. The integration of these AI tools, which restricted the use of commercial AI software, was positively received, enhancing learning through continuous, customized support. This paper details the use of AI to enhance teaching and learning in CS50 by assisting with code explanation, style improvement, and handling queries on the course's discussion forum, providing a blueprint for effectively incorporating AI in educational settings.
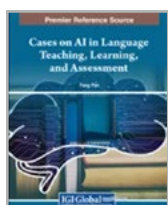
AI in Language Teaching, Learning, and Assessment

IGI Global • February 2024

This book explores the dual role of AI as both a powerful tool and a potential challenge in language education. It covers the ethical considerations and necessary safeguards for AI's integration in educational settings while highlighting successful real-world applications and future possibilities. This comprehensive resource is essential for educators, researchers, and developers interested in the intersection of AI and language education.

The Era of Generative AI: Transforming Academic Libraries, Education, and Research

Chapter from book: Empowering Minds: Collaborative Learning Platform for Teachers, Librarians and Researchers

St. Agnes College • January 2024

The advent of generative AI marks a transformative era, reshaping our interaction with technology across libraries, education, and research. This chapter explores how generative AI not only enhances traditional functions but also fundamentally alters methodologies in these sectors, offering personalized and efficient solutions that broaden access and engagement. It critically examines the multidimensional impacts—technological, cultural, ethical, and operational—of generative AI, emphasizing the need for a comprehensive approach to harness its potential and navigate its challenges in a rapidly evolving digital landscape.

Math Education with Large Language Models: Perils or Promise?

SSRN *Microsoft researchers are co-authors • December 2023

This study investigates the educational impact of large language models (LLMs) through a pre-registered experiment with 1200 participants, analyzing how LLM-generated explanations influence learning outcomes. The results showed that LLM-based explanations enhanced learning more effectively than merely providing correct answers. Qualitative feedback indicated that this improvement was due to participants adopting the strategies demonstrated in the LLM (Large Language Model) explanations, making learning more accessible and the problems less challenging.

Revolutionizing Education: Artificial Intelligence Empowered Learning in Higher Education

Cogent Education • December 2023

This study investigates the adoption of AI in higher education, focusing on faculty awareness and its impact on teaching and engagement. Utilizing a quantitative approach with 250 faculty members from globally ranked universities, it explores factors influencing AI adoption and its effects on evaluation methods and faculty engagement. The findings highlight the significant roles of perceived risk, performance expectancy, and awareness in shaping attitudes and behaviors toward AI, affecting its integration and effectiveness in education.

Navigate back to table of contents

To Ban or Embrace: Students' Perceptions Towards Adopting Advanced AI Chatbots in Schools

Advances in Quantitative Ethnography • October 2023

This paper explores student reactions to ChatGPT, analyzing their responses to an opinion piece in The New York Times through the lens of the Theory of Reasoned Action. It reveals that while students recognize ChatGPT as a supportive learning tool, they also express concerns about cheating, misinformation, and fairness. The study examines how students' beliefs, personal experiences, and social expectations shape their views on the potential adoption or banning of ChatGPT in U.S. schools.

Transmission Versus Truth, Imitation Versus Innovation: What Children Can Do That Large Language and Language-and-Vision Models Cannot (Yet)

Perspectives on Psychological Science • October 2023

This research investigates the role of advanced AI models, such as large language models, highlighting their potential as cultural tools that enhance knowledge dissemination. It examines these AI systems' ability to mimic human learning processes and generate new ideas, comparing their capacities to those of human children. The study explores which skills AI can acquire through statistical analysis of vast linguistic data, concluding that achieving the levels of creativity and innovation seen in young children may require more than extensive language and visual data.
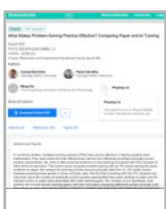
What Makes Problem-Solving Practice Effective? Comparing Paper and AI Tutoring

From book: Responsive and Sustainable Educational Futures

Carnegie Mellon University • August 2023

This study compares the efficacy of an intelligent tutoring system (ITS) versus traditional paper-based methods for teaching linear graphs to middle school students. It demonstrates that students using the ITS had more than double the opportunities to eventually correct their answers compared to those using paper-based methods. The findings emphasize that while the ITS provides more opportunities for practice and correction, effective instruction remains crucial in maximizing learning gains, suggesting that the quantity of practice opportunities alone may not be the sole factor in educational success.

Navigate back to table of contents

Overview

Plan

Implement

AI Navigators

Research

Experimental Evidence on the Productivity Effects of Generative Artificial Intelligence

Science (AAAS) • July 2023

This study explores the impact of ChatGPT on the productivity of mid-level writing tasks. College educated professionals were given incentivized writing tasks where half of them had access to ChatGPT. For those with access to ChatGPT, productivity increased, taking users 40% less time to complete the task and their quality increased 18%. Additionally, inequities decreased among the workers. The participants exposed to ChatGPT during the study were significantly more likely to incorporate it into their work in the weeks after the study.

Supporting Students' Self-Regulated Learning in Online Learning Using Artificial Intelligence Applications

International Journal of Educational Technology in Higher Education • June 2023

This study explores the potential of AI applications to enhance self-regulated learning (SRL) in online environments, focusing on student perceptions and necessary pedagogical and psychological aspects. Using an exploratory design with storyboards and interviews with 16 university students, the research finds that AI helps regulate cognitive, metacognitive, and behavioral aspects of SRL but not motivation. The findings suggest that effective AI tools should consider learner identity, activeness, and position to better support SRL in online learning.

Do AI Chatbots Improve Students Learning Outcomes? Evidence from a Meta-Analysis

British Journal of Educational Technology • May 2023

In this 2023 British Journal of Educational Technology publication, researchers conducted a meta-analysis of 24 randomized trials to assess the impact of AI chatbots on students' learning outcomes. It was found that AI chatbots significantly enhance learning outcomes, particularly in higher education and during short-term interventions. This suggests that the novelty of AI chatbots can notably improve learning in brief periods, though this effect diminishes over longer interventions, indicating the importance of incorporating features like human-like avatars, gamification, and emotional intelligence to sustain engagement and effectiveness.

Navigate back to table of contents

Unlocking the Power of ChatGPT:
A Framework for Applying Generative AI in Education

East China Normal University • April 2023

This study examines the impact of AI chatbots like ChatGPT on education, highlighting the potential for personalized learning experiences and streamlined feedback processes. It also acknowledges significant hurdles, including the unproven efficacy of these technologies, data quality issues, and ethical considerations.

Examining Science Education in ChatGPT: An Exploratory Study of Generative Artificial Intelligence

Journal of Science Education and Technology • March 2023

This article explores the transformative role of AI in education, focusing on how it can enhance teaching and learning by improving prompt engineering, AI literacy, and critical thinking skills. It highlights the potential of AI to personalize learning experiences and address diverse educational needs, including support for students with special needs. Additionally, the article discusses the challenges of integrating AI into education, such as the need for systematic approaches and shifts towards interactive, student-centered learning environments. This exploration lays the foundation for understanding the essential skills and methodologies needed to effectively utilize AI in contemporary educational settings.

Empowering Educators to be AI-Ready

Computers and Education: Artificial Intelligence • June 2022

This paper introduces the concept of "AI Readiness" and proposes a comprehensive framework for developing AI Readiness training tailored to various professional sectors. Unlike traditional AI education, AI Readiness training is highly contextualized, recognizing the unique needs and intricacies of different professions, such as law and education. Through participatory methods, the training aims to empower individuals to effectively utilize AI in their specific settings, illustrated with a case study on Higher Education.

Learning Design to Support Student-AI Collaboration: Perspectives of Leading Teachers for AI in Education

Education and Information Technologies • June 2022

This study explores the integration of AI into K-12 education as a collaborative learning agent, focusing on teachers' perspectives in South Korea on designing student-AI collaboration (SAC). Teachers emphasized the need for interdisciplinary learning, process-oriented assessments, and robust AI literacy education—including principles, data literacy, and ethics—to effectively implement SAC. They envisage a three-stage progression for students: learning about AI, from AI, and together with AI. The findings suggest that successful SAC requires not only innovative curriculum design but also supportive educational policies and a flexible, failure-tolerant school environment.

Building Socially Responsible Conversational Agents Using Big Data to Support Online Learning: A Case with Algebra Nation

British Journal of Educational Technology • May 2022

This study investigates the use of AI-powered conversational agents in high school online algebra forums to enhance engagement and ensure safety in student interactions. It introduces a safety-aware conversational agent model, comparing it with two leading models for discourse safety and socio-emotional support. The findings recommend using generation control and public APIs to improve discourse safety, and caution against solely relying on automated means for evaluating social support, advocating for contextualized AI implementations to enhance secure and supportive online learning environments.

The Effectiveness of Artificial Intelligence on Learning Achievement and Learning Perception: A Meta-Analysis

Funded by the International Joint Research Project of Huiyan International College, Faculty of Education, Beijing Normal University • December 2021

This study presents a meta-analysis on the effectiveness of artificial intelligence (AI) in education, examining its impact on learning achievement and perception from 2001 to 2020. Analyzing 24 articles and 2908 participants, the findings show a high effect of AI on learning achievement and a small effect on learning perception. The analysis also identifies significant moderators such as sample size, learning domains, and AI roles that influence AI's effectiveness. This research offers valuable insights for educators and practitioners on the deployment of AI in educational settings.

Ethics of AI in Education: Towards a Community-Wide Framework

This paper explores the ethical challenges inherent in the application of Artificial Intelligence in Education (AIED), underscoring the importance of addressing fairness, accountability, transparency, and inclusion among other ethical concerns. Through a survey conducted with leading AIED researchers, the study highlights a significant gap in ethical training within the field. The findings advocate for a multidisciplinary approach to developing a robust ethical framework for AIED, essential for navigating the complex ethical landscapes encountered in educational settings.

Overview

Plan

Implement

AI Navigators

Research

Planning support

Resources for educators and policymakers involved in incorporating artificial intelligence within educational settings. It includes a diverse array of policy guidance, frameworks, and toolkits provided by leading international organizations, educational institutions, and government bodies.

AI Guidance for Schools Toolkit

TeachAI • 2024

This toolkit provides guidance for education authorities, school leaders, and teachers on harnessing artificial intelligence (AI) in primary and secondary education to improve learning outcomes, support teacher instruction, and enhance educational equity, while also addressing the risks such as privacy violations and inconsistent disciplinary consequences. It emphasizes the importance of structured guidelines to mitigate potential risks and ensure beneficial AI adoption practices in educational settings.

How to Use ChatGPT to Enhance Active Learning

Ministry of Education in Chile • 2024

In Spanish. This guide, prepared by Chile's Ministry of Education, offers a range of use cases and prompts, while addressing key limitations and precautions. It hopes to equip educational institutions, teachers, students, and families with the tools to harness the opportunities provided by new technologies and to mitigate their associated risks.

Revealing an AI Literacy Framework for Learners and Educators

Digital Promise • February 2024

A framework developed by Digital Promise that emphasizes that understanding and evaluating AI are critical to making informed decisions about if and how to use AI in learning environments. Recently, the framework has been expanded to support learners, teachers, education leaders, and caregivers with the knowledge and resources they need to understand, use, and evaluate AI.

Responsible AI and Tech Justice: A Guide for K-12 Education

Kapor Center • January 2024

A guide designed for K-12 educators and students to support the critical interrogation of artificial intelligence and its implications on individuals, communities, and the world.

Australian Framework for Generative Artificial Intelligence (AI) in Schools

Australian Department of education • November 2023

The Australian Framework for Generative AI in Schools seeks to guide the responsible and ethical use of generative AI tools in ways that benefit students, schools, and society. The Framework supports all people connected with school education including school leaders, teachers, support staff, service providers, parents, guardians, students, and policy makers.

Guidance for Generative AI in Education and Research

UNESCO • September 2023

UNESCO's first global guidance on Generative AI in education to support countries to implement immediate actions, plan long-term policies and develop human capacity to ensure a human-centered vision of these new technologies.

Generative Artificial Intelligence for Education and Pedagogy

Cornell University Center for Teaching Innovation • July 2023

This Cornell University report provides guidance on using generative AI in education. The report outlines its potential to enhance personalized learning and accessibility, while also recognizing the risks it poses, such as academic dishonesty and embedded biases. It recommends a flexible approach allowing educators to either prohibit, allow with strict attribution, or encourage the use of AI tools. The report includes guidelines for ensuring academic integrity, safeguarding privacy, and promoting equitable access to these technologies.
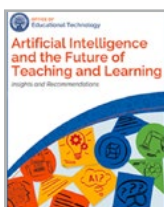

Department of Education Office of Educational Technology: Artificial Intelligence and the Future of Teaching and Learning

U.S. Department of Education • May 2023

The U.S. Department of Education Office of Educational Technology's new policy report, Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations, addresses the clear need for sharing knowledge, engaging educators, and refining technology plans and policies for artificial intelligence (AI) use in education. The report describes AI as a rapidly-advancing set of technologies for recognizing patterns in data and automating actions, and guides educators in understanding what these emerging technologies can do to advance educational goals—while evaluating and limiting key risks.
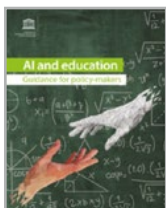
AI and Education: Guidance for Policy-makers

UNESCO • 2021

This report explores the significant potential of artificial intelligence (AI) in addressing key challenges in education, innovating teaching methods, and accelerating progress toward Sustainable Development Goal 4 (SDG 4). Despite the rapid technological advances, the report notes that associated risks and challenges have outpaced policy debates and regulatory frameworks. It provides policymakers with guidance on leveraging AI opportunities while mitigating risks within the educational sector.

Ethical Guidelines on the Use of Artificial Intelligence (AI) And Data in Teaching and Learning for Educators

European Union Directorate-General for Education • 2022

These ethical guidelines on AI and data usage in teaching and learning are designed to help educators understand the potential that the applications of AI and data usage can have in education and to raise awareness of the possible risks so that they are able to engage positively, critically, and ethically with AI systems and exploit their full potential.

Thought leadership

As artificial intelligence begins to shape educational practices, insights from academics and industry leaders are increasingly valuable. This section gathers significant articles, insightful blog posts, and noteworthy keynote presentations that discuss the uses of AI technologies in education.

All the Unexpected Ways ChatGPT is Infiltrating Students' Lives

Washington Post • June 2023

The article discusses the diverse ways students are utilizing ChatGPT and other AI tools, extending beyond academic cheating to include creative and practical applications like generating gift ideas, proofreading, and even providing relationship advice. It highlights students' experiences with AI in education, from aiding in homework and writing to serving as a tool for mental health support. The piece also touches on the concerns of AI's impact on learning and future professions, with students and educators expressing both the benefits and potential drawbacks of this technology. leveraging AI opportunities while mitigating risks within the educational sector.
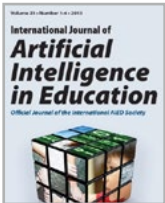
To Advance AI Use in Education, Focus on Understanding Educators

International Journal of Artificial Intelligence in Education • June 2023

This article examines the social-psychological and contextual factors influencing educators' perceptions and adoption of Artificial Intelligence in Education (AIED). It highlights the importance of understanding educators' trust, attitudes, and the role of predictive learning analytics in improving educational outcomes. The paper advocates for research focused on the psychological aspects of technology acceptance and the ethical implications of explainable AI in educational settings.

ChatGPT is Going to Change Education, Not Destroy It

MIT Technology Review • April 2023

This article discusses the evolving relationship between AI and education, initially focusing on the educational community's swift response to ChatGPT, notably concerns regarding academic integrity and the potential for student cheating. It progresses to reassess ChatGPT's utility as an interactive teaching aid that could substantially improve learning experiences. Addressing the challenges educators face in adopting such new technologies, the article acknowledges the development of innovative strategies to navigate these difficulties. Concluding, it considers the long-term effects of AI in education, emphasizing the need for careful integration and the promise of personalized learning experiences facilitated by advancements like ChatGPT.

One Useful Thing

Ethan Mollick • 2024

Ethan Mollick is an Associate Professor of Management at the Wharton School of the University of Pennsylvania who studies entrepreneurship, innovation, and AI. His work on *One Useful Thing* explores how he and his students are using AI tools in the school of business and in entrepreneurial opportunities. He has published numerous works on AI including Co-Intelligence: Living and Working with AI.

Dr Phil's Newsletter, Powered by DOMS™ AI

Dr. Philippa Hardman • 2024

Dr Phil's Newsletter, Powered by DOMS™ AI Connecting the science of learning & AI with the art of learning experience design. Dr. Philippa Hardman is a scholar at the University of Cambridge and a thought leader in the world of education technology. In this Tedx Talk, she discusses the changes and possibilities of AI in education and some of the resistance of education to be disrupted.

The Cool Cat Teacher Blog

Vicki Davis • 2024

The Cool Cat Teacher Blog by Vicki Davis provides how-to guides, insights, and practical strategies to incorporate generative AI tools into K–12 education. Examples of this work include using AI to create substitute lesson plans, building your own GPT's, and ways to develop automations using AI that save time and make teachers more efficient.

Frequently asked questions

What is generative AI?
Generative AI refers to artificial intelligence technologies that can create content, such as text, images, or simulations, by learning from vast amounts of data.

Which Microsoft tools can be used by education institutions?
All Microsoft tools can be used by education institutions and some generative AI tools are restricted by age. Depending on the age of the user, education institutions can leverage various Microsoft tools, including Microsoft Copilot, Copilot for Microsoft 365, Copilot in Windows, Microsoft Teams for Education, Azure AI for custom solutions, GitHub for Education, and Learning Accelerators. Learn more about all of Microsoft's AI solutions.

Are there studies or evidence demonstrating the effectiveness of AI tools in educational settings?
Yes, there are studies indicating that AI tools can significantly benefit educational settings by providing personalized learning experiences, automating administrative tasks, and facilitating data-driven decision-making, thereby improving learning outcomes and operational efficiency. One example published in December 2023, Math Education with Large Language Models[1], found that generative AI-based math instruction positively impacted learning.

How do Microsoft's AI solutions support accessibility for all students, including those with disabilities?
Microsoft incorporates features like speech-to-text, language translation, content readers, voice assistances, computer vision and personalized learning options, which can help to accommodate diverse abilities and learning needs, including those of students with disabilities.

What mechanisms are in place to safeguard that the content generated by these AI solutions is appropriate for school settings and safe for students?
Microsoft's AI solutions are governed by guidelines to ensure age-appropriateness and help safeguard a positive educational environment. Read more about Microsoft's commitment to Responsible AI.

[1] Math Education with Large Language Models

How can I evaluate student work that uses generative AI?
To evaluate student work involving generative AI, establish criteria that focus on critical thinking, problem-solving, and creativity, while ensuring students understand and articulate AI's role in their process. For example, you can assess their ability to critically evaluate the AI-generated content as compared to non-AI content as part of lit reviews and other content analysis.

How can I protect the privacy and security of students' data when using AI-powered tools?
Protect student data privacy by using AI tools that comply with data protection laws, implementing robust cybersecurity measures, and educating students on digital privacy.

How can I prevent academic dishonesty and plagiarism when using AI-powered tools?
Help prevent academic dishonesty by setting clear expectations and encouraging originality and critical engagement with AI-generated content. Consider updating your course syllabus to set clear expectations about AI use.

How can Microsoft AI solutions be customized to align with our institution or department's specific curriculum standards, instructional goals, and educational objectives?
AI solutions can be tailored to district curricula and aligned with standards and goals, through customizable content and adaptable learning modules. Review the education prompts library on GitHub for examples of how AI can help you do this.
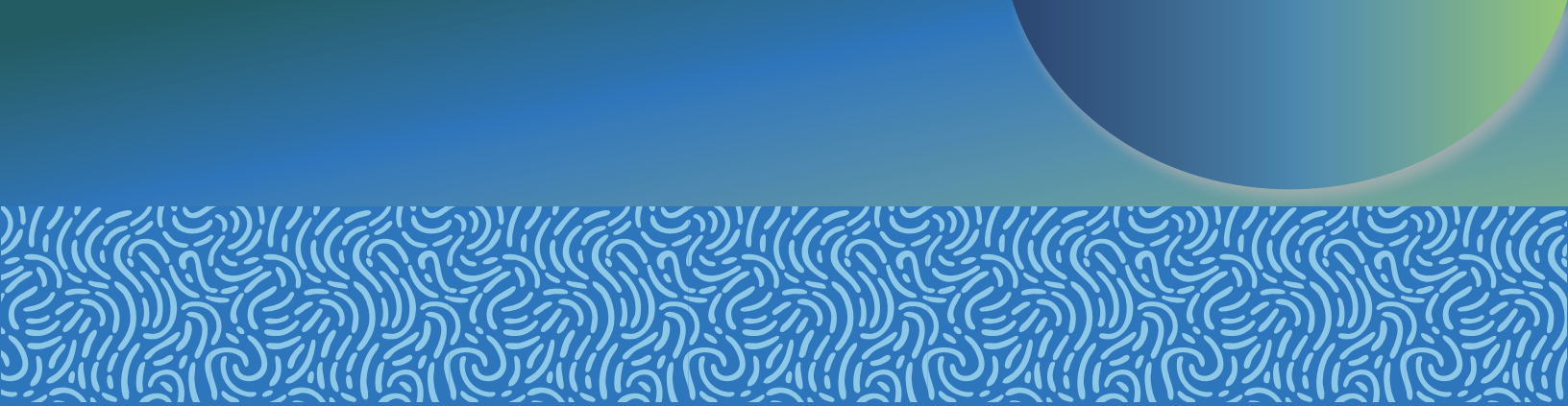
Do these AI solutions provide analytics and reporting features that can help educators track student progress, identify learning gaps, and inform instructional decisions?
AI solutions often include analytics and reporting tools, enabling educators to monitor student performance, pinpoint learning gaps, and guide instructional strategies. Customizations using Azure OpenAI Studio and Microsoft Fabric can help provide detailed insights and analysis. See the AI Navigators to review examples.

What kind of training and professional development will be provided for educators and staff to effectively use and integrate these AI solutions into their instructional practices?
Training on the effective use of AI tools for faculty and staff should include integration strategies, pedagogical approaches, and ongoing support to ensure successful adoption. See the professional learning section for additional information.

Microsoft