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, Microsoft 365 Copilot, 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

Corporate Vice President of Global Education and Media Industry Marketing

Microsoft Corporation

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How to use this resource

The Microsoft Education AI Toolkit is intended for education leaders across 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, AI Navigators, Plan, Implement, 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.

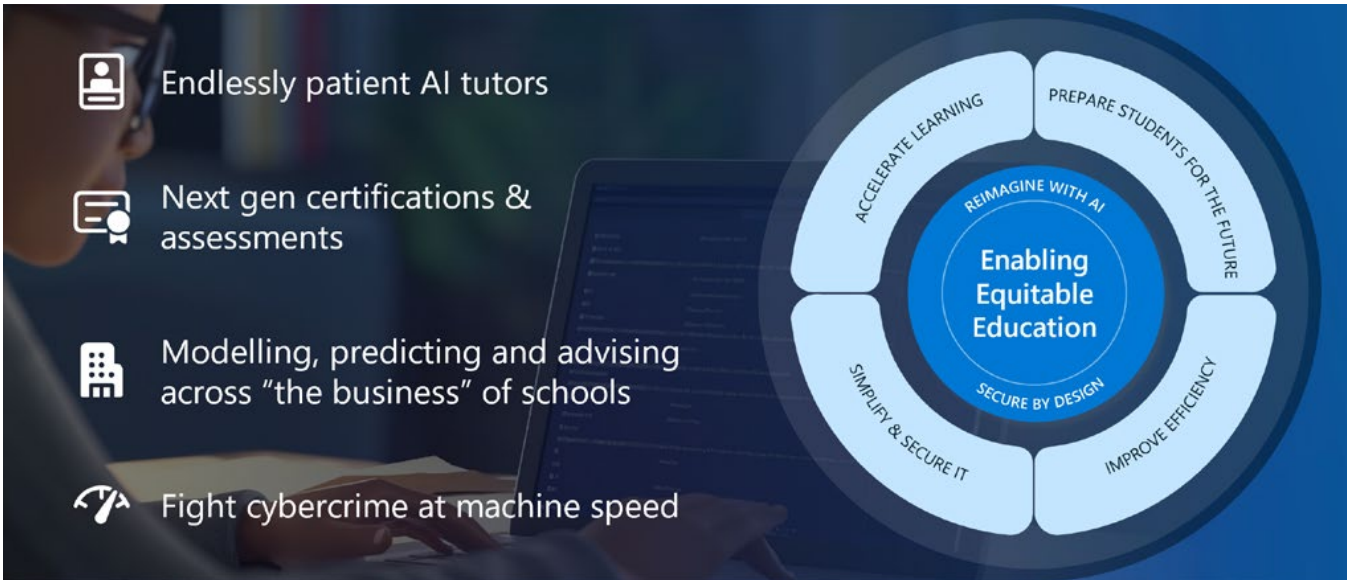
For education customers, Microsoft Copilot is free to use with your Microsoft login. When you use your academic credentials, you'll have access to enterprise data and copyright protection. As you read through this guide, you'll encounter pre-scripted AI prompts which, when selected, will open so you 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.

Get interactive: Explore AI prompts firsthand

Select 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 the possible: The promise of generative AI in education

In today's educational landscape from primary, secondary, and higher education institutions, 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 higher education institutions where virtual tutors provide instant feedback and support advanced research endeavors. These AI-driven experiences are starting to become a reality in some educational environments.

The impact of generative AI is already being felt. In primary and secondary education, 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 across all levels of education, 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.

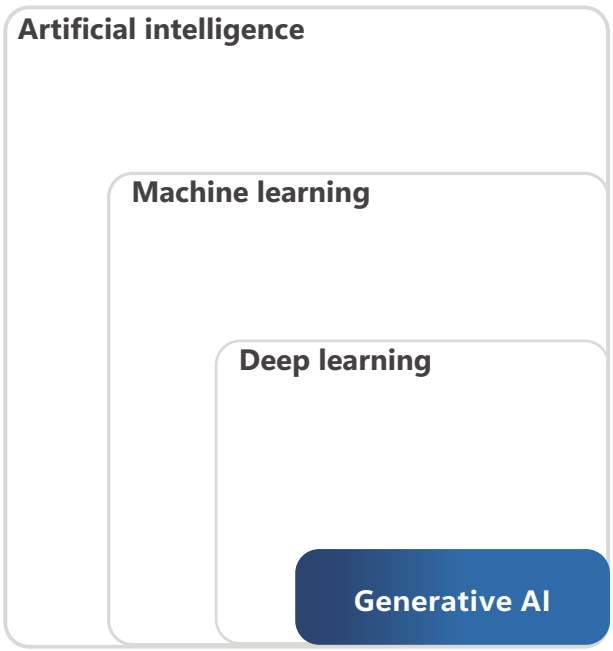
The introduction of generative AI into education is more than a technological upgrade; it is a call to inspire the next generation of innovators. As educational leaders whether guiding young minds or shaping future professionals, you have the opportunity to harness generative AI to ignite curiosity, foster creativity, and cultivate a lifelong love of learning in your students. By integrating these tools, you're 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're 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.



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 prevalence 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 for both K-12 and higher education instuitutions 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. A 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.

Small language model
A small language model (SLM) is a compact AI model for processing human language, using fewer neural network parameters and training data than large language models (LLMs). SLMs require less computational power and memory, making them ideal for mobile and resource-constrained environments.

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.

Small language models (SLMs), a recent innovation within AI, offer a compact alternative to large language models (LLMs) like ChatGPT. SLMs are designed to understand, generate, and interpret human language using fewer resources, which makes them particularly beneficial in K-12 and higher education settings. Despite their smaller size and training on less data compared to LLMs, SLMs can perform many of the same tasks, such as language processing, coding, and basic math. These models require less computational power and memory, making them ideal for deployment on mobile devices and in resource-constrained environments often found in educational institutions.

SLMs are well-suited for applications that need to run locally on a device, offering benefits like reduced latency and increased privacy—important considerations in educational environments. Additionally, they are ideal for tasks that don't require extensive reasoning or complex data analysis, making them especially useful in regulated industries and areas with limited network access. While SLMs may have a more limited knowledge base and a narrower understanding of language and context, their efficiency enables schools to integrate AI into a broader range of applications, providing scalable solutions that support personalized learning experiences and administrative efficiency without the need for extensive infrastructure.

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.

Small language models (SLMs) further complement this by being adaptable to institutions that may not have extensive datasets or the infrastructure to support large-scale AI. Their efficiency and lower resource demands make SLMs an accessible entry point for schools and universities looking to integrate AI-driven solutions without overhauling existing systems.

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.

Information lifecycle and governance in the age of AI and storage limits

Weak information governance exposes organizations to risk and undermines generative AI adoption. In this recorded webinar, hear from Gartner analyst, Max Goss, and Microsoft on how this impacts education institutions. This discussion provides practical guidance on how to more effectively manage the information lifecycle to both meet new storage parameters and prepare for the future of AI.

AI and the future of work

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 metacognition. 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, and perhaps every member of an educational community must adapt or learn new skills like how to prioritize, delegate, proofread, review, and master efficiency. Equipping students and educators with these skills is essential for success in an AI collaborative world. Discover the future of work with WorkLab, a Microsoft platform offering science-based insights, expert advice, and compelling stories about AI. Stay ahead with articles, reports, and podcasts that reveal how technology is transforming the workplace.

"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

Microsoft Copilot capabilities

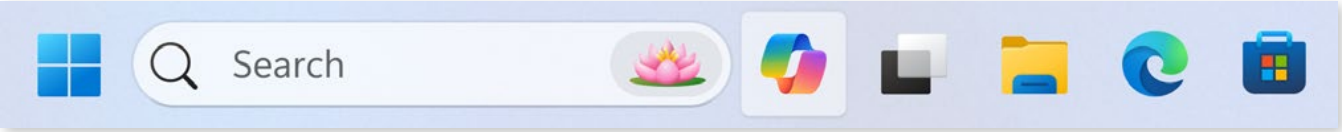
Different ways to interact with Copilot

Copilot is a generative AI tool capable of creating different types of content, such as text, images, music, and code. It is a "user interface" for AI tools. You can get started by visiting copilot.cloud.microsoft. 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 the Copilot mobile app, you can use your **voice** to communicate. Tap the **microphone icon** at the bottom of the screen and speak your query. This hands-free approach can be especially useful when you're busy or multitasking.

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.

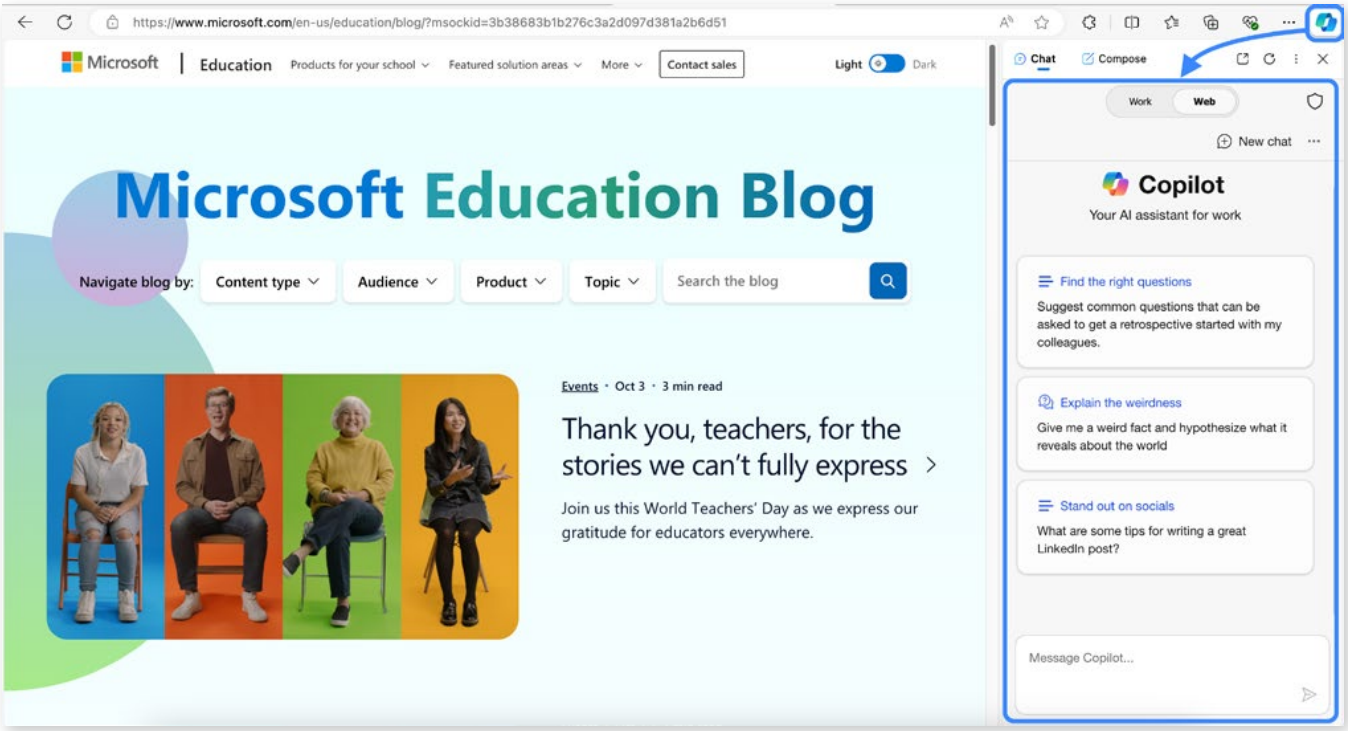
Windows 11 integration: Access Copilot directly from your desktop with **Windows 11,** by selecting the **Copilot icon on the taskbar**. It opens in a Copilot window allowing you to seamlessly interact with Copilot, providing instant assistance without disrupting your tasks.



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 select 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.



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.

Select the **Copilot icon in the upper right** corner.

Ask Copilot to:

- Provide the 3 top takeaways of an article.
- Revise the document looking for gaps in knowledge or bias in language.
- Summarize this PDF into key points and takeaways.
- Ask a follow-up question to the topic of the article.

From Microsoft Copilot to creating AI-powered experiences

Get started for free

- Microsoft Copilot⌂
- GitHub Copilot❦
- Learning Accelerators
- Microsoft Teams for Education
- Minecraft Education AI Foundations
- Khanmigo for Teachers◊

Enhance experiences

- Microsoft 365 Copilot
- Copilot for Security
- Copilot in Dynamics 365
- Copilot in Power Automate

Build your own

- Microsoft Copilot Studio
- Microsoft Azure AI Studio
- Azure OpenAI Service

⌂ Available at no additional cost with enterprise data protection for educators, staff, and students 18 and older.

❦ GitHub Copilot is free for verified educators and students 13 and older.

◊ Khanmigo for Teachers is free for educators in dozens of countries due to a partnership with Microsoft.

Get to know the Microsoft AI tools

Microsoft Copilot

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

AI chat for the web with enterprise data protection

Learn more about Microsoft Copilot

Copilot experience in Windows

Copilot experience 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 experiences in Windows

Microsoft 365 Copilot

An 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. Use Copilot Pages, a dynamic, persistent canvas, designed to allow users to edit, expand, and share AI-generated content.

Works alongside you in the applications you use every day

Learn more about Microsoft 365 Copilot

Copilot for Security

A security-focused generative AI solution enhancing defense 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 in 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 in Dynamics 365

Copilot in Power Platform

Microsoft Copilot in 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 in Power Platform

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 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 provides 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 to:

- Update Acceptable Use Policies (AUP)
- Create FAQs for adopted technologies
- Draft step-by-step tutorials

Microsoft 365 Copilot

Complete specialized tasks that use Microsoft 365 apps and files to:

- 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 to:

- Research and compare curricula
- Outline an agenda for professional learning
- Summarize online articles or PDFs

Microsoft 365 Copilot

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

- Summarize internal state reports
- Auto-draft messages to faculty
- Create visualizations from spreadsheets

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 to:

- Create a course syllabus
- Write a lesson plan that differentiates instruction
- Level text for emergent readers

Microsoft 365 Copilot

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

- 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 to:

- 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 and future workplaces that they will encounter. Recent research, sponsored by Microsoft, reveals significant insights into the widespread adoption of AI in schools. Explore the key findings.

- 35% of students use AI to summarize information, the highest usage for students.
- Microsoft Research and Harsh Kumar of the University of Toronto discovered that AI-generated explanations enhanced learning compared to solely viewing correct answers.
- Harvard University and Yale University professors found that AI chatbots can give students in large classes an experience that approximates an ideal one-to-one relationship between educator and student.

Minecraft Education

Minecraft Education offers a set of accessible, engaging materials for building AI literacy with Minecraft. For instance, the AI Foundations program is designed to empower students, educators, and families with a fundamental understanding of how AI works and how to use AI tools responsibly. Students can learn the basics of AI, how AI helps solve problems, and ways to be responsible when using AI tools with the AI Adventurers video series.

Explore these Minecraft Education worlds to get started

Experience	Description	Age
Fantastic Fairgrounds	Discover how to unlock the power of AI through a wondrous world! Practice the skills to understand, evaluate, and utilize this exciting technology.	**Ages 8-18**
Hour of Code: Generation AI	Develop problem solving, creativity, and computational thinking skills along AI foundations. Learn the basics of coding in MakeCode Blocks or Python and help build better AI for all.	**All ages**
AI for Earth	Use the power of AI in a range of exciting real-world scenarios, including preservation of wildlife and ecosystems, helping people in remote areas, and research on climate change.	**Ages 8-18**

Classroom AI Toolkit

The Classroom toolkit: Unlocking generative AI safely and responsibly is a creative resource that blends engaging narrative stories with instructional information to create an immersive and effective learning experience for educators and students aged 13-15 years.

With the toolkit, educators can initiate important conversations about responsible AI practices in the classroom with their students. By completing the lessons, students gain valuable insights and develop practical skills to enhance their digital safety.

These simple tips can help your students successfully use Copilot and other generative AI tools.

- **AI as a Copilot:** Think of generative AI tools as your helpful assistants. They follow your commands and perform tasks well, but it's up to you to use them wisely and responsibly.
- **AI is not perfect:** While AI tools can do a lot of things well, these tools can make mistakes because they are trained to always provide an answer. This makes it important to stay alert.
- **Always fact-check:** Make fact-checking a habit. Do not blindly trust AI-generated information—always verify it with trusted sources to be sure.
- **Beware of bias:** Generative AI models can sometimes show bias in their responses. Always ensure you review the outputs with a critical eye and be proactive by adjusting the prompts as necessary.
- **Always cite your sources:** Ensure that you give credit where it is due by always citing work that has been completed with the support of generative AI.
- **Protect your information:** Don't share private information with untrusted websites or apps and read privacy policies to understand how your data is used. Don’t forget you can use AI tools to summarize complex documents, but always remember to fact-check and verify!
- **Mind your wellbeing:** Communicating with an AI tool that can appear to converse naturally with you can be very tricky. Establish healthy boundaries with technology by limiting screen time and spending time with the important people in your life.

Use AI-powered tools and prepare for AI

Using their school-issued Microsoft accounts, students have access to AI-powered Learning Accelerators at no cost. This commitment to accessibility and equity ensures that all students, regardless of background or financial means, can leverage cutting-edge technology to enhance their educational journey.

AI tools

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

* Currently in private preview.

Microsoft Copilot

When students use Copilot, they immediately gain access to an on-demand AI assistant that can help provide contextualized explanations of challenging concepts, brainstorm creative project ideas, and offer instant feedback on assignments.

Learning Accelerators

Microsoft's Learning Accelerators offer AI-powered support to help students enhance their literacy, math, social-emotional, speaking, and information literacy skills. These tools provide personalized coaching, immediate feedback, and practical exercises. Notable examples include Reading Coach and Search Coach. When used alongside direct instruction and guidance from educators, these tools help primary and secondary students develop essential skills in reading, writing, listening, and speaking.

Reading Coach provides personalized, engaging AI-powered reading fluency practice for all learners. This powerful tool helps students develop literacy skills by earning achievements and unlocking new story elements as they read, driving continuous engagement. The AI features in Reading Coach include AI-generated stories and personalized literacy practice.

Search Coach was designed with the help of leading information literacy experts to provide tips and strategies for students as they search for and evaluate sources of information.

Search Coach helps students prepare for AI and enhance their information literacy skills by customizing filters to refine their search queries to find the most credible and relevant information.

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.

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

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

AI Snapshot

Improving efficiency in K-12 grant writing

How Microsoft Copilot and Microsoft 365 Copilot 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
- Microsoft 365 Copilot

1. Visit Microsoft Copilot.
   Note: Be sure you're signed in using your school account to ensure enterprise 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 Microsoft 365 Copilot in Word to prompt for additional data or justification for the potential grant application.

AI Snapshot

Transforming student engagement with relatable and relevant content

How 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

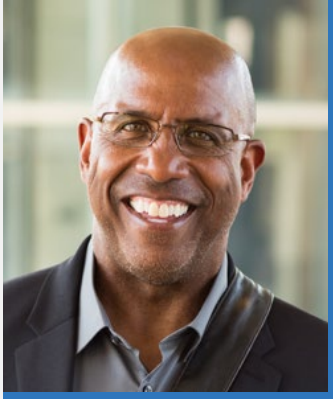
Microsoft Copilot

1. Visit Microsoft Copilot.
2. **Note:** Be sure you're signed in using your school account to ensure enterprise data protection is enabled. Additionally, ensure that "Web" is selected for the following query.
3. Copy-paste one of these prompt ideas into Copilot. Tailor any relevant information to your needs.
   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're 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.

AI Snapshot

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. Access Copilot for Security.
   a. Access your Azure portal.
   b. Search for and select Copilot for Security.
   Note: Microsoft Copilot for Security is offered on a consumption-based model on the number of Security Compute Units (SCU) used.
2. Create 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. Share 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.

AI Snapshot

Supporting students with AI-driven insights

How Microsoft Fabric empowers academic leaders to support students through AI-driven data insights

Dean of Students

Analyze student engagement to pinpoint challenges and employ AI-driven recommendations for targeted interventions aimed at supporting student persistence.

Goal

Improve identification and support for struggling students through enhanced data analysis.

Technology

- Fabric
- Copilot for Fabric

1. Access Fabric.
   a. Open the Fabric homepage and select the **Account manager**.
   b. In the Account manager, select **Start trial**. If you don't see the Start trial button, trials might be disabled for your tenant.
   c. Use the Admin center **Capacity settings**. All users with access to those workspaces are now able to use that trial capacity. The Fabric administrator can edit **Capacity settings** as well.
2. Set up a Task Flow.
   a. Navigate to the workspace where you want to create your task flow and open **List view**.
   b. Select a predesigned task flow on the empty default task flow, by choosing **Select a task flow**.
   c. Add a new task to the task flow canvas, open the **Add dropdown** menu, and select the desired task type.
   d. Edit the task name and description.
   e. Change the task by opening the task details pane and then selecting from the **Task type** dropdown menu.
   f. Arrange the tasks by selecting and dragging each task to the desired position in the task flow.
   g. Add connections by selecting the edge of the starting task and drag to an edge of the next task.
3. Assign items to a new task.
   a. Once a task has been placed on the canvas, assign items to it to help structure and organize the work. Create new items to be assign to the task, or assign items that already exist in the workspace.
4. Enable Copilot for Fabric.
   a. Copilot and other generative AI features in preview bring new ways to transform and analyze data, generate insights, and create visualizations and reports in Microsoft Fabric and Power BI.

AI Snapshot

Sparking your students' curiosity with AI-powered teaching assistants

How Khanmigo for Teachers helps educators make relevant instructional content that connects to students' interests

Elementary teacher

Connect lesson topics with real-world context and students' lives to boost engagement and relevance.

Goal

Make learning materials more meaningful and accessible through relevant connections for students.

Technology

Khanmigo for Teachers

1. Access Khanmigo for Teachers.
   Note: Khanmigo for Teachers is available for free in 40+ countries in partnership with Microsoft.
   a. Go to khanmigo.ai/teachers.
   b. Select **Teacher**.
   c. Choose an option for creating an account.
   d. Fill out the required information on the form.
   e. Select **Sign up**.
2. Generate content with real-world context.
   a. From the Khanmigo for Teachers homepage, select **Real World Context Generator**.
   b. Set the grade level.
   c. Add the instructional topic and then select **Write some ideas**.
   d. Review and customize the generated content.
3. Connect content to students' passions.
   a. From the Khanmigo for Teachers homepage, select **Make it Relevant**.
   b. Add the learning objectives.
   c. Add students' interests and then select **Make it relevant**.
   d. Review and customize the generated content.
4. Customize content.
   a. Highlight a word or passage from the generated text.
   b. Select from the following options in the pop-up menu:
      i. Make changes to this: Offer Khanmigo direction such as "Turn this into a five-minute station activity."
      ii. Try something new: Request an entirely new option without needing to add any directions.
      iii. Discuss this: Open a side-bar discussion with Khanmigo.

AI Snapshot

Automating transcripts and redactions

How Microsoft 365 Copilot in Teams increases efficiency and protects sensitive information

Administrative assistant

Summarize key discussion points—including who said what and where people are aligned or disagreed—and suggest action items, all in real time during a meeting.

Goal

Keep teams connected and productive with real time meeting summaries that automatically assign action items and protect sensitive information.

Technology

Microsoft 365 Copilot in Teams

1. Access Microsoft 365 Copilot in Teams.
   a. Assign Microsoft 365 Copilot add-on licenses for intended users.
   b. Open the **Teams** admin center.
   c. Expand **Meetings** from the navigation pane.
   d. Under **Meetings**, select **Meeting Policies**.
   e. Either select an existing policy or create a new one.
   f. Select **On** or **On only with retained transcript** from the dropdown for the Copilot setting.
   g. Select **Save**.
2. Improve efficiency during Teams meetings.
   a. Select the Copilot icon in from the toolbar.
   b. Chat with the Copilot assistant using these suggested prompts:
      i. What are some follow-up questions that I can ask in an email?
      ii. Create a table with the ideas discussed and their pros and cons.
   c. Select **More prompts** and choose from the following:
      i. Recap the meeting so far.
      ii. List action items for each person.
      iii. Generate meeting notes.
   d. Close a meeting.
      i. Copilot will send a prompt a few minutes before a meeting's scheduled end to help participants wrap up.
      ii. Select **Open Copilot** to see a summary of key points of discussion and identify agreed-upon next steps, including tasks assigned to specific people.
3. Follow-up after a Teams meeting.
   a. From the meeting chat, go to the Recap tab and open Copilot. From here, Copilot bases responses on the meeting transcript.
   b. Try these prompts. Copy them or modify them to suit your needs.
      i. Draft an email to the meeting participants that summarized the meeting and includes the action items. Redact any sensitive information.
      ii. What questions were asked, answered, and unresolved?
      iii. Summarize what people said, in a less technical way.

Section 2

AI Navigators

A global collection of best practices

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 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 using their implementations as your guide.

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

Auburn University

A higher education institution built a culture of innovation through the responsible use of AI.

Visit website

Increased accessibility

Greater efficiency

To enhance research and learning outcomes, Auburn University in the U.S. state of Alabama integrated Microsoft Copilot, Microsoft 365 Copilot, and Azure OpenAI Service into its academic framework. Auburn fosters a culture of innovation by empowering students and faculty to explore creative, AI-driven solutions across disciplines, while promoting AI literacy, secure and responsible usage, and collaboration to prepare their community for future advancements.

After extensive stakeholder engagement, Auburn developed a course to boost AI literacy and support learning. They offer classes and workshops on building chatbots, applying AI in business, and more. Auburn is also testing Microsoft 365 Copilot with 100 faculty members to improve efficiency and hosted an "AI Day" with over 400 attendees, featuring discussions on AI integration, safeguards, and future possibilities.

- How do your current needs align to the driving forces behind Auburn's AI story? What does responsible use of AI mean to you for staff and students?
- How might using Microsoft Copilot empower your faculty and students to explore AI-driven innovation?
- How might you develop a common understanding of AI literacy across your institution? What training and support might you need to put in place to support AI literacy?

"Our goal is to democratize the value of AI. The focus extends beyond the efficiencies of AI authoring. It's about equipping our Auburn community with the ability to apply AI in creative and ethical ways, integrating it into our daily fabric as seamlessly as mobile phones have over the past decade."

— John Davidson,
Assistant Vice President and Chief Technology Officer, Auburn

AI Tool: Microsoft Copilot

Learn more

The Education University of Hong Kong Jockey Club Primary School

Visit website

A primary school reimagined teaching and learning with GenAI chatbots using Microsoft Azure OpenAI.

Increased accessibility

The Education University of Hong Kong Jockey Club Primary School (EdUJCPS) created chatbots using Microsoft Azure OpenAI Service to create a more engaging, personalized, and secure learning environment so educators can focus on instructional strategy, using AI to provide real-time feedback and tailored learning experiences. EdUJCPS hopes to foster creativity through exploration, scientific inquiry and continuous dialogue, helping students develop AI literacy skills and critical thinking.

Early results show promising outcomes. 65% of students found the math recommendations from EdUJCPS' chatbot useful, and 60% appreciate the quicker feedback on their homework. Educators have reported that these tools streamline classroom management and identify areas of improvement for more personalized instruction. EdUJCPS plans to expand the use of AI across all grades, building on the early successes.

- How do your current needs align to the driving forces behind EdUJCPS's AI story? What questions does this AI story raise?
- What are the advantages of building your own custom AI applications?
- What training and support might you need to put in place to maximize the impact of AI tools for teaching and learning?

"By adopting a whole-school approach and providing trainings to staff and students, we aim to foster an AI-powered learning setting... AI will take care of the practical tasks...empower[ing] teachers to better meet students' needs, enhancing teaching quality, and resulting in a more impactful educational experience."

— Philip K Y Law,
Vice Principal of EdUJCPS

AI Tool: Azure OpenAI Service

Learn more

Wichita Public Schools

Visit website

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 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

Watch video

Learn more

New York Public Schools

Visit website

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

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.

- 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: Azure OpenAI Service

Learn more

Department for Education, South Australia

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

Watch video

Learn more

California State University, San Marcos

Visit website

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

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

Watch video

Learn more

Washington State Office of the Superintendent of Public Instruction

Visit website

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]

Watch video

Learn more

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

University of South Florida

Visit website

Faculty and students adopt Copilot for advanced research, data management, and administrative efficiency.

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 Microsoft 365 Copilot. 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

Watch video

Learn more

Oregon State University

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

Visit website

Improved cybersecurity

Greater efficiency

Oregon State University (OSU) 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

Watch video

Learn more

Sikshana Foundation

Visit website

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 OpenAI Service

Watch video

Learn more

[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

Indonesia Ministry of Education and Culture

Visit website

Education system 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?

"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

Learn more

University of Sydney

Visit website

University 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?

"[Faculty aren't] being replaced by technology; their expertise is reflected in the way that it works. Cogniti provides the framework a teacher needs... so that they can strengthen their relationships with students. We want Cogniti to be community developed: built by educators for educators."

— Adam Bridgman
Pro Vice Chancellor of Education Innovation
University of Sydney

AI Tool: Azure OpenAI Service

Watch video

Learn more

Section 3

Plan

Provides valuable resources for leaders to prepare AI programs. These resources emphasize proactive planning, covering trustworthy AI frameworks, institutional policies, infrastructure and security, and communication strategies. They support initiating conversations, launching planning processes, and building community support for successful AI programs.

Leveraging trustworthy AI frameworks

The increasing use and application of generative AI in education holds great promise. Ensuring the responsible use of generative AI in education depends 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. Leaders should 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 trustworthy AI practices, provides insight into Microsoft's approach to responsible AI, and suggests 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. What goals drive your use of generative AI tools?
2. How does your institution currently manage technology adoption? Will that model work for AI?
3. Should your institution create a single AI policy or adapt existing ones?
4. How will you ensure equitable policy application in AI tool use?
5. What legal considerations must be addressed??

There are a variety of AI frameworks that might help you answer these questions. For example, the resources from Teach AI[1] include sample school guidance materials and frameworks with a focus on reviewing AI output, checking for incorrect information, and promoting 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.

[1] teachai.org/

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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. Microsoft's 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 guide responsible AI use: fairness, reliability and safety, privacy and security, inclusiveness, transparency, and accountability. These principles are embedded in the Microsoft platform, providing built-in tools and frameworks so educational institutions can rely on these values and capabilities as they integrate AI into their operations. For example, Microsoft offers tools for bias detection and data anonymization.

Microsoft's Responsible AI principles

To successfully implement Responsible AI, both technology providers and users, including leaders, educators, and IT professionals, must share responsibility. Microsoft offers tools and platforms with Responsible AI principles in mind, but users must thoughtfully apply these in their specific contexts. This involves regularly reviewing AI applications to protect student privacy, promote fairness, and avoid biases while updating policies as AI evolves to maintain community standards.

By leveraging Microsoft's platform and adhering to these responsibilities, educational institutions can foster innovative, effective, and responsibly aligned AI environments. Institutions should craft and implement clear policies that guide AI use, establish monitoring processes, and ensure all stakeholders understand their roles. These steps help ensure AI supports educational goals, protects rights and privacy, and fosters trust and accountability.

Practical steps for education leaders

Translating these guidelines and frameworks into actionable steps is one of the central challenges that educational leaders face when considering generative AI adoption. As you navigate the evolving landscape of generative AI, there are some simple starting points to help you build organizational trust that your AI rollout 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. It also offers practical advice and strategies to:

- Build trust and support for AI-powered tools in education.
- Understand and address your community's concerns.
- Match tools to your goals and needs.
- Build 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.

- Seek feedback and input from diverse stakeholder groups.
- Utilize appropriate translation services as required for speakers of other languages.
- Align 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.

Responding to emails, 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*.

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. This creates more engaging and equitable learning experiences 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]

To address evolving workplace needs, many schools and institutions have implemented a multi-tiered approach. 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] https://tech.walmart.com/content/walmart-global-tech/en_us/blog/post/walmarts-ai-powered-inventory-system-brightens-the-holidays.html

[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'll encounter a multitude of concerns, interests, and needs. Use this opportunity to build empathy by actively listening to their questions, demonstrating your AI expertise and leadership, and inspiring their support for your AI initiative.

Leadership and administrators

Schools are increasingly the target of cyberattacks aimed at accessing student data. Consequently, school leaders are dedicating more thought, resources, and funding to 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 to all students, including those with disabilities, and that these tools do not worsen 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 AIcan 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 briefly, and then forgotten. Some teachers hesitate to adopt new technology unless they feel confident with their own skills and can address any questions or issues their students might 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 and tools that are easy to adopt and show 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 large corporations profiting from children's data and AI inquiries. Remembering past instances of broken trust, they want to 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 future aspirations and careers. They expect students to 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

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The wider community

In addition to maintaining 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'll continue to speak with a wide variety of stakeholders—including educators, instructional leaders, school or college administrators, students, families, and community members. Maintain strong relationships 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, Microsoft 365 Copilot, 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."

How do these AI solutions accommodate the language differences among students, educators, and faculty in our institution?

"Microsoft's AI solutions, such as Copilot and Azure AI Studio, are designed to support multilingual environments. They offer features like real-time translation and multilingual support across various applications in more than 100 languages. This ensures that students, educators, and faculty can engage with content in their preferred language, enhancing comprehension and participation. Additionally, these tools allow for the customization of language settings, enabling institutions to align AI-powered resources with the diverse linguistic needs of their communities."

[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?

"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 Microsoft 365 Copilot includes screen reading capabilities."

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

Your empathy, teaching expertise, and strong communication skills will support the successful implementation of AI-powered tools in your school or institution. Continue collaborating with stakeholders and practicing transparency to 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 affected areas, 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

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Organization policy considerations

Crafting, updating, and approving new policies is a critical task. We encourage you to take an iterative approach to policy development, emphasizing 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] https://www.education.sa.gov.au/parents-and-families/curriculum-and-learning/ai
[4] education.sa.gov.au/parents-and-families/curriculum-and-learning/ai#:~:text=AI%20and%20AI%2Denabled%20technology,security%20and%20students'%20learning%20needs.

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Academic integrity highlight: Refining a policy

Here 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, linguistic, 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's work together to foster integrity, learning, and growth.

Analysis

This policy outlines expectations for students, 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, apply similar methods 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 benefits of generative AI for educators range from creating lesson plans, curating content, automating tasks, and generating communication (e.g., emails). Use these guiding questions to lead your discussion:

- How might we improve learning by 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 use 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 should be included on all class syllabi?
- How can this statement reinforce 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 creating instructional materials tailored to 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 and language proficiency needs of our students and staff?
- How might AI tools help us enhance accessibility for all learners
- What government guidelines must we follow as we evaluate AI tools and design 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 increasingly targeted by cybercriminals, as evidenced by rising attacks and evolving social engineering threats.

According to Microsoft Cyber Signals report:

- Education is the third most targeted industry
- Educational institutions face an average of 2,507 cyberattacks per week
- Over the past year, Microsoft Defender for Office 365 blocked more than 15,000 emails per day targeting the education sector with malicious QR codes—including phishing, spam, and malware.

The U.S. Cybersecurity and Infrastructure Security Agency (CISA) has launched a campaign to address the spike in cyberthreats impacting education. 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.[1] 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*.[2] The Executive Order called for public and private organizations to make sure that AI systems are resilient against misuse and modifications, function as intended, and are ethically developed and deployed in a secure manner.

Schools and universities across the country are listening to the government's calls for increased cybersecurity measures and closer examination of AI systems' security and privacy. Many states are adopting policies for safe AI use 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.[4]

[1] cisa.gov/resources-tools/resources/report-partnering-safeguard-k-12-organizations-cybersecurity-threats

[2] whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/

[3] er.educause.edu/articles/2024/2/how-and-why-the-university-of-michigan-built-its-own-closed-generative-ai-tools

[4] doi.org/10.1016/j.platter.2023.100779

With the 2023 launch of the Secure Future Initiative (SFI) Microsoft accelerated its development of AI-based cyber defense to provide machine-speed security for educational institutions.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 implement generative AI tools safely and securely. You'll 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 this to ensure a 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.[5] 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 explain how their systems address responsible AI. Consider asking questions about their development process or the steps they take to ensure their AI system is responsibly designed.

Microsoft develops AI systems using Responsible AI principles. From development to deployment and beyond, 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 review available research on potential bias in outputs.

[5] https://hai.stanford.edu/news/ai-detectors-biased-against-non-native-english-writers

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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 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 rewriting 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 is alignment, evaluate how the system meets trustworthy AI requirements to ensure it aligns with your institution's values and needs.

Data sources

AI systems use data to generate responses. Sometimes, AI needs access to files on your computer or network, like when you ask Microsoft 365 Copilot to summarize important points from a notes document. In other cases, AI requires access to critical systems to perform specialized tasks. For example, when building 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 in 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.
- Review Microsoft's enterprise data protection for Microsoft Copilot and Microsoft 365 Copilot. With Microsoft's Enterprise Data Protection (EDP), both prompts and responses are safeguarded by the same contractual terms and security commitments that customers have long trusted for protecting their emails in Exchange and files in SharePoint.

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.

Here are 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]

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

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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 **technology 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 Microsoft 365 Education A3 and A5 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 Microsoft 365 Copilot 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 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 identify options for mitigating these risks. Learning how agencies approach evaluating privacy and data risks in a PIA can help you assess solutions 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.
- Public assurances that personal information is protected.

If you can address each one of these points when you evaluate an AI system, you'll 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 responsible for helping protect student privacy, so AI solutions must 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 experiences in Windows

Microsoft 365 Copilot

Copilot for Security

Azure OpenAI Service

Infrastructure settings

Your computing infrastructure and security services can add additional layers of privacy protection, depending on how they're configured. Offering secure identity access protocols and creating user polices are two ways to increase privacy without relying solely on built-in protections of AI systems. Take time to speak with IT administrators to understand 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 other 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 to strengthen 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 effectively when an issue arises. Even the most secure infrastructure can experience incidents, 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.

✓ Discriminatory or misleading information in responses.

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

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 implementable processes, 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 to eliminate artifacts from an incident, create mitigation steps to address exploited vulnerabilities, document evidence collection procedures, 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, 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.[7,8]

[7] cisa.gov/sites/default/files/publications/Incident-Response-Plan-Basics_508c.pdf
[8] static1.squarespace.com/static/5e441b46adfb340b05008fe7/t/62cc8e3843251c6d2b2cb0a5/1657572921164/K12SIX-IncidentResponseRunbook.pdf

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Data governance

Ensuring the security and integrity of your data assets is a top priority for organizations across all sectors. Building 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

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.

While generative AI has many potential applications in education, it 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 involves 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 strong data governance strategy is essential for any organization that relies on data to improve decision-making and ensure successful outcomes. When collecting vast amounts of data, a strategy should be in place to manage risks, reduce costs, and effectively support organizational objectives. 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; it forms the foundation for responsible and effective AI deployment in education. Evaluate your existing framework with these key questions in mind.

- **Data security:** Can you detail your organization's current data security measures, including documentation processes and data loss prevention efforts?
- **Data policies:** Have you developed and implemented comprehensive data policies to govern the use and sharing of data within your AI systems? How do these policies ensure transparency and uphold responsible 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:** How does data compliance, beyond mere adherence to regulations, play a foundational role in your data governance framework? How might this influence the efficacy and responsibility of your data management practices?
- **Data quality:** What measures you've taken to ensure the accuracy, consistency, and reliability of data? 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 does your data architecture meet the operational needs of AI systems and the strategic goals of the educational institution?

In addition to managing these key components, consider these practices:

- Develop and enforce data governance frameworks that align with your organization's mission and goals.
- Establish teams or committees responsible for various aspects of data governance.
- Adapt organizational policies as AI technology evolves.
- Stay on top of legal requirements, like FERPA in the United States and GDPR in Europe.

Maintaining effective data governance in AI requires a blend of technical expertise, foresight, and leadership to ensure your organization remains compliant and leverages its data.

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 use 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 need to protect sensitive data. Data privacy helps ensure individuals have control over their personal data's collection, usage, and sharing. Review these key considerations.

Student, educator, and faculty data privacy

Integrating AI in education requires careful management of both student and faculty data, including academic performance, learning behaviors, and sensitive personal details. Safeguarding the privacy of this data is crucial to preventing breaches that could compromise the privacy of students and educators and harm your institution's reputation.

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

- Collect and use only the minimum data needed for the task. Limiting data collection reduces the risk of harmful data breaches.
- Where possible, anonymize student data to protect student identities by removing personally identifiable information (PII) or replacing it with pseudonyms.
- Have a plan in place for responding to data breaches, including steps for identifying and containing the breach.

Section 4

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 to explore and experiment deeply. This section provides instructions, links, and additional resources to help you begin your AI journey.

Consider some of the responsibilities you assume in your role and how generative AI tools might help you save time or increase efficiency.

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, like writing policy frameworks, analyzing reporting data, or conducting research on security threats. For most of the tools, all that's needed is a basic understanding of how to get started.

This section provides instructions, links, and additional resources to help you begin your AI journey. Once you know which 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.

Microsoft 365 Copilot

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

Copilot experiences 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

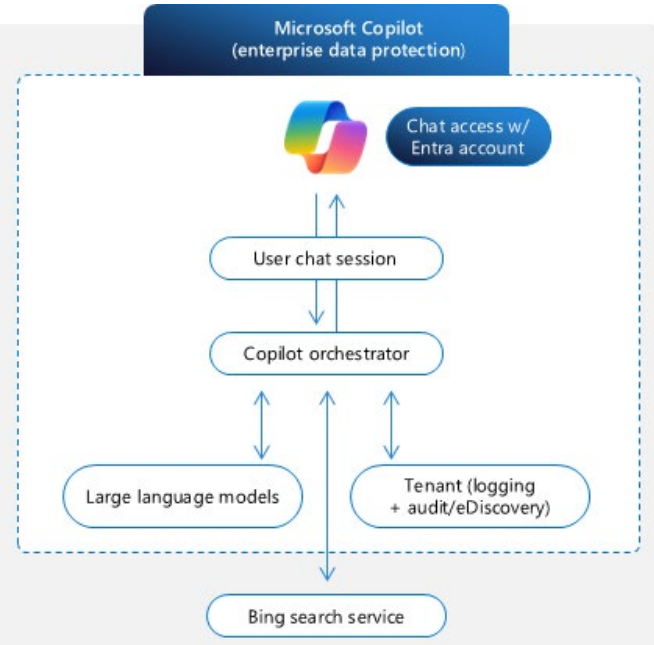
Real-time analysis, accelerated incident responses, and simplifies scripting with natural language queries.

Microsoft Copilot

Microsoft Copilot is an AI assistant that helps leaders find the right information, create original content, and complete common tasks. Using 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 signs into Copilot using a free, school-issued Microsoft account, all prompts and responses are covered by enterprise data protection and Microsoft's Customer Copyright Commitment. These protections help secure sensitive data in chat prompts and increase confidence in using responses from Copilot.

- Enterprise data protection: Microsoft protects prompts and responses by securing data, ensuring privacy, and maintaining identity access controls and policies set by you or your administrator. Additionally, your data is not used to train foundation models.
- Customer Copyright Commitment: Microsoft defends customers from IP infringement claims related to their use and distribution of the output content generated by Copilot services or Azure OpenAI Studioas long as customers use the provided guardrails, content filters, and required mitigations.



Microsoft Copilot

Users

- Administrators
- Staff
- Educators
- Higher education students age 18 and older

Technical implementation guide for Microsoft Copilot with enterprise data protection

Technical requirements

- Verify or purchase a Microsoft 365 Education A1, A3, or A5 licenses for your school or institution.
- Configure allowlist required IPs.

Preparing for success

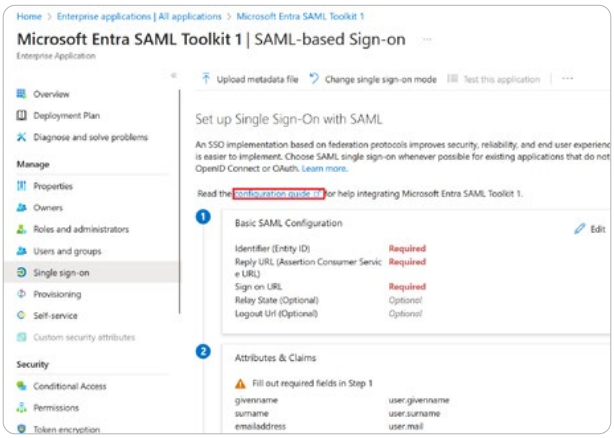
Ready to implement Microsoft Copilot with enterprise data protection? Consider these initial steps:

- Purchase Microsoft 365 Education licenses.
- Identify faculty, staff, and students you'd like to use Copilot with enterprise data protection.
- Create a plan to rollout Copilot with enterprise data protection securely and responsibly.
- Review the step-by-step technical overview of how to support your success in the Microsoft Copilot with enterprise data protection implementation roadmap.

Microsoft Copilot with enterprise data protection implementation roadmap

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

1. Open Entra ID and select Single sign-on (SSO). Follow the prompts to configure the SAML protocol.



2. Open PowerShell in your Microsoft 365 admin center and enable the enterprise data protection for Microsoft Copilot service plan.
3. Copilot enables AI scenarios that access the web, so it may need to connect to specific network endpoints (domains). See the full documentation of network requirements for Microsoft 365 Copilot, which provides a complete list of domains and WebSockets (WSS) that should not be blocked by an organization's network.

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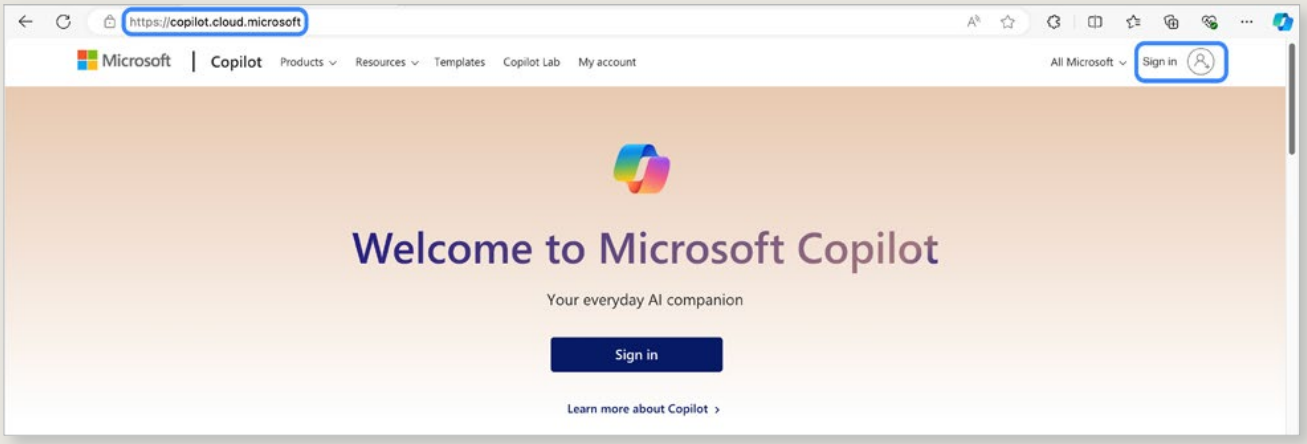
4. Optional: To prevent eligible users in your organization from accessing Copilot without enterprise data protection when signed in with their Entra ID, you can use either DNS redirects or an HTTP header injection.
5. Support educators with the Enhance teaching and learning with Microsoft Copilot module.

Technical guides to follow

- Manage Copilot
- Microsoft Copilot Adoption Kit
- Microsoft Learn: Copilot privacy and protections

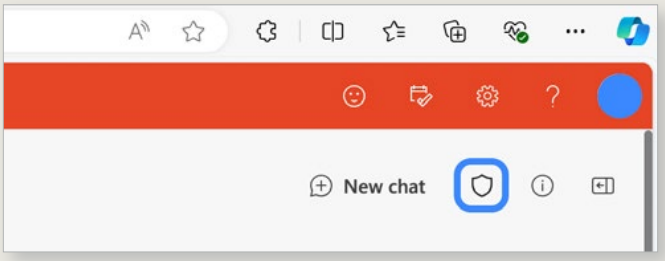
How to use Microsoft Copilot

1. Go to copilot.cloud.microsoft. Microsoft Copilot is also available as a shortcut in the Edge browser sidebar.

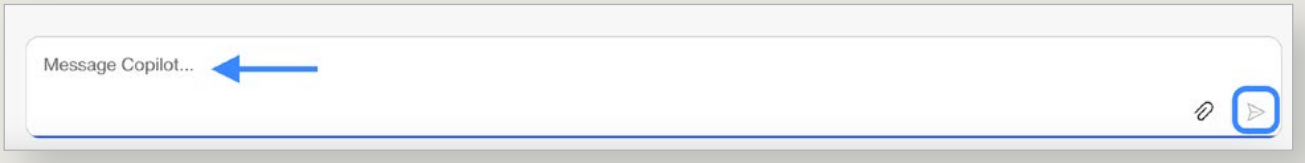


2. Sign in with a school-issued Microsoft account.

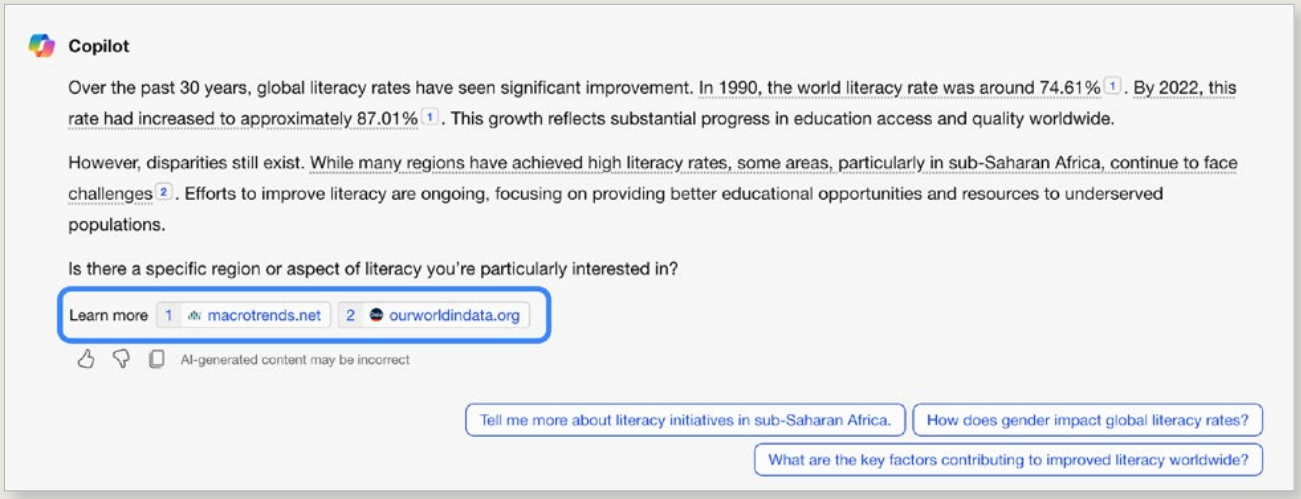
3. Check for the **Protected badge icon** in Copilot. This badge indicates that enterprise data protection is enabled.



4. 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.

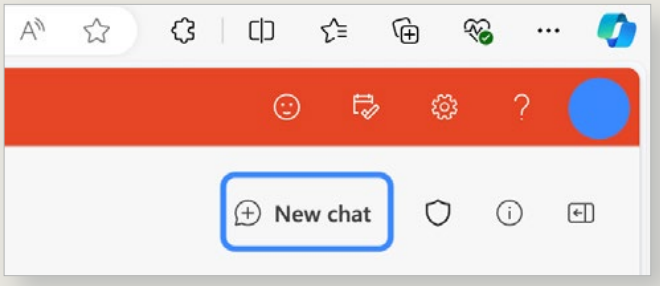


5. Review Copilot's response by checking the listed sources and reading for inaccuracies. Copilot uses footnotes to cite sources within the response and includes links at the end to check source material.



6. Copy Copilot's response.

7. Select chat to clear Copilot and begin a new prompt.



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.

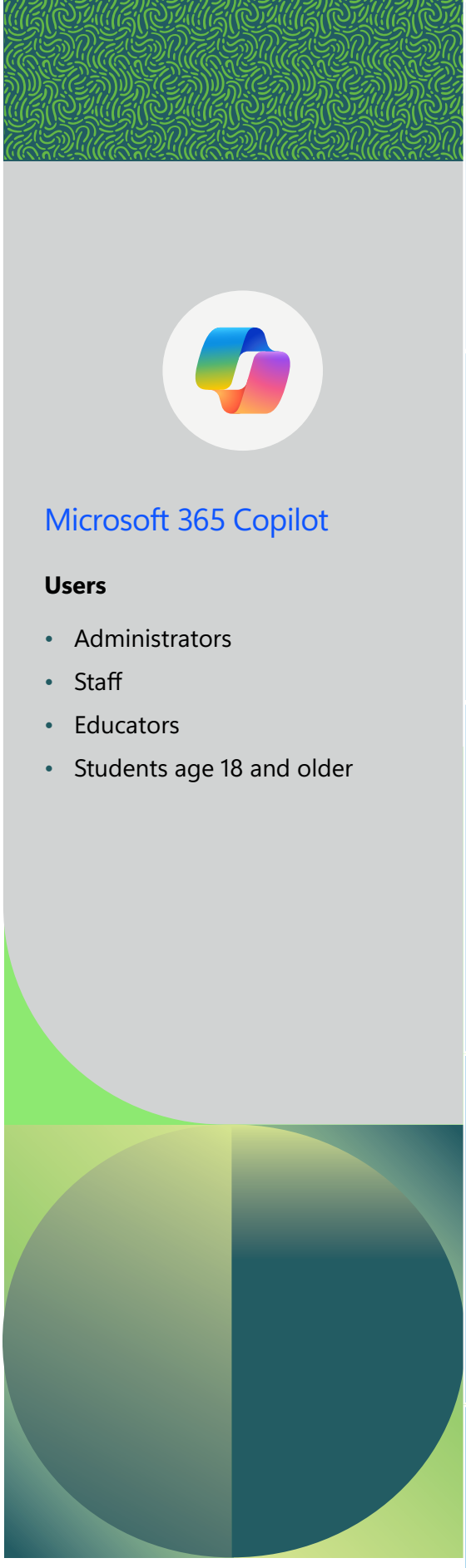
Learn more

- Announcing Microsoft Copilot, your everyday AI companion
- Expanding Microsoft Copilot access in education
- Adoption Kit
- Documentation

Microsoft 365 Copilot

Microsoft 365 Copilot combines powerful large language models to enhance productivity and amplify creativity with Microsoft 365 apps. Like Microsoft Copilot with enterprise data protection, Microsoft 365 Copilot 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 Microsoft 365 Copilot as an add-on to their exisiting Microsoft 365 Education A3 and A5 plan.



Microsoft 365 Copilot

Users

- Administrators
- Staff
- Educators
- Students age 18 and older

Technical implementation guide for Microsoft 365 Copilot

Technical requirements

- Verify or purchase licenses for Microsoft 365 Copilot for your school or institution.
- Self-assess your readiness with the Microsoft 365 Copilot Optimization Assessment.

Preparing for success

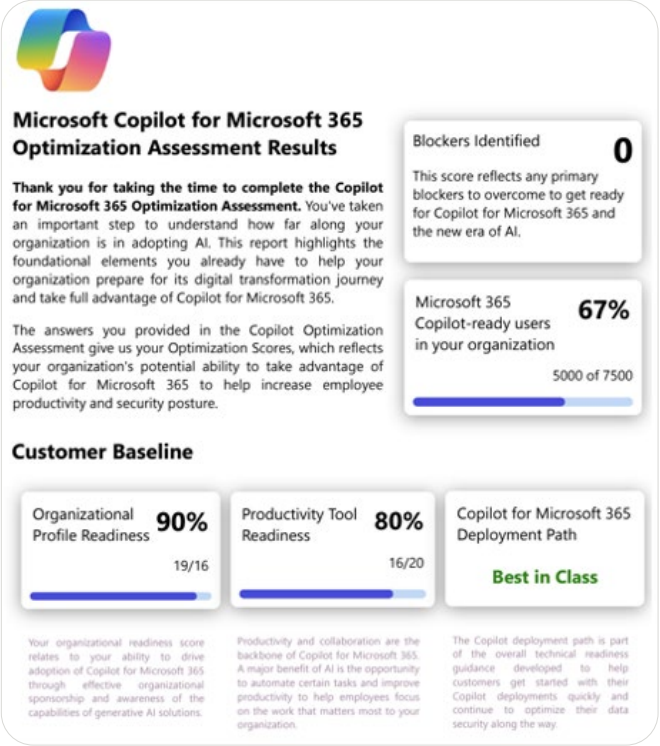
Ready to implement Microsoft 365 Copilot? Consider these initial steps:

- Purchase the licenses and software required to introduce Microsoft 365 Copilot to your IT team and staff.
- Identify select education leaders ready to pilot Microsoft 365 Copilot.
- Complete the Microsoft 365 Copilot Optimization Assessment to proactively assess your institution's readiness to start Microsoft 365 Copilot.
- Review the step-by-step technical overview of how to support your success in the Microsoft 365 Copilot implementation roadmap.

Microsoft 365 Copilot implementation roadmap

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

1. Every employee using Microsoft 365 Copilot must have a Microsoft Entra ID account to authenticate. See our Add or sync users to Microsoft Entra ID guide for more information.
2. Address any categories from the Microsoft 365 Copilot Optimization Assessment that influenced your results. The results of the assessment will provide actionable recommended practices to prepare for a successful project start.



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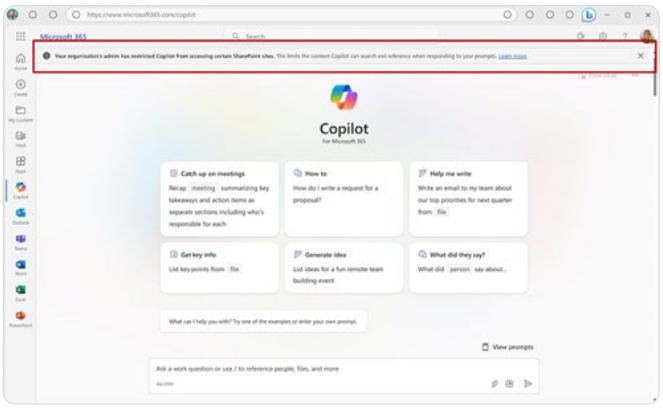
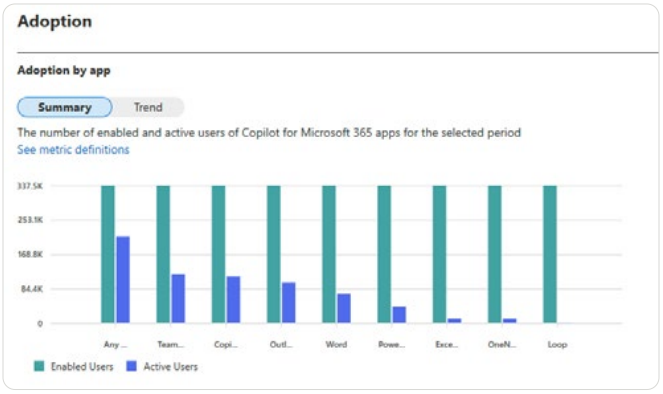
3. Ensure appropriate Data Security controls are in place. Assign permissions by role to provide access and restrict data oversharing and data leaks with manual or automatic labeling and policies.
4. If there are any concerns about your data security, enable Restricted SharePoint Search as a short-term fix. This allows you to configure up to 100 sites to be on the allow list of sites. Extend to sites containing highly used, low risk content. Once all the data security concerns are addressed, disable Restricted SharePoint Search.
5. Enable access to users as needed by signing in to Microsoft 365 admin center, going to **Billing > Licenses**, then selecting **Microsoft 365 Copilot**.
6. Once you've assigned licenses, the Copilot experience will automatically appear for users in Microsoft 365 Apps.
7. Analyze usage reports to view a summary of Microsoft 365 Copilot adoption with visibility into users' last Microsoft 365 Copilot activity.





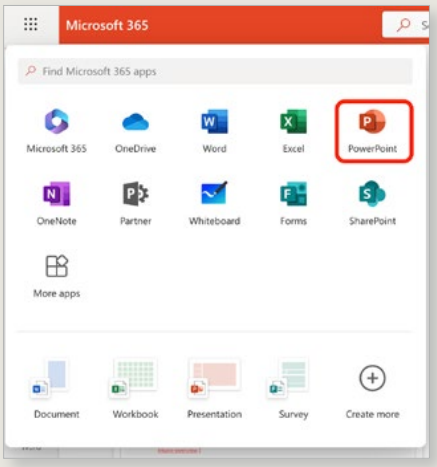
Technical guides to follow

- Copilot Success Kit
- Microsoft 365 Copilot setup guide
- Get started with Microsoft 365 Copilot
- Microsoft Learn: Prepare your organization for Microsoft 365 Copilot

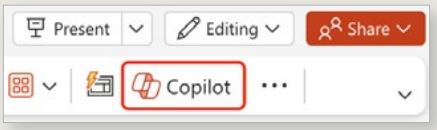
How to use Microsoft 365 Copilot

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

2. Open a Microsoft 365 app like Word, PowerPoint, Excel, Outlook, or Teams. This guide uses PowerPoint to demonstrate Microsoft 365 Copilot, so choose this app to follow along.

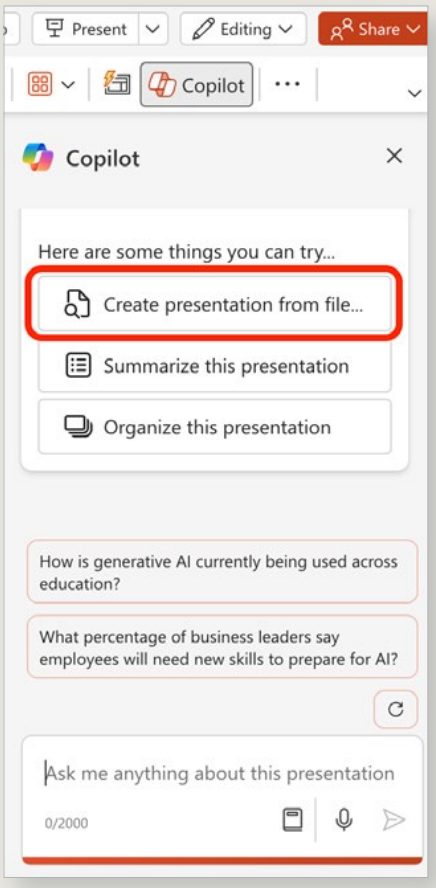


3. Select the **Copilot** button in the **Home** ribbon of a new presentation.



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

5. In the chat box, choose a suggested file or start typing the file title to populate it, then select Send. Copilot will create a presentation from the content in your Word document.



Try Microsoft 365 Copilot

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

Learn more

- How Microsoft Microsoft 365 Copilot works
- Copilot Lab
- Your AI assistant for work
- Adoption kit
- Documentation

Copilot for Security

Copilot for Security is an AI-powered security solution that enhances IT administrators' efficiency and capabilities. It uses an assistive copilot experience and supports 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.

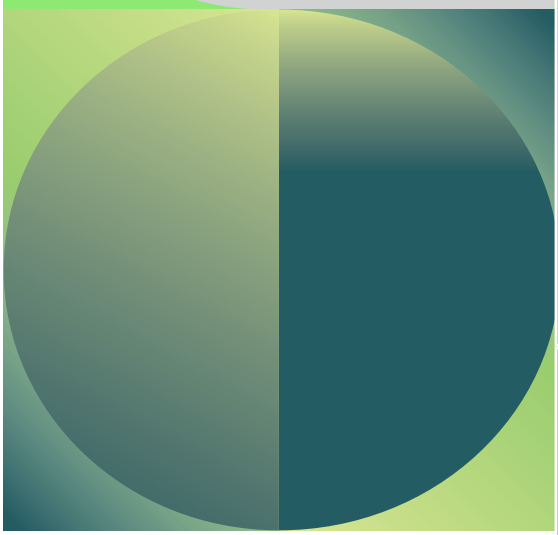
To access Copilot for Security, open Copilot for Security through a portal at securitycopilot.microsoft.com. This portal connects licensed Microsoft products and third-party services like Service Now, enabling administrators to run queries that rely on security signals from multiple products.

Copilot for Security is generally available. Schools must have a Microsoft Entra P1 or P2 license and a Microsoft Defender for Endpoint P2 license.

Copilot for Security

Users

- IT administrators



Technical implementation guide for Microsoft Copilot for Security

Technical requirements

- Verify or purchase licenses for Microsoft Copilot for Security for your school or institution.
- Ensure desired accounts have an active Azure subscription.

Preparing for success

Ready to implement Microsoft Copilot for Security?

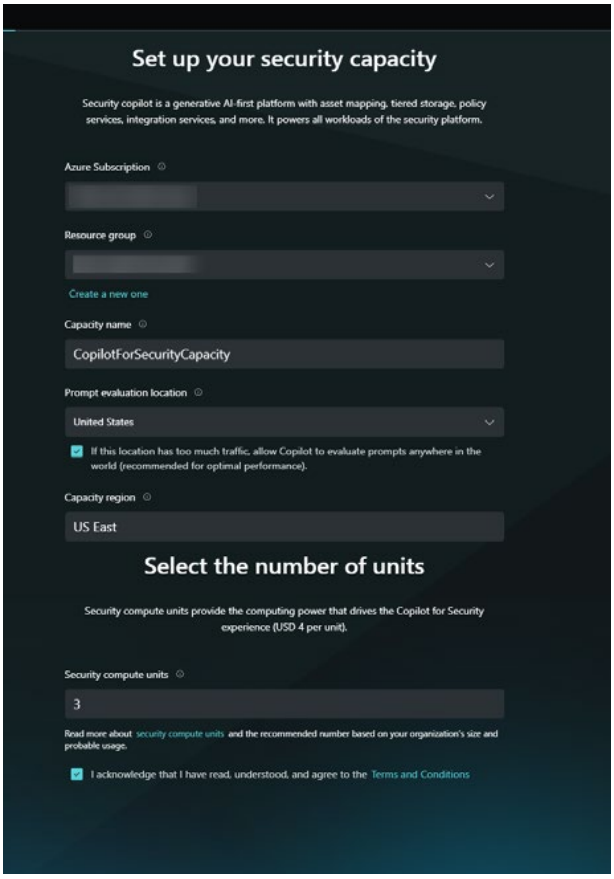
Consider these initial steps:

- Purchase the license add-on and security compute units required to introduce Copilot for Security to your IT team.
- Identify select IT personnel and leaders ready to test Copilot for Security.
- Create a plan for how to use Copilot for Security that addresses the security concerns of IT and leaders. Consider incident summarization, impact analysis, and guided response.
- Review the step-by-step technical overview of how to support your success in the Copilot for Security implementation roadmap.

Copilot for Security implementation roadmap

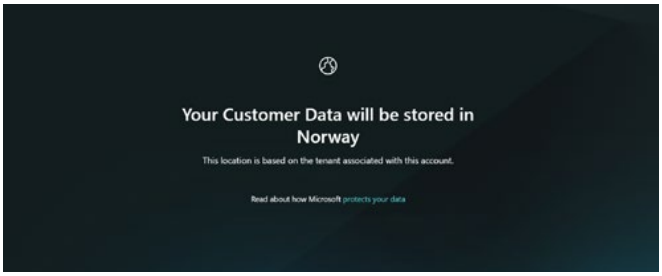
Follow these steps to get started in building your own AI capability.

1. Choose a method to provision capacity, either directly through Copilot for Security (recommended) or via the Azure portal. Ensure that you meet the necessary role requirements,
2. Set up your security capacity by selecting the Azure subscription, resource group, capacity name, prompt evaluation location, and the number of Security Compute Units (SCUs).



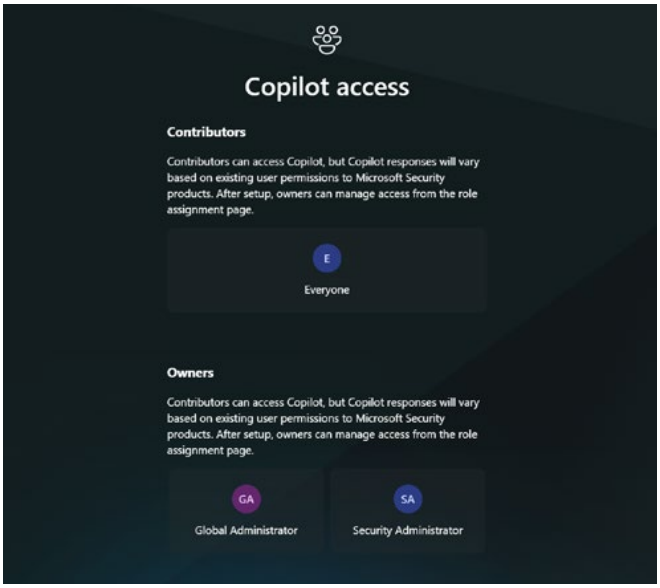
3. Assign the provisioned capacity to the Copilot for Security environment. Ensure that you have at least a Security Administrator role to proceed.

4. Determine where Customer Data will be stored and choose the appropriate data sharing options.



5. Review and confirm the default roles that will have access to Copilot for Security. Ensure the use of roles with the least privileges to enhance security.
6. Verify all settings and configurations. Once confirmed, finalize the setup process to complete the deployment.

   By default, all users in your tenant have basic access to the platform, but only those in your organization with extra permission can effectively prompt security data. Consider removing all users from the Contributors role, and add back any security admins through a defined security group, as appropriate, to ensure appropriate permissions



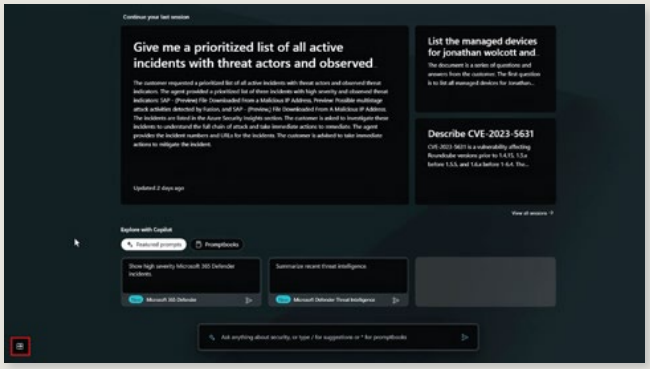
Technical guides to follow

- Get started with Microsoft Copilot for Security
- Microsoft Learn: Get started with Microsoft Copilot for Security

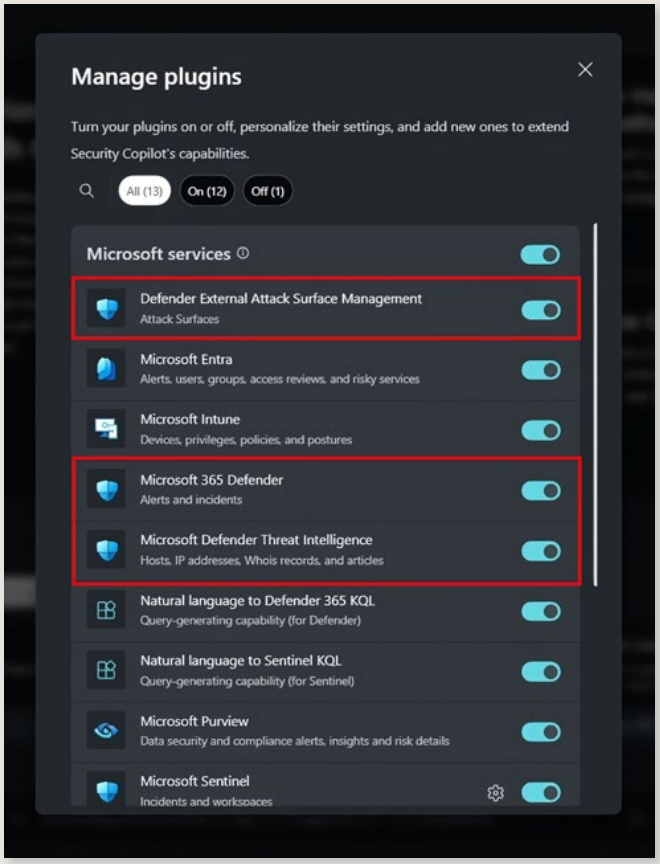
How to use Copilot for Security

1. Navigate to securitycopilot.microsoft.com and sign in with authorized credentials.

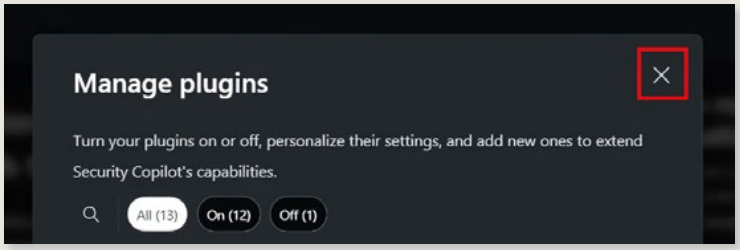
2. Select the **Manage plugins** button in the dashboard.



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 Copilot for Security capabilities for each service is required.

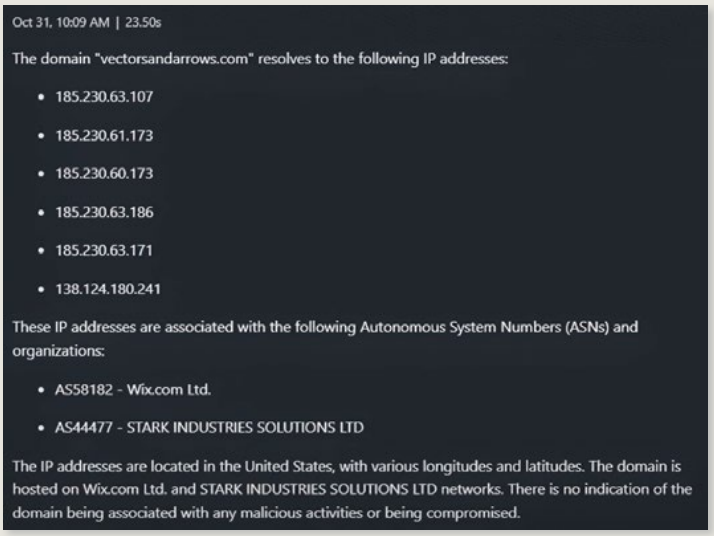


4. Close the **Manage plugins** window.

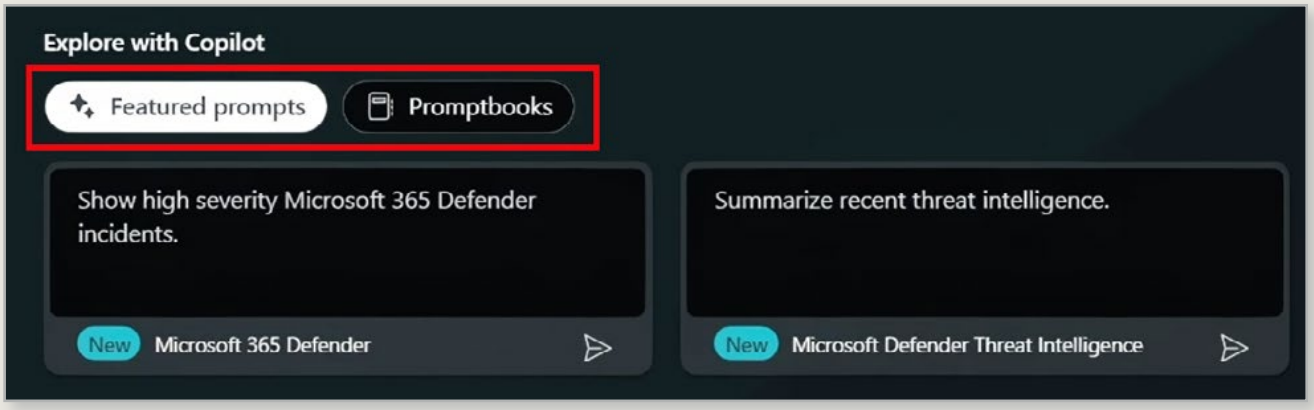


5. Type a prompt into the chat area and press **Send**.

6. Copilot for Security 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 will do 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

- 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 OpenAI Service after 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.

Technical implementation guide for Azure AI Studio

Technical requirements

- Verify or purchase licenses for Microsoft Azure for your school or institution.
- Set up an Azure account.
- If you plan to use an OpenAI model, apply for access to Azure OpenAI Service. When access has been approved, purchase, set up, and manage your Azure OpenAI Service environment.

Preparing for success

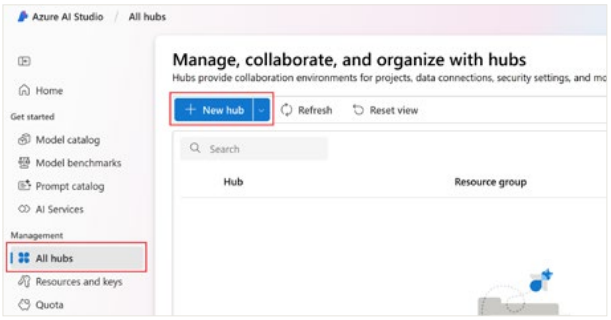
Ready to implement Azure AI Studio? Consider these initial steps:

- Purchase the licenses required to introduce Azure AI Studio to your school or institution and apply for access if you plan to use an OpenAI model.
- 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.
- Identify a cohort of education and technology leaders that are looking to solve a problem to pilot Azure AI Studio.
- 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 for additional information.
- Review the step-by-step technical overview of how to support your success in the Azure AI Studio implementation roadmap.

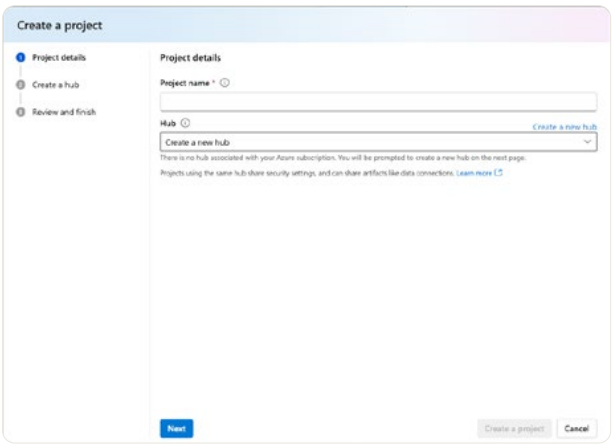
Azure AI Studio implementation roadmap

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

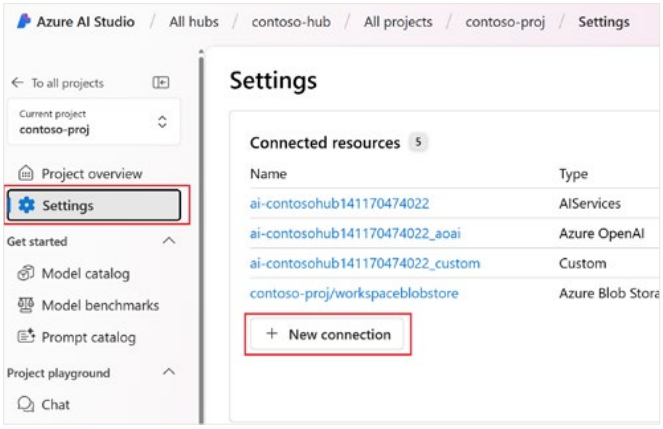
1. Open Azure AI Studio and create a hub. Hubs are the primary top-level Azure resource in AI Studio, providing a central way for a team to govern security, connectivity, and computing resources across playgrounds and projects. Once created, developers can use the hub to create projects and access shared institutional resources without needing ongoing IT support.



2. After an Azure AI Studio hub is created, you can create a project. Your user role must be Azure AI Developer, Contributor, or Owner on the hub to create a project. Select an existing Azure AI services resource (including Azure OpenAI) from the dropdown or create a new one.



3. Next, you need to select and deploy an AI model. Within a project, create connections to authenticate and consume Microsoft AI models and other resources, such as Azure OpenAI and Azure Content Safety, within your Azure AI Studio projects.



4. Consider adding data in Azure AI Studio as a resource for indexing. Data can help when you need versioning, reproducibility, auditability, lineage information, and ease-of-use.
5. Once you have created a hub and project with the appropriate data access and AI models, you can begin developing generative AI applications in Azure AI Studio. Continue to the "How to use Azure AI Studio" section of this Toolkit to learn how to develop and deploy these apps.

Technical guides to follow

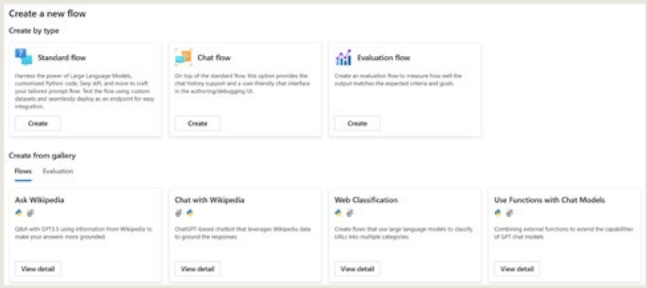
- Microsoft Learn: Get started with Azure OpenAI Service
- Microsoft Learn: What is Azure AI Studio?
- Copilot Studio Implementation Guide
- Microsoft Copilot Studio guidance documentation
- Microsoft Learn: Develop your own custom copilots with Azure AI Studio

How to use Azure AI Studio

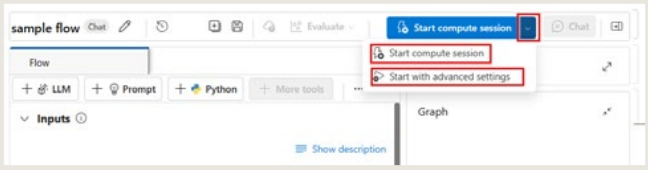
This guide will help you develop and deploy generative AI apps using prompt flow, using code, or using Azure OpenAI Assistants.

Build apps with prompt flow

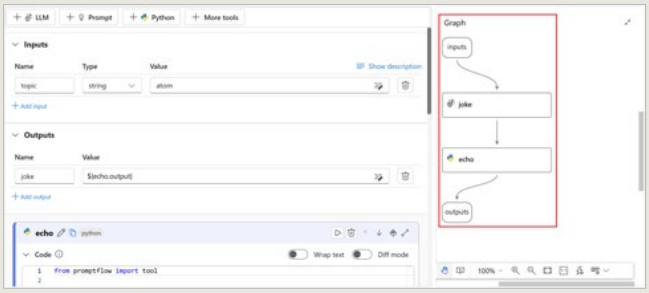
1. Open Azure AI Studio and start a new flow by selecting a flow type or a template from the gallery.



2. To run prompt flows, you must create a compute session. You can use the default settings or customize the advanced settings.



3. Now, you can start authoring your flow. Within a flow, nodes represent specific tools with unique capabilities. These nodes handle data processing, task execution, and algorithmic operations, with inputs and outputs. By connecting nodes, you establish a seamless chain of operations that guides the flow of data through your application. A visual representation of the workflow in a graph showcases the connectivity and dependencies between nodes, providing a clear overview of the entire workflow.

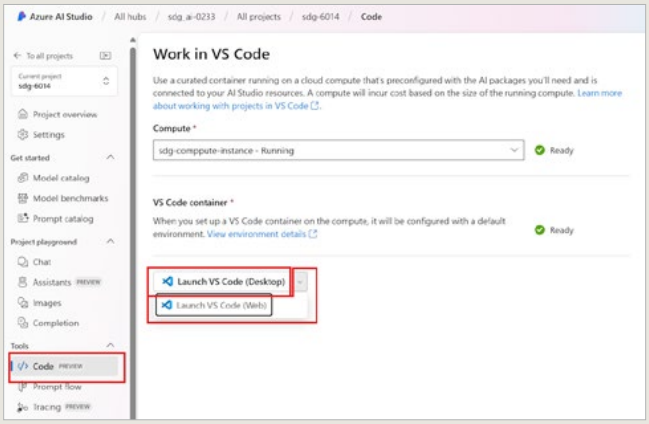


4. Combine different tools to create a flow that accomplishes a wide range of goals. For example, you can use the LLM tool to generate text or summarize an article and the Python tool to process the text to inform the next flow component or result. If the prompt flow tools in Azure AI Studio don't meet your requirements, follow this guide to develop your own custom tool and make it a tool package.

5. When your flow is complete, select Run. You can then select View outputs to view the flow results. Continue to the Deploy apps section to test and deploy your flow.

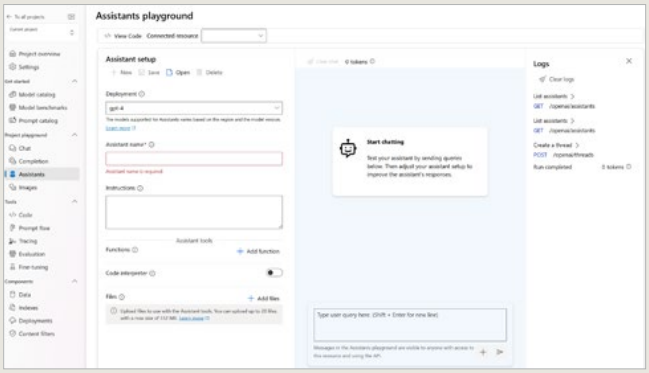
Develop apps using code

1. Open your project in Azure AI Studio then launch VS Code.
2. Get started with an AI template or trace your application with a prompt flow. You can also use this guide to build a custom chat app in Python using the prompt flow SDK.
3. Complete and test your code then continue to the Deploy apps section.



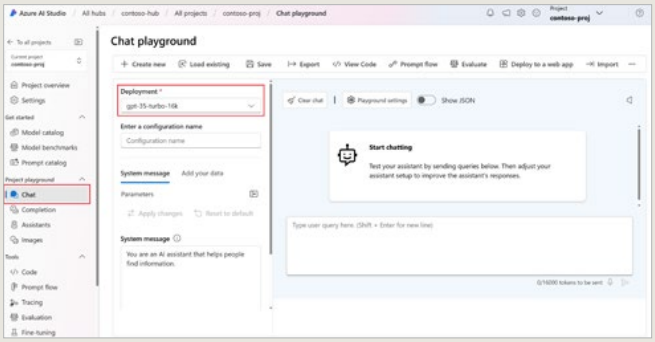
Create an AI assistant

1. Open your project in Azure AI Studio then select Assistants. The Assistants playground allows you to explore, prototype, and test AI Assistants without needing to run any code. From this page, you can quickly iterate and experiment with new ideas.
2. After selecting your deployment, start a new assistant and complete the setup screen. Provide instructions that are specific to your needs, such as "You are an AI assistant that can write code to help answer math questions." It is recommended to deploy it with one of the latest gpt-4 models.
3. Next, enter a question for the assistant to answer and run the model. To confirm that the model used code interpreter to get to this answer, and that the code it wrote is valid, ask a follow-up question, such as "Show me the code you ran to get this solution."
4. Ensure your code is valid then continue to the Deploy apps section.

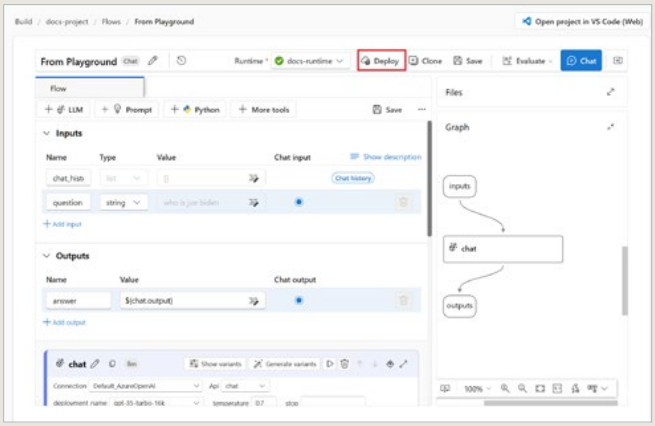


Deploy apps

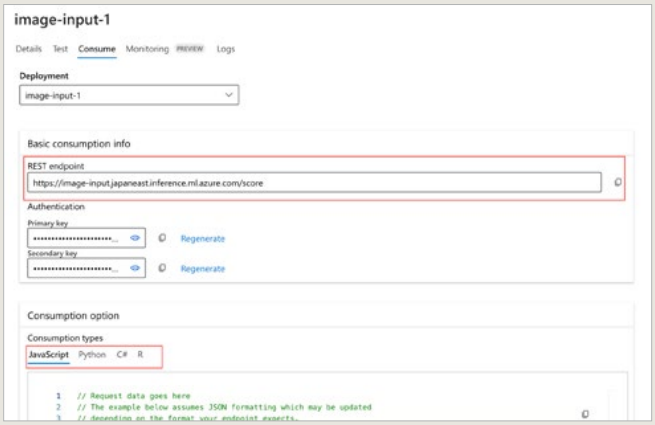
1. Optional: Select Chat to test if the flow is working correctly and observe how your model responds with and without your data. Testing your flow before deployment is recommended best practice.



2. Select Deploy on the flow editor and provide the requested information in the deployment wizard.
3. When complete, select Create to deploy your flow.



4. Select Consume to see code samples that can be used to consume the deployed model in your application. You can use the REST endpoint directly or use other settings and configurations noted here.
5. Consider granting permissions using role assignment. It's recommended to grant roles to the user-assigned identity before the deployment creation. Granting permissions (adding role assignment) is only enabled to the Owner of the specific Azure resources.
6. To enhance your understanding of production and optimize performance, use this guide to learn how to enable tracing, collect aggregated metrics, and collect user feedback during inference time of your flow deployment. It's also important to consider how you will monitor quality and token usage of deployed apps based on changes in data and user behavior.



Try Azure AI Studio

Azure AI Studio simplifies 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

- Introduction to Azure AI Studio,
- Documentation for Azure OpenAI Service,
- Documentation for Azure AI Studio,
- Data Privacy and Security

Technical implementation guide for Microsoft Dynamics 365

Technical requirements

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

Preparing for success

Ready to implement Microsoft Dynamics 365 Customer Insights with Copilot?

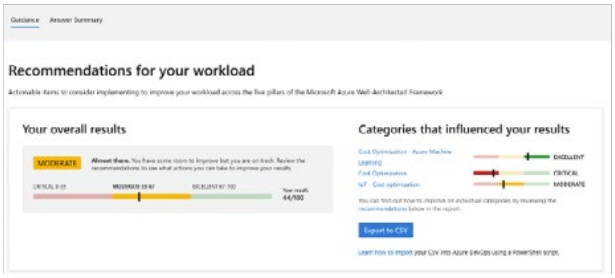
Consider these initial steps:

- 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 Dynamics 365.
- Review the step-by-step technical overview of how to support your success in the Dynamics 365 implementation roadmap.

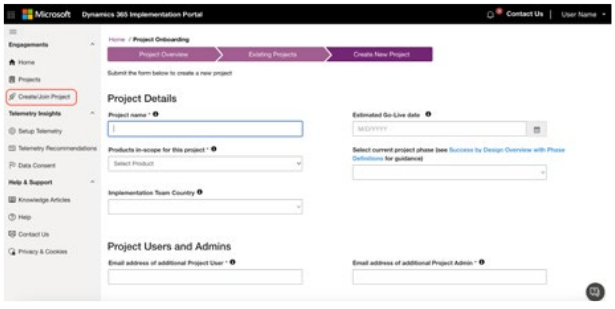
Dynamics 365 implementation roadmap

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.

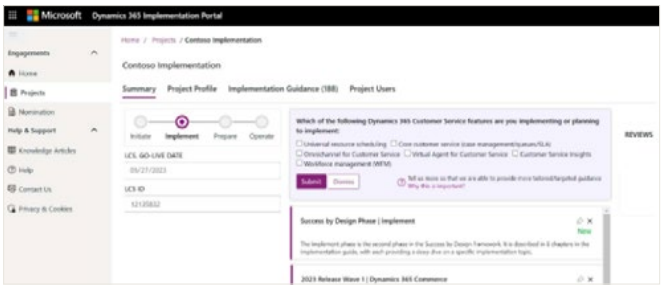


2. Sign into the Dynamics 365 Implementation Portal to get started with building your project.
3. From the Projects tab, select **Create/Join Project**. Follow the prompts for Project Onboarding to Dynamics 365.

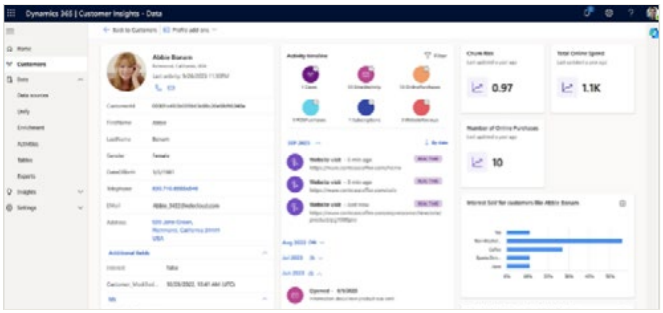


4. Create a new project or join an existing one. Use the **Implementation Wizard** to capture the scope, partner details, and go-live timeline.

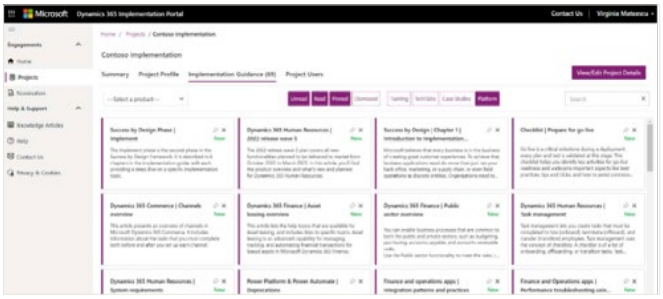
5. Define your project characteristics and implementation details. From the **Project Profile** tab, manage your project data and define your users.



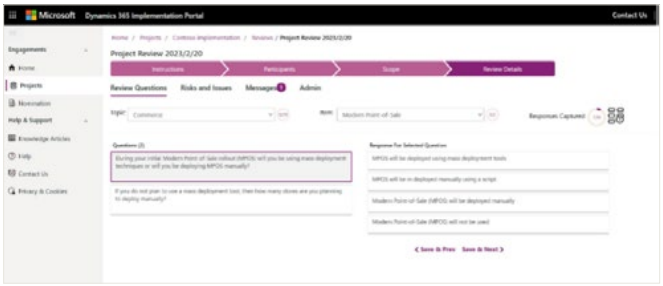
6. Enhance your project with prebuilt products and features for Dynamics 365. From the list of features, select **Customer Journeys** to unify your students' data and gain AI-powered insights into their communication preferences and online engagement.



7. From the **Implementation Guidance** tab, filter and explore resources tailored to your project needs. Read through the documents, engage with the TechTalks, and download relevant training materials and case studies.



8. Conduct project reviews with the **Go-live Readiness Review tool**. This will help identify any potential risks prior to deployment. Review the tool's mitigation recommendations and best practices, then make updates to the project as needed.
9. 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
- Microsoft Learn: Work with Dynamics 365 Customer Insights - Data
- Microsoft Learn: Product overview for Dynamics 365 Customer Insights
- Microsoft Learn: Customer Insights quickstart guide

Technical implementation guide for GitHub Copilot

Technical requirements

- Verify or purchase licenses for GitHub Copilot for your school or institution. Learn how to use Copilot for free as a student, educator, or open-source maintainer.
- Deploy GitHub Copilot for desired accounts.

Preparing for success

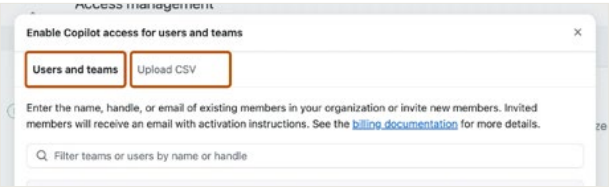
Ready to implement GitHub Copilot? Consider these initial steps:

- Purchase the licenses and software required to introduce GitHub Copilot to your IT team, students, faculty, and staff.
- Find a cohort of education leaders eager to pilot GitHub Copilot.
- 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.
- Review the step-by-step technical overview of how to support your success in the GitHub Copilot implementation roadmap.

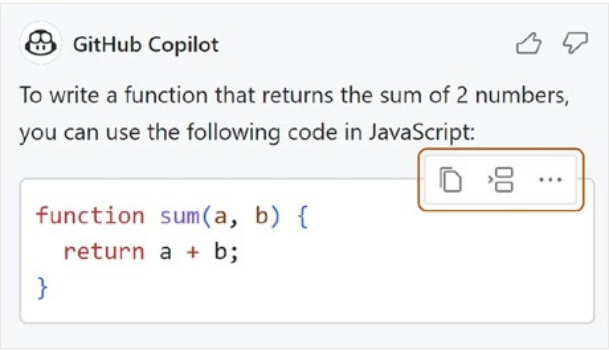
GitHub Copilot implementation roadmap

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

1. Sign into GitHub Copilot.
2. Enable access to users as needed by selecting one of the two tabs: "Users and teams" or "Upload CSV".



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

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 increasing productivity and collaboration. Copilot provides relevant answers and tailored solutions, benefitting the entire educational community.

To make the best use of Microsoft Copilot, you must develop skills in creating effective prompts that guide the AI to generate helpful results. Prompts are the messages or requests you make to Copilot using the chat interface. As AI advances, 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.cloud.microsoft
- Microsoft Edge sidebar
- Windows 11 taskbar*
- Microsoft Edge app on mobile

**Copilot in Windows 11 may not be available on your PC.*

After using your preferred access, make sure to sign in with your work or school account. You'll see a protected badge next to your credentials. This shows your data is protected while you are using Copilot.

Built-in safety

Microsoft prioritizes the protection of educational environments using Copilot with enterprise 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 generate content with confidence.

Precision prompting

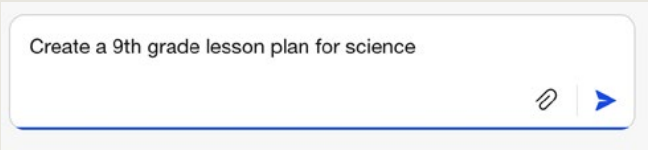
Generative AI models operate much like students following instructions for a task. When you ask students to write an academic paper, they might explore assorted topics. However, if you instruct them to write specifically about the impact of child labor laws during the Industrial Revolution, you'll likely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

This analogy extends to instructing generative AI. With 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.



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. Then 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 that are culturally diverse 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?
- Generate 5 alternative formative assessments that account for language proficiency differences to fairly evaluate the understanding of multilingual learners.

Crafting effective prompts

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

Goal

What response do you want from Copilot?

- 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.

Context

Why do you need it? How do you want it? Who is involved?

- Background information or specific details related to the task
- Type of output (table, image, email, etc)
- Elementary educators that teach art and music

Source

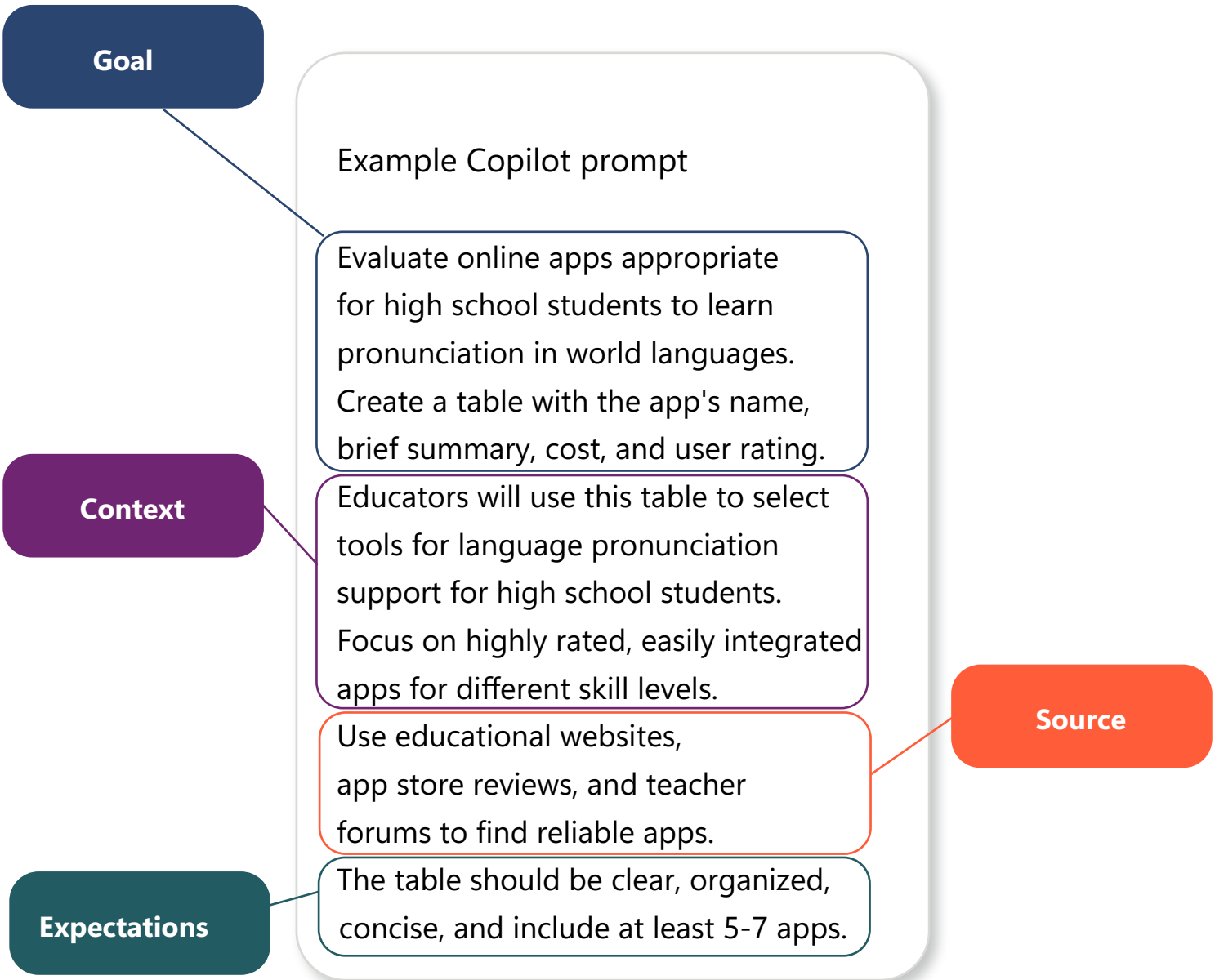
Which information sources or samples should Copilot use?

- Focus on email and Teams chats since June.
- Use attached PDF to...
- Review this site [insert URL] for...

Expectations

How should Copilot respond to best meet your expectations?

- In less than 500 words
- In a friendly and courteous tone
- Make columns for x, y, and z



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.

Tip	Description
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 and create inconsistencies when translated into other languages.
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].*

Checking for accuracy

Remember AI is an assistant, not a replacement, for a human. It can make mistakes, leading to inaccurate or fabricated information. Always review your AI responses for accuracy, grammar, and style and ensure that translations or multilingual content are contextually correct and culturally appropriate. 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.

Copilot Prompt

You are an ESL/Bilingual Coordinator tasked with developing an interactive workshop for your ESL/Bilingual staff. This workshop will focus on how to effectively review, analyze, and identify actionable next steps based on students' state language proficiency assessments, anecdotal evidence, and formative and summative classroom assessments.

Your workshop design should include:

1. Workshop Objectives: Clearly define workshop's goals, such as improving data analysis skills and instructional strategies.
2. Data Review and Analysis: Develop activities that guide staff through the process of reviewing and analyzing various assessment data. Include strategies for interpreting results from state language proficiency assessments and integrating anecdotal evidence with classroom assessments.
3. Identifying Next Steps: Create collaborative exercises that help staff identify targeted instructional strategies and scaffolds based on their analysis. Emphasize how to set measurable goals for students and plan for ongoing monitoring of progress.
4. Evaluation and Follow-up: Outline how you will assess the effectiveness of the workshop and plan follow-up support.

The workshop should be relevant to staff's needs and designed to be completed within a 2 hour session. Incorporate interactive elements that encourage active participation and practical application of the content. Include clear instructions and materials to facilitate the workshop and support ongoing assessment and instructional planning efforts. Cite any references using 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 educational staff, applicable to both K-12 and higher education institutions, on identifying and responding to phishing emails and social engineering attacks. The tutorial should be adaptable across various email platforms, emphasize practical, non-technical measures, and include relevant, real-world examples. The objective is to enhance the staff's ability to recognize phishing attempts, reduce the risk of falling victim to such attacks, and protect the institution's data.

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're familiar with the elements of building an effective prompt, try building your own.

Goal	What response do you want from Copilot?
Context	Why do you need it? How do you want it? Who is involved?
Source	Which information sources or samples should Copilot use?
Expectations	How should Copilot respond to best meet your expectations?

Professional learning

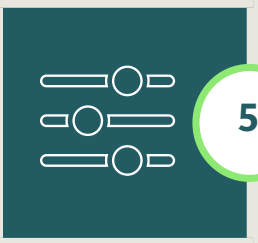
Generative AI brings new technology and new learnings. A well-developed professional learning plan for your community will facilitate informed adoption of generative AI and promote responsible practices, while ensuring your institution stays relevant and responsive to technological advancements. For 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. *If you're looking for support with your organization's professional development, check out Microsoft Global Partner Training program and/or our Training Service 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 learner, 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 educator**, 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.

Audience:
K-12 and Higher Education IT leadership and IT department

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.

Audience:
K-12 educators and leaders

Faculty members can access ready-to-teach AI curriculum, lab environments, practice assessments, and industry-recognized credentials for their courses by joining Microsoft Learn for Educators.

Audience:
Higher Education faculty and leaders

Microsoft Learn self-paced professional learning experiences

Prepare your organization for Microsoft 365 Copilot

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

Format:
Microsoft Learn learning path

Audience:
K-12 and Higher Education 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:
K-12 and Higher Education 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:
K-12 and Higher Education 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.

Our commitment to collaboration

Microsoft is committed to fostering innovation in education through collaboration with leading edtech partners. This collaboration empowers organizations with advanced AI-driven tools to enhance teaching, learning, and administrative efficiency. By integrating partner solutions with Microsoft's AI technologies, such as Microsoft Copilot, Azure AI Studio, and Microsoft 365 Copilot, these partnerships are designed to deliver tailored, scalable solutions for faculty, staff, and administrators addressing the unique needs of their organizations. Together, Microsoft and its partners strive to create inclusive, accessible learning environments that prepare students for the future.

These collaborations go beyond technology integration, adopting a holistic approach that includes training resources, workshops, ongoing technical support, and sharing best practices for trustworthy AI use in education. By working closely with edtech partners, Microsoft ensures that education leaders have access to a robust ecosystem of tools and expertise to successfully implement AI in their strategic planning and day-to-day operations. This collaborative approach accelerates AI adoption in education while reinforcing Microsoft's mission to empower every student and educator to achieve more.

Benefits for educational institutions

Partnering with edtech providers offers K-20 education institutions valuable benefits, enhancing their ability to leverage cutting-edge technologies and innovative solutions tailored to their specific needs. Through these collaborations, schools, colleges, and universities gain access to specialized expertise and resources that streamline the integration of AI tools into their educational frameworks. Partners bring valuable insights and best practices from diverse implementations, enabling institutions to adopt AI more effectively and efficiently.

Partnerships enhancing AI integration in education

To support education leaders in harnessing AI's potential, Microsoft collaborates with leading edtech partners to deliver customized solutions addressing key challenges in education. The table highlights some of these partnerships, illustrating how each partner's offerings benefit educational institutions and align with Microsoft's AI solutions to foster innovative learning environments.

Through these collaborations, education institutions gain not only the tools and training needed to integrate AI, but also the confidence to lead the way. By empowering educators and administrators to maximize AI's potential, Microsoft and its partners are helping educational institutions be more innovative, inclusive, and prepared to meet the needs of their students and institutions.

Partner	Benefits to educational institutions	Microsoft AI solution
Khanmigo for Teachers Khan Academy's AI-powered tutor for teachers	• Personalizes learning support • Offers instant feedback for students • Reduces grading workload	Microsoft 365 Copilot
Kahoot! Learning product suite	• Saves time for educators • Improves search and brainstorming functionality • Creates quizzes and presentations on any topic	Azure OpenAI Service
Quizlet AI-powered study tools and flashcards	• Improves student retention • Offers personalized study paths • Engages students with interactive content	Microsoft 365 Copilot
DreamBox Learning Adaptive math and reading programs	• Tailors learning to individual student needs • Provides real-time progress tracking • Supports differentiated instruction	Azure AI Studio
Canvas by Instructure Learning management system integration	• Fully immersive Teams meetings through LTI • OneDrive LTI support • Course roster sync in Teams through Class Teams LTI	Learning Tools Interoperability (LTI) using OneDrive LTI, Teams Meetings LTI, and Teams Classes LTI
Schoology by PowerSchool Learning management system integration	• Fully immersive Teams meetings through LTI • OneDrive LTI support	Learning Tools Interoperability (LTI) using OneDrive LTI, Teams Meetings LTI, and Teams Classes LTI
Blackboard by Anthology Learning management system integration	• OneDrive LTI support	Learning Tools Interoperability (LTI) using OneDrive LTI

Section 5

Research

Research Contents

Microsoft insights

Includes a selection of detailed reports and comprehensive product guides from Microsoft, focusing on the integration and utilization of AI 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.

Microsoft AI Skills Navigator

Microsoft • October 2024

In the new landscape of AI at work, opportunities are ever changing—and everyone can learn how to use AI to meet these opportunities. Nearly every role in the workforce can benefit from AI that enhances productivity and creativity. Microsoft AI Skills Navigator empowers you to learn how to unlock the power of AI at work. Learn from the latest leaders in AI innovation with an AI assistant to jumpstart your goals.

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 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, ways to improve 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 Microsoft 365 Copilot

Microsoft • February 2024

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

Data and insights

A collection of specially commissioned reports, comprehensive datasets, and infographics that explain the use and impact of AI 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.

The Dawn of the AI Era: Teens, Parents, and the Adoption of Generative AI at Home and School

Common Sense • September 2024

This report from Common sense Media examines how generative AI is being used by teens and parents, both at home and in educational settings. Based on a survey of 1,045 teens and their parents, it highlights the diverse ways AI tools are utilized, the benefits and challenges of integrating AI into classrooms, and the disparities in access and perception based on socioeconomic factors. The report also discusses the mixed feelings about AI's future impact, with some viewing it as a beneficial tool and others expressing concerns about its effects on jobs and privacy.

Student perceptions of generative AI

Jisc • May 2024

This report explores the evolving perceptions of generative AI among students. It highlights key changes since Spring 2023, including the transition to collaborative learning, emphasis on future skills, and concerns about ethics, equity, and accessibility. The report also discusses how students are currently using generative AI for communication, learning, research, creativity, and personal support. Additionally, it addresses the need for comprehensive integration of AI in education, the importance of academic integrity, and the preparation for AI-influenced employment.

2024 EDUCAUSE AI Landscape Study

EDUCAUSE • February 2024

The EDUCAUSE AI Landscape Study, conducted from November 27 to December 8, 2023, examines the opportunities and risks of AI in higher education. It focuses on strategic planning, policies, workforce implications, and the future of AI, using the U.S. National Artificial Intelligence Act of 2020's definition of AI.

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.

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.

Case Study: Practical Insights: Incorporating ChatGPT in Language Education and Beyond

Tokyo University of Science • May 2024

This article explores the integration of ChatGPT's voice capabilities in an advanced English language seminar at a Tokyo university. The study highlights the transformative impact of AI on traditional educational practices, focusing on real-time audio-responsive interactions to enhance speaking and listening activities. The pilot study, conducted in fall 2023, involved five students and demonstrated significant improvements in student engagement and communication skills. The findings suggest that AI can effectively simulate realistic conversations, offering a new dimension to language learning.

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 don't 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 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.

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

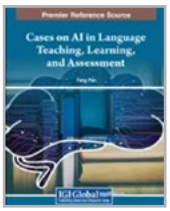
American Journal of Education and Learning • February 2024

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 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.

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.

Planning support

Resources for educators and policymakers involved in incorporating AI 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 competency framework for teachers

UNESCO • September 2024

This document presents a comprehensive AI competency framework to help guide the professional development of teachers in integrating AI into education. It emphasizes the ethical, pedagogical, and foundational knowledge teachers need to responsibly use AI while promoting human-centered teaching and learning environments. The framework outlines 15 competencies across five key dimensions, offering a global reference for developing AI training programs and national policies to enhance educational practices in the AI era.

A Framework for AI Literacy

Educause: Emerging Technologies and Trends • June 2024

Academic and technologies teams at Barnard College developed an AI literacy framework to provide a conceptual foundation for AI education and programming efforts in higher education institutional contexts.

AI Guidance for Schools Toolkit

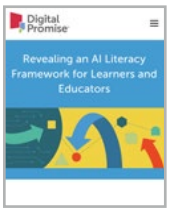
TeachAI • 2024

This toolkit provides guidance for education authorities, school leaders, and teachers on harnessing 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

This guide, written in Spanish and 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

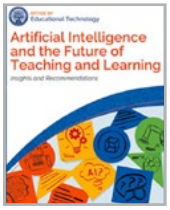
UNESCO • September 2023

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, addresses the clear need for sharing knowledge, engaging educators, and refining technology plans and policies for 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.

Thought leadership

As AI 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.

The future of learning: How AI is revolutionizing education 4.0

World Economic Forum • April 2024

This paper explores the transformative potential of AI in education, emphasizing its role in supporting teachers by automating administrative tasks, enhancing assessments with real-time analytics, bridging the digital skills gap, and personalizing learning experiences to meet diverse student needs. It highlights how AI can improve educational outcomes by allowing educators to focus more on student engagement and human-centric teaching, ultimately preparing students for future job demands.

Generative AI and K-12 Education: An MIT Perspective

MIT Exploration of Generative AI • March 2024

This article explores the introduction and implications of generative AI, like ChatGPT, in educational settings. It discusses the mixed reactions from educators, ranging from enthusiasm to concern, and highlights the challenges and opportunities AI presents. The article emphasizes the need for thoughtful experimentation, balanced integration of AI, and the importance of supporting teachers and students through this technological shift. It also addresses issues of equity, academic integrity, and the potential for AI to both aid and disrupt traditional educational practices.

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 connects 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, build your own GPT's and develop automations 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, Microsoft 365 Copilot, 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 and language differences?

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 literature 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, implement robust cybersecurity measures, and educate 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.