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This guidance was written in collaboration with the New Mexico Public Education Department and the William & Ida Friday Institute for Educational Innovation at North Carolina State University in Raleigh, NC. For questions and inquiries, please contact AlwiththeFl@ncsu.edu.

INTRODUCTION



It is with great excitement that we release the New Mexico Artificial Intelligence Guidance for K-12 Education, designed to support our schools and districts as we navigate the rapidly evolving world of artificial intelligence (AI) with confidence and care.

The passage of the NM Digital Equity in Education Act (2023) provides a roadmap to ensure all students have the computing resources—both devices and Internet access—necessary to be successful. This guidance promotes digital equity and accountability. Through a firm commitment to access, New Mexico is dedicated to teachers and students having an innovative teaching and learning environment that fosters digital citizenship and Al literacy.

Our vision is to bring AI into New Mexico classrooms and to do so in a way that puts students and educators at the center of this digital transformation. AI can enrich the learning experience, but it is human oversight, inquiry and reflection that ultimately drive meaningful education. Human-centric use of AI is the key to successful use in education. AI can serve as a facilitator and a coach of knowledge.

This Al guidance is the result of collaboration among many stakeholders in education across New Mexico. It serves as a dynamic resource designed to help local school districts develop their own approaches to effectively and responsibly integrate Al into teaching and learning.

The New Mexico Public Education Department is committed to supporting New Mexico educators with the resources, training and guidance they need to implement AI in ways that nurture critical thinking, promote ethical AI use and ensure equitable access for all students. Together, we will build an education system where technology enhances learning without compromising the essential human connection that is at the heart of teaching and learning. We invite all of you to join us in this exciting journey!

Mariana 1). Padilla

Mariana D. Padilla

Secretary of Public Education

New Mexico Public Education Department

How to Use this Guidance

The purpose of this guidance is to provide educators, administrators and communities with a clear framework for integrating AI in a way that supports equitable, ethical and effective learning environments. Designed to balance the innovative potential of AI tools with necessary safeguards around data privacy, academic integrity and human-centered values, this guidance offers actionable recommendations, resources and examples to empower New Mexico schools to leverage AI responsibly, preparing students for a technology-driven future.

This guidance document is organized into several key sections. The **Overview** section introduces the foundational concepts of artificial intelligence, tracing its evolution and highlighting its transformative potential in educational settings. **Al Literacy** provides practical examples for implementing Al in classrooms, with a clear focus on understanding, evaluating and using Al with students across K-12 settings. **Guiding Principles for Al** aligns efforts with New Mexico priorities for ethical and responsible use. **Framework for Al Integration** offers concrete steps for adopting Al technologies across the state's diverse educational contexts, emphasizing best practices in curriculum development, teacher support and student engagement. Finally, **Next Steps** outlines a pathway for ongoing development, encouraging schools and districts to adapt as issues and technology evolve.

Throughout this guidance, you will find quotes from New Mexico teachers, principals, and superintendents who are leading AI integration in diverse and impactful ways. As this guidance and work with AI develops, we hope to feature more examples from New Mexico educators that can offer real-world applications, challenges and successes. Together, we can build a collaborative resource that reflects the evolving use of AI in New Mexico's educational landscape.

"Ethical concerns are important to keep at the forefront of decisions. With research showing improvement in efficiency and effectiveness when using AI, it is important that all children are developing both the skill to use the tools ethically and responsibly and an understanding of how AI can be misused."

~ New Mexico Educator



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What is Artificial Intelligence?

Artificial intelligence (AI) is a computational science focused on developing systems that use data-driven models to perform tasks that involve reasoning, learning, prediction, decision-making and automation. These systems apply complex algorithms and data processing to recognize patterns, draw inferences and make decisions—effectively simulating aspects of human intelligence while continuously adapting to new information over time.

Foundational capabilities of AI described in the table below represent some of the possibilities for AI. With time and emerging developments, these functions and applications will continue to expand and evolve. Beyond basic efficiencies and automations, thoughtful and responsible integration of AI offers potential and possibility for reshaping how educators interact and innovate.

Foundational Capabilities	Description
Understanding & Reasoning	Al organizes and stores information to make logical decisions and draw conclusions, such as autocorrect or smart speakers.
Learning & Adapting	Al systems improve and evolve over time by analyzing data and adapting to new information, such as video streaming or online shopping recommendations.
Perceiving the World	Al interprets sensory inputs like images, sounds and videos through technologies like computer vision and speech recognition, such as smart homes with thermostats and lighting systems.
Understanding Language	Al processes and interacts using human languages, enabling tasks like translation, text generation and conversational systems, such as real-time video captioning.
Making Decisions & Solving Problems	Al evaluates options, solves challenges and chooses the best actions to achieve goals, such as intelligent tutoring systems.
Planning and Optimizing	Al maps out strategies and finds the most efficient ways to accomplish tasks or use resources, such as optimizing driving directions based on traffic patterns.
Acting Autonomously	Al can operate independently in real-world environments, such as self-driving cars or robotics.
Detecting Patterns & Personalizing Experiences	Al identifies unusual patterns and tailors interactions to individual preferences and needs, such as a chatbot or virtual assistant.



Strengths & Opportunities for AI in New Mexico

Al presents possibilities to enhance learner engagement, create pathways that meet learner needs, offer adaptive tools for teachers and drive a culture of school innovation. However, realizing Al's potential requires a strong understanding of foundational knowledge around Al and a renewed commitment to digital citizenship, empowering all students to navigate digital spaces in safe, responsible and developmentally appropriate ways. Equally critical is the emphasis on digital equity, where all students have fair access to the resources, tools and opportunities that Al can foster. By embedding culturally-relevant practices into Al-driven learning, we can foster environments where students see their identities and experiences reflected and valued.

"In connecting with the local community and higher education, AI supports my teaching in a way that aligns with industry trends, especially as we incorporate technology-based skills that students may encounter in future jobs or college. This connection with real-world applications shows the value of what students are learning and demonstrates to families and the community how their education is preparing them for success beyond high school."

~ New Mexico Educator



Human-Centric Al

Human-centric AI values the person over the machine throughout the engagement process. Prioritizing practices that keep educators in the loop recognizes that AI should not replace educators but rather support and enhance their capacity to maintain human relationships in the classroom, nurture student learning and create dynamic learning experiences. Keeping humans in the loop when consequential decisions with serious impacts are being made is essential to ensure accountability, ethical behavior and contextual understanding.

While AI can process vast amounts of data and identify patterns quickly, it often lacks the ability to fully understand nuance, moral considerations and unique situational factors. Educators play a vital role in students' emotional and academic growth. AI tools, such as chatbots for tutoring, can be effectively leveraged to supplement instruction when teacher guidance and support is also present for students. A teacher monitoring the student-AI engagement can correct misunderstandings and adjust instruction, interpret student performance and tailor interventions based on students' holistic needs.

The oversight and control over Al tools is critical to (1) establish and maintain ethical, responsible standards when interacting with Al and (2) create learning environments where students exercise agency in their learning journey. In these conditions, teachers have the flexibility to design and adjust Al tools that align with student-appropriate educational goals, to override or modify Al recommendations, and to encourage safe and responsible Al use as they teach with and teach about Al.



Human-in-the-Loop

The phrase human-in-the-loop refers to systems where humans are actively involved in the AI decision-making process by supervising, guiding and overriding Al outputs. This oversight ensures decisions are more ethical, accurate and safe. Human-centric Al highlights the importance of beginning and ending AI use with human inquiry and reflection. In education, the concept of "teacher-in-the-loop" reinforces the critical role of human relationships in the classroom, positioning AI as a tool to support-rather than replacethose meaningful connections.



Read or listen to John Spencer discuss
How to Prevent AI from Doing All the Thinking



Human-Centric Al

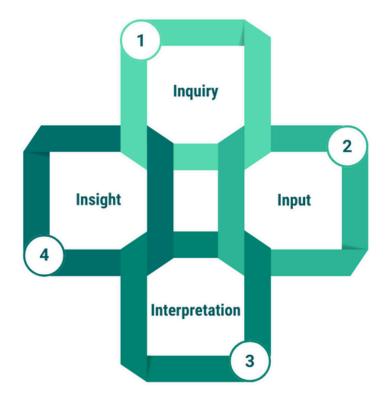
The 4-I framework described below follows an ongoing four-step cycle—Inquiry, Input, Interpretation and Insight—where humans guide AI systems, evaluate their outputs and refine the process. This cycle repeats as new insights lead to further questions, refining the inquiry and improving AI's effectiveness over time.

Inquiry | This step involves identifying a problem, question or area of curiosity that requires exploration. It begins with human-driven curiosity, guiding how AI might assist in addressing or analyzing the issue.

Input | Humans provide data, context or prompts to AI systems. This input shapes how AI processes information and generates responses. The quality and clarity of human input significantly impact the relevance of AI outputs.

Interpretation | At this stage, humans analyze and evaluate the Al-generated output. They assess its accuracy, biases and alignment with the original inquiry, ensuring that Al recommendations are meaningful and applicable.

Insight | Humans integrate Al-assisted findings into decision-making or creative processes. The Al does not replace human judgment but enhances understanding, allowing for better-informed decisions or innovations—which may include returning to Step 1: Inquiry.







>>> District Spotlight

Gadsden Independent School District

The Gadsden Independent School District recognizes the transformative potential of artificial intelligence in education and has taken proactive steps to integrate this technology responsibly and effectively. The district has adopted AI tools to support teachers with administrative tasks, lesson planning and communication, while also equipping students with valuable skills in utilizing AI ethically and productively. To ensure a safe and secure environment for students, the district collaborates with a private company to provide AI tools that include built-in safeguards and promote equitable access.

> "In my current role as a special education teacher, I use AI to help my students learn and grow in ways that meet their unique needs. Al tools support me in personalizing lessons so each student can learn at their own pace, focusing on what they need most. For example, some AI programs help my students practice math skills or read in ways that match their individual learning levels, making challenging tasks feel more achievable. Al also allows me to identify areas where students may need extra support by analyzing patterns in their progress. This means I can spend more time helping each student in the ways that matter most to them, whether that's breaking down a complex idea or providing additional practice. In this way, Al becomes a tool not just for learning but for understanding and celebrating each student's growth, no matter where they start."

> > ~ New Mexico Educator



Al Literacy

As artificial intelligence increasingly shapes the way humans work, learn and interact with the world, AI literacy for educators and students becomes increasingly important. Modeled after Digital Promise's Framework (2024), AI literacy is detailed in three parts. All users must be able to: (1) understand how AI systems function, (2) evaluate its potential and risks, and (3) apply it thoughtfully in real-world contexts. Prior to adoption or integration of any AI platforms, users should grasp the principles of AI systems, critically assess their ethical implications, such as privacy and bias, and make informed decisions about their use.

This section outlines some strategies for incorporating AI literacy in elementary school, middle school and high school to ensure learning is age-appropriate and engaging.

Professional development for educators should provide the knowledge, skills and confidence educators need to navigate AI in their professional practice. These learning opportunities can help demystify AI by building foundational knowledge, enabling educators to critically evaluate AI tools, make informed decisions, enhance their teaching practices, and promote ethical and responsible use of AI. The resources below may be helpful to educators growing their understanding and use of AI in their role.



- <u>Empowering Education Leaders Toolkit</u> | Office of Educational Technology resource for school leaders to support the safe and equitable use of Al
- Al Literacy: A Framework to Understand, Evaluate, and Use Emerging Technology | Digital Promise guidance for developing Al literacy
- Generative AI for Teaching and Learning | MIT educator hub exploring content on a variety of AI topics
- Al 101 for Teachers | Code.org video series designed to explore Al
- <u>20 AI "first steps" for teachers</u> | Matt Miller (aka Ditch that Textbook) guide designed to move teachers through beginning stages of AI adoption
- Generative Al: Use Cases in Education | Interactive map with use cases for Al in the classroom, along with a wide assortment of Al tools
- <u>ChatGPT Foundations for K-12 Educators</u> | Common Sense Media's foundational course designed to help teachers leverage generative AI in the classroom setting
- <u>AI4K12</u> | A variety of resources and guidance to support educator adoption of AI technology
- Al with the FI: From Awareness to Advocacy | On-demand course from the Friday Institute guiding teachers through Al use in the classroom
- Al Literacy Curriculum Hub | Curated spreadsheet of published K-12 Al literacy lessons



Al Literacy Early Grades

Al literacy for students in grades K-5 should focus on foundational concepts that include explanations, discussions, simulations and modeling that are online and "unplugged." Elementary-age students can develop curiosity and understanding of Al without being overwhelmed by technical complexities.

Introduction to AI Concepts | Use stories, games and activities to explain how AI works and develop computational thinking skills. For example, students can engage in lessons that break down problems into smaller steps (decomposition), recognize patterns, focus on the most relevant information (abstraction) and develop step-by-step solutions or rules to follow (algorithms).

Discover AI in Everyday Life | Spark interest by demonstrating how AI helps in familiar scenarios and has a role in everyday tools. For example, students may be familiar with everyday tools like streaming apps that recommend their next show, voice assistants or AI-powered robot toys.

Ethical Awareness | Foster critical thinking by discussing how AI can help or harm, emphasizing fairness, privacy and the importance of human oversight in a relatable way. For example, students can be guided to make responsible decisions by understanding when it is appropriate to use technology, learning how to verify the accuracy or reliability of AI's responses, and understanding the personal data that might be collected and shared when online.

Bias Awareness | Help students recognize that AI can make mistakes and may not always be fair. For example, students can explore how AI might struggle to recognize different types of handwriting or misidentify objects in drawings. Teachers can guide discussions on fairness by showing how AI systems might favor certain groups or make incorrect guesses about people, animals or objects due to limited training data. Simple, hands-on activities—such as comparing AI-generated images, testing an image recognition tool with diverse pictures or noticing when a voice assistant misunderstands different accents—can encourage students to think critically about why AI sometimes gets things wrong and why using a wide variety of examples helps make AI smarter and fairer.

Exploring AI Limitations | Demonstrate where AI might fail and create machine errors and how human input plays a role. For example, students with their teacher can test a chatbot with tricky or unclear questions, observe when it provides incorrect answers, identify areas of bias and discuss why those mistakes happen. Alternatively, students can roleplay as "AI," responding to vague instructions to understand how AI relies on human guidance and accuracy in its design.

Hands-On Exploration | Incorporate simple, interactive tools or platforms that allow students to experience Al in action, such as image recognition games or basic coding exercises that simulate Al decision making. For example, using interactive coding platforms helps students grasp core ideas like machine learning and data patterns.

Collaboration, Play and Creative Inventions | Encourage students to think about how AI might solve problems in their world, such as creating art, helping with chores or making school more fun. Use group projects or play-based learning to make AI concepts accessible and encourage peer discussions about technology. For example, using predictive games where students decide how an AI should behave in situations like sharing resources fairly or avoiding mistakes encourages students to consider fairness, safety and responsibility.



Al Literacy Middle Grades

Al literacy for students in grades 6-8 should build on foundational knowledge from the early grades while introducing more complex ideas and applications through engaging and thought-provoking activities. Lessons should extend students' growing ability to handle complexity and explore real-world implications of Al.

Analysis of Al Systems | Instruct students to break down and evaluate how Al systems work. For example, students can dissect how a recommendation algorithm selects movies or music on streaming platforms or reverse-engineer Al processes by identifying inputs, outputs and potential biases in a controlled scenario. Students could take on the role of an Al moderator deciding which social media posts to flag or a self-driving car navigating a challenging situation. To explore Al fairness, students can also conduct hands-on experiments using Al tools for drawing to investigate bias. They can test whether an Al system recognizes different people or objects equally, analyze inconsistencies and discuss why biases may occur. This encourages critical thinking about training data, fairness and ethical Al design.

Exploring AI Ethics | Use real-world examples to explore the ethical implications of AI. For instance, students can analyze scenarios such as biased hiring algorithms, autonomous vehicles making decisions in emergencies or the use of AI in surveillance. Small-group discussions can focus on balancing innovation with fairness, privacy and human rights.

Data Visualization | Provide datasets for students to analyze and interpret as an avenue for exploring how AI uses data to identify patterns and make predictions. For example, students analyze a simple dataset, such as favorite school lunch items or local weather patterns, create graphs in spreadsheets and then design prompts or questions to make future predictions. Expand the lesson to include discussions about bias in datasets. For example, students can explore why hiring data from the past might favor men over women or why AI voice assistants might struggle with certain accents. Through group discussions and comparisons of different datasets, students can begin to understand how biased data can lead to unfair AI decisions and why using diverse and accurate data is important.

Building AI Models | Encourage hands-on creation of simple AI models to deepen understanding. For example, students can use platforms such as Scratch or Python to build projects that classify objects or predict trends to understand the importance of training datasets, feedback loops and accuracy.

Cultural and Global Impacts | Incorporate research-based activities where students investigate and critically analyze Al's role in shaping society and how Al may affect different regions and cultures. Discuss how Al bias can influence global perspectives, such as Al translation errors due to cultural and linguistic biases or facial recognition systems performing differently across racial and ethnic groups. For example, students could explore how Al is transforming industries and societal issues related to education, healthcare, criminal justice or climate change, examining both its benefits and risks. Additionally, students can test Al tools, such as online translators or image recognition programs, to identify bias firsthand and discuss the ethical implications of these discrepancies.

Exploring the Future of AI | Encourage students to imagine and design AI technologies of the future. For example, students could create concept sketches for AI tools to address global challenges like disaster response or education in remote areas. Discussions should focus on balancing innovation with ethical considerations and practicality.



Al Literacy High School

Al literacy for high school students should focus on deeper technical understanding, critical evaluation and real-world applications of Al, while encouraging ethical reasoning and innovation. These strategies may prepare students to think critically about Al's role in society and explore its career pathways.

Exploring Advanced AI Concepts | Introduce high school students to more technical AI concepts like neural networks, deep learning and natural language processing. For example, use interactive tools or coding platforms to demonstrate how AI models are trained and optimized, such as building a text classifier or experimenting with computer vision applications. Discuss how bias can be embedded in neural networks, leading to unfair or inaccurate outcomes, and explore strategies for developing fairness-aware machine learning models, such as improving training datasets, adjusting algorithms and evaluating model outputs for bias

Ethics and Policy Design | Challenge students to analyze and propose policies for the responsible use of AI in society. For example, assign case studies on controversial uses of AI, such as facial recognition or autonomous drones, and have students debate and draft policies addressing these issues. Additionally, introduce AI auditing by having students evaluate real or simulated AI tools for bias, accuracy and ethical implications. For instance, students could test an AI chatbot, image recognition software or hiring algorithm to identify potential biases and propose fairness improvements, reinforcing the need for transparency and accountability in AI development.

Data Analysis | Teach students how AI uses data to make predictions and decisions. For example, to build skills in data literacy and statistical thinking, provide datasets for students to explore using tools such as Python or Excel, discuss the quality of data and its impact on AI predictions and then guide them to identify trends and test simple machine learning models.

Investigating Bias and Fairness in AI | Guide students in exploring how bias can affect AI systems and their outputs. For example, students can analyze biased datasets or experiment with an AI tool to see how it behaves with diverse inputs. Discuss the ethical and societal consequences of biased AI and how they can be mitigated. Emphasize strategies for mitigating bias in AI, such as modifying biased datasets, retraining models and comparing outputs before and after improvements.

Designing AI Solutions | Encourage students to design and prototype AI-driven solutions to real-world problems. For example, students can work in groups to develop an app or tool using AI to address local community issues like traffic management, disaster response or mental health support. During this design-thinking process, students can ideate, prototype and test their solutions.

Hands-On Al Development | Provide opportunities for students to build their own Al projects. For example, students can train Al models to classify images, predict outcomes or generate creative outputs to deepen students' technical skills and showcase the power of Al.

Exploring the Impact of AI on Society | Encourage students to research and present on the broader societal impacts of AI, such as its effects on employment, inequality or global security. For instance, students may analyze the benefits and risks of AI adoption in a specific sector and propose strategies for ethical implementation.

Career Pathways | Connect Al literacy to real-world careers by exploring how Al is used in various fields like healthcare, finance, entertainment and environmental science. For instance, invite guest speakers working in Al-related professions or assign research projects on how Al is transforming specific industries.

Creative Applications of AI | Foster innovation by challenging students to use AI in creative fields like music, art or literature. For example, students can experiment with AI-powered tools to generate unique artistic pieces, paired with discussions about the ethics of AI-generated creativity.

Guiding Principles for Al

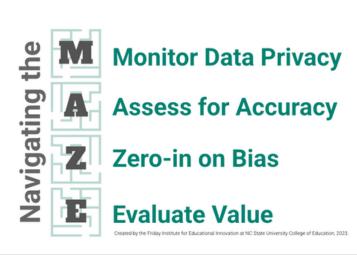
To ensure AI benefits all students and educators, schools and districts should consider clear, ethical guidelines that prioritize safety, fairness and transparency. AI should enhance learning and be used in ways that support educational equity, protect student data and maintain academic integrity. Professional development on AI for educators should help develop their AI literacy

Ethical and Responsible Use

Prior to any Al purchase or implementation, educators must evaluate tools with a critical lens. Based on the <u>2022 White House Executive Order for "A Blueprint for an Al Bill of Rights,"</u> the following five principles or protections offer the building blocks for understanding and designing safe, responsible and ethical learning environments with Al.

- Safe and effective systems | Al should work reliably and not cause harm to the user. The Al tool should offer effective learning opportunities without widening learning gaps.
- Algorithmic discrimination protection | Al should avoid bias and treat all people equitably. Al tools should be trained on diverse data and allow for human oversight in decision making.
- **Data privacy** | Students' and educators' data should be secure, and they should have control over how it is used. Al tools must comply with data protection laws and respect data sovereignty (where data are stored, who owns the data, and how or when the data is deleted).
- **Notice and explanation** | Students and educators should know when AI is involved and how decisions are made. AI tools should have clear terms of use and user-friendly explanations.
- Human alternatives, consideration and fallback | Students and educators should have control
 and the ability to opt out of Al-driven decisions when needed. Al tools should employ
 safeguards to mitigate and correct machine errors.

Educators should consider the benefits of using AI, the protections necessary to keep students safe and the steps or interventions that would be necessary to address concerns when they occur. The four-step approach to navigating the M.A.Z.E. of AI adoption may help educators to evaluate and select safe and effective online platforms: Monitor data privacy, Assess for accuracy, Zero-in on bias and Evaluate value.





Learn more about the MAZE, consider key questions and identify actionable steps from the <u>Friday Institute for Educational Innovation at North Carolina State University.</u>



Guiding Principles for Al

Digital Learning and AI Integration in New Mexico

All students should have the opportunity to benefit from the transformative potential of these tools. All integration risks deepening existing disparities in education, particularly for students from under-resourced schools or rural areas. Every learner should have the information, support, and skills they need to access affordable and reliable high-speed internet, appropriate devices, digital literacy training, quality technical support, and effective tools and content. These resources should support both independent and collaborative learning experiences.

Effective approaches for AI integration consider (1) how students use technology to enhance their learning, (2) professional learning needs for educators to design technology-rich learning experiences and (3) equitable access to educational technology.

Schools can create future-ready learning environments that empower all students to benefit from the transformative potential of AI while addressing barriers to access and opportunity. The following approaches can help systems plan for meaningful AI integration:

- Addressing the digital use divide means ensuring all students can engage with AI
 tools in active, creative and critical ways, rather than being limited to passive or
 rote applications. This involves shifting from basic uses of AI, like automated
 feedback, to transformative experiences where students use AI to create projects,
 analyze real-world data and collaborate on innovative solutions.
- 2. Bridging the digital design divide with AI means ensuring that educators have the time, resources and professional learning opportunities to confidently and effectively integrate AI into their teaching. This involves moving beyond basic AI tool usage to empowering teachers to design innovative, AI-driven learning experiences—such as adaptive lessons, data-driven interventions or AI-enabled creative projects—that actively engage students and support diverse learning needs.
- 3. Closing the digital access divide with AI requires ensuring that all students and educators have safe and reliable access to the tools, connectivity and infrastructure needed to leverage AI's transformative potential. A measured approach to evaluate and select safe, responsible and age-appropriate tools is necessary. Accessibility features, such as text-to-speech and translation tools powered by AI, must be incorporated into procurement processes to support diverse learning needs.



Guiding Principles for Al

Digital Citizenship

In 2023 as part of the Digital Equity in Education Act, the state of New Mexico highlighted the importance of <u>Digital Citizenship</u> and online safety for all students. Professional development and resources on digital citizenship for New Mexico educators can be found through New Mexico Public Education Department's Canvas and is available at no charge for all educators in the state.

Providing students with skills and strategies to verify their sources of information, understand how the information they input into an AI system is used and ensure the materials they interact with are age appropriate is important for the health of their digital citizenship. This knowledge can also protect them from engaging with harmful media as well as exposing their own private lives or sensitive information online. Further, a guiding principle of digital citizenship is to not only keep students safe but also to develop skills in them that encourage them to use technology to be critical thinkers and active learners.



Explore the Kapor Foundation's Responsible AI & Tech Justice: A Guide for K-12 Education

Learn about the impacts of AI on our world and ourselves from <u>Tactical Tech's Data Detox Kit</u>

"I always acknowledge when I use AI to help create or produce something. I think transparency is key. We might not yet have all the answers to the really challenging ethical questions, but I think transparency about how AI is being used and when it shouldn't be used is key. It is important at this moment to avoid overly punitive steps with learners and instead approach concerns with curiosity and inquiry. How can we facilitate inclusive discussions about tough questions in ways that respect a variety of experiences and help us begin to develop shared understanding?"

~ New Mexico Educator



A Framework for Al Integration

As AI transforms industry and the workforce, the skills students need for future careers continue to be redefined. To effectively prepare students, integration must go beyond novelty and surface-level adjustments to instructional practices or approaches to learning. Effective utilizations will consider alignment with standards, practical applications across subjects and skills, and clear guidelines for responsible use.

Standards Alignment

While dedicated lessons on AI literacy are valuable for helping students understand, evaluate and use AI, it is equally important to embed these skills into existing standards and core curriculum. This integrated approach allows educators to address AI literacy through familiar content and skills already outlined in standards. When AI literacy is woven into the core curriculum, it enhances students' understanding and application of subject matter and AI skills.

In this manner, AI can be incorporated into all subject matters, especially as educators consider how to teach with AI and how to teach about AI. Rather than being taught in isolation, AI education can be a natural part of the student's overall learning experience. The following table provides a more detailed distinction between these two approaches.

Teaching WITH AI

- Focuses on using Al tools as resources to enhance traditional teaching and learning processes.
- Integrates AI into the curriculum as a supportive technology, enabling more personalized, efficient and engaging experiences for both teachers and students
- Leverages AI to achieve existing learning objectives and improve educational outcomes.

For example, Al tools can assist with grammar correction in writing, simulate scientific experiments in STEM or analyze demographic trends in social studies.

Teaching ABOUT AI

- Aims to build students' understanding of how AI works, its applications and its ethical implications.
- Incorporates the foundational principles behind AI, such as machine learning and data processing, as well as critical thinking about its limitations, biases and societal impact.
- Develops students' practical skills for evaluating and interacting with AI tools and future technological developments.

For example, students might explore how algorithms function when they make user recommendations, examine Al's role in industries or discuss ethical concerns like privacy and fairness.



Pedagogy & Transformation

All is poised to transform pedagogy and teaching by creating efficiencies, automating routine tasks and enabling learning experiences that were previously inconceivable. In the classroom, automation reduces the burden of repetitive tasks like grading, attendance tracking and generating lesson materials, giving educators more time to focus on student engagement and relationship building. At the same time, AI offers efficiencies by improving the quality and speed of existing processes, such as identifying learning gaps, tailoring lessons to individual needs or interests and providing real-time feedback. These capabilities allow teachers to adapt instruction with precision and support students in their learning journeys.

However, the transformative power of Al goes beyond saving time and optimizing workflows. All enables pedagogical approaches that have previously presented barriers in the form of time and resource constraints. For example, Al-driven simulations can immerse students in virtual labs, fostering experiential learning. Al tools can spark creativity, enabling students to co-design projects or solve complex problems. This transformation enhances educational outcomes and equips students with critical skills like adaptability, collaboration and ethical reasoning.



District Spotlight

Santa Fe Public Schools

The district of Santa Fe has recognized the impact of artificial intelligence in education and has been actively seeking ways to leverage these opportunities. The district has adopted AI tools that support students in reading and math. The district has also provided teachers with specialized licenses of a large language model, where educators have the ability to create tutors for their students. But as Santa Fe district leaders note, Al is not a replacement of human teachers, rather a way to find opportunities to support the already heavy workload teachers face in current educational settings. As Santa Fe emphasizes, AI should be seen as a thought partner in education.



Student-Centered Learning Supports

Further AI integrations can offer transformative strategies for student-centered learning needs by enabling individualized learning experiences, supporting academic recovery efforts and enhancing adaptive, multilayered systems of support. Through these applications, AI can identify and respond to students' current needs, address individual challenges and provide tailored interventions that promote growth and success in diverse educational settings.

- Individualized Learning Experiences | Al tools may tailor educational content to meet the unique needs, interests and abilities of individual students.
 - For example, by analyzing performance data, the AI platform may adapt the
 difficulty level of tasks, recommend targeted resources or provide additional
 practice in areas where a student is struggling. A reading platform might adjust
 texts to match a student's ability level while offering scaffolded questions to
 improve comprehension.
- Academic Recovery | An Al tool may support students who have fallen behind by identifying gaps in knowledge and delivering targeted interventions.
 - For example, an Al-powered diagnostic tool may pinpoint specific areas where students struggled to demonstrate proficiency and then offer step-by-step remediation plans. Adaptive tools may also re-teach foundational skills in real-time, helping students rebuild confidence and bridge learning gaps at their own pace.

"It is vitally important that we do not ignore that [artificial intelligence] exists. We have to teach students that it does have its uses. Students in my classes are excited to use it, and for the most part, react well to learning."

~ New Mexico Educator



Scaffolded Technology Integration

The chart below explores how AI tools can be used across the SAMR framework—a model that categorizes technology integration into four levels: Substitution, Augmentation, Modification and Redefinition (Puentedura, 2014). As the technology develops over time and with experience, further opportunities for students to engage in various and transformative learning activities will grow and change. This chart is intended to serve as an example to inspire further exploration and development in the classroom and not as an endorsement of any tool or platform. With any AI product, especially those that are student-facing, educators should evaluate and determine if it is safe, ethical and appropriate to use with students.

SAMR Level	Al's Role	Example	
Substitution Technology acts as a direct substitute for traditional tools, with no functional improvement.	Al replaces traditional tools, maintaining the original task's structure and purpose.	Al substitutes physical maps with digital ones or replaces basic spell checkers with Al-powered grammar correction.	
Augmentation Technology acts as a substitute while adding functional improvements that enhance the task.	Al improves learning processes through personalization, interactivity and instant feedback.	Al provides real-time feedback on student writing, adaptive problem-solving in math or interactive diagrams in science.	
Modification Technology redesigns the task, enabling new approaches and significant improvements.	Al enables redesigning learning tasks, allowing students to explore concepts or collaborate in ways that traditional tools couldn't support.	Al-powered simulations in science, Al-generated feedback tailored to specific writing genres or historical data analysis in social studies.	
Redefinition Technology enables entirely new tasks that were previously inconceivable, transforming teaching and learning experiences.	Al transforms the learning experience entirely, empowering students to engage in innovative, creative and interdisciplinary work that would have been impossible without Al.	Students use Al to co-create virtual experiments, develop predictive climate models or design Al-assisted community solutions to real-world problems.	



Critical Thinking & Problem Solving

When appropriately modeled and supervised, AI can help students expand their capacity for critical thinking and problem solving by providing the tools to analyze data, explore scenarios and generate ideas. For example, students can use AI to visualize historical patterns, model scientific phenomena or organize research findings. These applications allow students to focus on higher-order thinking, such as interpreting results or developing creative solutions. However, concerns persist that over-reliance on AI might erode essential skills by encouraging students to accept AI-generated outputs without questioning them or bypassing the process of independent reasoning.

To mitigate these risks, AI should be positioned as a tool or assistant, not as a partner or replacement for human thinking. Teachers should guide students in critically evaluating AI outputs, identifying errors and understanding the logic behind AI-generated results. By framing AI as a tool to support, rather than a problem-solver or decision-maker, educators can ensure students remain active participants in their learning. This approach encourages thoughtful engagement, reinforces the value of the learning process and develops the critical and analytical skills necessary to navigate an increasingly complex and rapidly changing technological world.

Teachers play a crucial role in guiding students to analyze and critique AI outputs, encouraging questions like: "What assumptions does AI make?" and "How do these results compare to other evidence we've reviewed?" This oversight and interrogation encourages students to maintain ownership of their learning, engage in critical inquiry and demonstrate evidence-based reasoning. Some examples may include the following types of scenarios:

- Students can use AI to simulate the impact of urban planning decisions, such as optimizing green spaces in a digital model of their city.
- Al might help students design experiments, such as predicting how introducing renewable energy sources could affect energy grids over time.
- All could assist students in analyzing multiple perspectives in literary texts, offering diverse interpretations and fostering deeper discussions about themes and bias.
- Students could use AI to analyze real-world climate data and propose solutions for reducing carbon footprints, but they must justify their conclusions by comparing them with scientific principles.
- Students might use AI to visualize global trade routes and their environmental impact, challenging them to balance economic and ecological priorities and defend solutions rooted in ethical reasoning.



Academic Integrity

Academic integrity has been a central priority in education, guiding how students approach their work with honesty and responsibility. For more than 25 years, new technologies have shaped the education and classroom landscape, and AI is the latest technology shift challenging schools to adapt without compromising core values. As AI becomes further embedded into teaching and learning, educators are raising questions about originality, responsible use and ethical behaviors. Many existing district policies, including student codes of conduct, already address the principles necessary to guide AI usage. However, procedures and processes may need to be updated to support clearer interpretation and application of these policies.

Standardization of Practices

When school boards and district leaders work together to establish district-wide protocols addressing academic misconduct, they create a supportive framework that empowers teachers and students to uphold ethical standards. Standardizing these expectations across the district promotes consistency and fairness, while educating students and families about academic integrity cultivates a shared understanding of its importance. Learning-focused consequences help students grow from their experiences, and timely communication with families can strengthen collaboration and support.

Plagiarism Checkers vs. Al Detectors

Plagiarism checkers are digital tools that compare written content against a vast database of sources to identify similarities and ensure originality in the submitted work. When used appropriately, they have the potential to serve as a safeguard and a teaching tool, helping educators and students navigate the balance between using resources and creating authentic work. In contrast, AI detection tools are designed to analyze written content and make a prediction about whether the work was generated by artificial intelligence. AI detectors do not have high reliability in detecting plagiarism (Center for Democracy & Technology, 2023) and are frequently found to be biased against non-native English writers (Liang et al., 2023). Educators should critically evaluate the validity, accuracy and ethical implications of AI detection tools, including the claims made by vendors about their products' reliability.

Guidance for Students

The core principle remains that all submitted work should reflect a student's own understanding, effort and originality, even when supported by Al tools. Students can use Al as a means to enhance their learning—such as brainstorming ideas, practicing skills or refining drafts—while being transparent about its role in their work. Properly citing Al tools or providing disclosure about the use of Al tools, much like other resources, demonstrates honesty and respect for ethical guidelines. Schools should encourage open dialogue about when and how Al can be used responsibly, guide students on the limitations of Al, such as its potential to provide inaccurate or biased information, and teach them to critically evaluate its outputs. By understanding the purpose of academic policies and the expectations around Al, students can develop habits of integrity that will serve them both in school and beyond.



Academic Integrity

To maintain academic integrity, students need clear guidelines explaining how and when Al can be used in their coursework. Without clear expectations, they may misuse Al in ways that hinder learning or violate academic policies. Open discussions help students understand Al's role in each assignment or assessment, ask questions and consider its ethical implications. The <u>Al Assessment Scale</u> below provides a framework example that educators and students can use to evaluate appropriate Al use. Educators may adapt or customize a similar framework for their classroom based on their students' learning needs and school policy.

1	NO AI	The assessment is completed entirely without Al assistance in a controlled environment, ensuring that students rely solely on their existing knowledge, understanding, and skills.	You must not use AI at any point during the assessment. You must demonstrate your core skills and knowledge.
2	AI PLANNING	Al may be used for pre-task activities such as brainstorming, outlining and initial research. This level focuses on the effective use of Al for planning, synthesis, and ideation, but assessments should emphasize the ability to develop and refine these ideas independently.	You may use AI for planning, idea development, and research. Your final submission should show how you have developed and refined these ideas.
3	AI COLLABORATION	Al may be used to help complete the task, including idea generation, drafting, feedback, and refinement. Students should critically evaluate and modify the Al suggested outputs, demonstrating their understanding.	You may use AI to assist with specific tasks such as drafting text, refining and evaluating your work. You must critically evaluate and modify any AI-generated content you use.
4	FULL AI	Al may be used to complete any elements of the task, with students directing Al to achieve the assessment goals. Assessments at this level may also require engagement with Al to achieve goals and solve problems.	You may use AI extensively throughout your work either as you wish, or as specifically directed in your assessment. Focus on directing AI to achieve your goals while demonstrating your critical thinking.
5	AI EXPLORATION	Al is used creatively to enhance problem-solving, generate novel insights, or develop innovative solutions to solve problems. Students and educators co-design assessments to explore unique Al applications within the field of study.	You should use AI creatively to solve the task, potentially codesigning new approaches with your instructor.



Perkins, Furze, Roe & MacVaugh (2024). The Al Assessment Scale



Policy & Governance for Al

Developing Local AI Policies

Al policies are essential for responsible and effective use in education. Well-defined policies promote transparency, helping students and educators understand Al's role. Local governance allows schools to adapt Al guidelines to their unique needs while maintaining alignment with broader ethical and legal standards. For example, school districts can leverage their current Responsible Use Policies (RUPs) or Acceptable Use Policies (AUPs) to:

- establish a process to regularly examine and adjust the RUP/AUP so they remain current and flexible enough to address issues or technologies as they emerge;
- engage educators, students and families for input and feedback on the RUP/AUP;
- create age-appropriate versions of the RUP/AUP that can be understood and applied by students at all grade levels; and
- encourage educators and families to review the RUP/AUP throughout the school year and not just at the beginning of the school year.

Evolving Governance

Federal, state and local regulations are in development to address issues related to privacy, security, bias and transparency in AI tools and as new challenges emerge. Rules like FERPA and COPPA continue to provide a foundation regarding student data protections and parental consent.

Resources & Examples

The resources shared here serve as a starting point for educators to understand and develop relevant policies or guidance.

Al Guidance For Schools Toolkit from TeachAl | Resources to guide the safe, effective and responsible use of Al in education

<u>K-12 Gen Al Maturity Tool</u> from CoSN | A preparedness checklist and self-assessment

Policy Development for AI from InnovateOhio | A five-step process created to guide educators

Avoiding the Discriminatory Use of Artificial Intelligence from USED's Office for Civil Rights

<u>Artificial Intelligence Framework</u> from Ogden School District, UT

Guidance for Human-Centered
Artificial Intelligence Use from
Gwinnett County Public Schools, GA

Al Education Fact Sheet for 3rd Party Generative Al Tools from Lynwood Unified School District, CA | A comprehensive review for evaluating Al tools



Next Steps

Collaborations & Partnerships with State & Local Partners

New Mexico is making significant strides to involve industry and universities in K-12 AI education by leveraging partnerships with national laboratories, higher education institutions and industry leaders. For example, the New Mexico (NMAIC) unites Los Alamos and Sandia National Laboratories with universities such as the University of New Mexico, New Mexico State University, New Mexico Tech and Central New Mexico Community College to establish pathways for AI research and education. In addition to core AI research, infrastructure and workforce development, NMAIC will enable robust education programming. More specifically, the consortium emphasizes expanding K-12 AI education by integrating AI literacy into school curricula, leveraging the resources of higher education and offering professional development to educators. These efforts aim to inspire early interest in AI while addressing goals for equitable and inclusive approaches by ensuring students from every corner of the state have access to cutting-edge learning opportunities.

NMAIC is just the tip of the iceberg. The state's cooperative extension programs have the potential to contribute to the multi-pronged effort that will establish New Mexico as a leader in equitable AI education. With a longstanding history of bridging knowledge and skills gaps, cooperative extension specialists are uniquely positioned to translate complex, technical concepts into accessible, practical knowledge for diverse local communities. Their ability to engage rural, urban and tribal regions can support equitable access and opportunities. By partnering with AI researchers, education experts and community leaders, cooperative extension programs offer potential to

- develop hands-on Al literacy workshops tailored to the needs of educators, parents and the community at large;
- integrate ethical AI discussions that address issues of fairness, transparency and societal impact; and
- facilitate two-way knowledge exchange, responding to local questions and cases about the value, limitations and applications of AI.

Such strategic approaches and partnerships not only support AI readiness but also empower students, educators and communities to actively engage with and shape the future of AI. By building on existing networks and expertise, New Mexico can foster an inclusive, scalable model for AI education that serves as a national exemplar.



Future Trends & the Role of Al

New Mexico has the opportunity to position itself at the forefront of this innovation while honoring the unique cultural and community values that define the state. Looking ahead, the further development of the issues described below will help ensure AI implementations across New Mexico schools and districts are equitable, responsible and student-centered.

Developing Responsible AI Products

Rigorous auditing and assessment of AI systems must be employed to detect bias, ensure accessibility and align ethical standards. Product certifications from organizations like <u>1EdTech</u> and <u>Digital Promise</u> help validate that AI tools meet data privacy, security and equity requirements.

Advancing Community-Based, Unique and Sustainable Practices

New Mexico's history and heritage provide an opportunity to develop AI that reflects and respects its communities. By incorporating local values, traditions and knowledge systems, AI can amplify voices while upholding local traditions. Literacy-based design ensures local, community-driven AI excellence, while technological advances evolve to enhance sustainability for AI in education.

Protecting Students' Data Sovereignty

Student work, assessments and personal data should remain under the control of schools and communities rather than edtech companies. As AI tools access student work, it is critical to establish clear ownership, transparency and governance over where data is stored, who has access and how it is used. Schools should prioritize AI systems that operate on closed, secure servers and align with ethical data governance structures to protect student rights. Viewing student data as an irreplaceable resource, much like cultural knowledge, reinforces the need for policies that safeguard against misuse, ensuring AI supports learning without compromising privacy or autonomy.

Engaging Families and Communities

Involving families and communities in AI discussions builds transparency, trust and shared responsibility in education. Schools should offer resources and workshops to help families understand AI's role in learning, privacy and student development. Open communication allows parents to voice concerns and contribute to policies that align with community values, ensuring AI supports student success responsibly.



Future Trends & the Role of Al

Monitoring and Evaluating AI

Educators must critically consider how AI can further or negatively impact teaching and learning. Working "with" digital tools such as AI provides opportunities for educators to leverage digital tools that enhance and support student learning. Educators continue to operate as content experts and lead the efforts to determine how AI can appropriately be used and leveraged in the classroom. At the same time, educators can also remain critical and think about how AI technology may work "against" effective teaching and student learning in education (Vogel et al., 2024). Considering that AI technology is new and continuously changing, unknown risks may arise that could negatively impact the educational environment or students.

Preparing Students for the Workforce

A portrait of a future-ready graduate envisions students equipped with the skills needed to thrive in an Al-driven workforce, including critical thinking, adaptability and ethical decision-making. Al can enhance career readiness by fostering problem-solving, collaboration and digital literacy. Schools can integrate Al in ways that align with this vision, ensuring graduates are prepared to navigate evolving industries with confidence and responsibility.

Addressing DeepFakes and Misinformation

Al-generated misinformation and deepfakes threaten student learning and digital literacy. Schools must teach media literacy skills, helping students identify manipulated content and verify information. Educators should incorporate Al literacy into curricula and assess Al tools for reliability, fostering critical thinking and digital resilience.



APPENDIX A Glossary of Al Terms

Below are a list of some AI terms that may be helpful in navigating the AI space.

Algorithm	A set of commands or instructions that computers use to complete a task or answer a problem. Within AI, algorithms are used to sift through data in organized ways so that a machine can make a decision and complete a task. Algorithms help to convert data in ways that allow it to be used. 1
Data mining	This refers to uncovering patterns, themes, or other findings within large sets of data. Data can be utilized to understand how users behave and predict their decision-making. This is often used in marketing and business to predict engagement with or sales of products. ²
Data science	Delivering actionable insights through the process of combining analytics or machine learning techniques and subject matter expertise. 3
Deep learning	Using a multi-layered systems approach to assess data, deep learning is applied to address multifaceted challenges, such as recognizing images and speech. Deep learning can be used to assist in complex technology, such as through chatbots or self-driving cars. ¹
Generative AI	An Al model that generates media (i.e. texts, images, video, audio, etc.) based on guidelines and parameters given by a user. Examples where generative Al may be used include chatbots, photo and video filters, and virtual assistants. ⁴
Large language model (LLM)	A foundational AI model that is trained to learn vast amounts of texts and, when given certain parameters, utilizes those texts to infer new content and carry out natural language processing tasks. Examples include ChatGPT, Gemini, or Claude. ⁴
Machine learning (ML)	A type of AI that uses algorithms to extract patterns from large amounts of data. Unlike rule-based algorithms, machine learning is iterative and uses an adaptive approach to consider various outcomes to a problem presented and makes objective predictions based on the patterns it analyzes. ³
Natural language processing (NLP)	Occurs when computers or other devices understand and generate human language in order to produce natural conversations with users. Examples of NLP being utilized are chatbots that respond conversationally to a person's question or a translation app where a person may speak a different language to a computer, which then the computer translates in real time. ¹

¹ https://www2.gov.bc.ca/assets/gov/education/administration/kindergarten-to-grade-12/ai-in-education/ai-terms-to-know.pdf

⁴ https://post.parliament.uk/artificial-intelligence-ai-glossary/



² https://www.ibm.com/think/topics/data-mining

³ https://coe.gsa.gov/coe/ai-guide-for-government/what-is-ai-key-terminology/

APPENDIX B Acknowledgements & Contributors

In Fall 2024, the New Mexico Public Education Department (PED) initiated a collaborative approach across education partners to develop this guidance. An internal steering committee comprised of state leaders and institutional representatives from New Mexico State University, the University of New Mexico and NC State University's Friday Institute for Educational Innovation identified strengths and opportunities within the state. To gather further input, the PED facilitated three convenings across the state, presented at various conferences within the state and hosted a two-day Al Summit. This outreach beyond PED results in guidance that is informed and influenced by voices across New Mexico's educational communities.

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APPENDIX C References & Resources

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Artificial Intelligence Disclosure:

This document was created with assistance from Al tools to brainstorm and refine ideas and not as an original source. All content has been reviewed and edited by a human. Specifically, a <u>custom GPT</u> was developed with OpenAl's ChatGPT-4o and can be reviewed here.

The image used on the Title Page, Table of Contents, and Human-in-the-Loop sidebar was generated by <u>Canva Magic Media: Images</u> using the prompt "Classrooms with AI."

