

Review of Guidance from Seven States on AI in Education

By Jeremy Roschelle, Judi Fusco & Pati Ruiz

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Contact Information

Email: contact@digitalpromise.org

Website: <https://digitalpromise.org/initiative/artificial-intelligence-in-education/>

Digital Promise Offices

Washington, DC:

1001 Connecticut Avenue NW, Suite 935
Washington, DC 20036

Redwood City, CA:

702 Marshall Street, Suite 340
Redwood City, CA 94063

Introduction

Digital Promise reviewed guidance documents from seven states—California, North Carolina, Ohio, Oregon, Virginia, Washington state, and West Virginia—on how to approach artificial intelligence (AI) in education. We found similar messages across the documents, such as the importance of taking a human-centered approach to AI, but also found that the documents vary considerably in their focus and audience.

With regard to focus, for example, Virginia’s document discusses governance and allocates roles to state agencies and to non-state educational leaders. On the other hand, California’s document has a strong focus on building on the states’ curricular work in computer science education. Several documents appear to be written for educators who are directly working with students, but some also address broader communities or specific district roles. For example, Ohio has a specific section on policy development and school governance of AI, with a recommended step-by-step process. Overall, the documents vary considerably and yet all respond to a common need: educators need central guidance about AI.

By summarizing common themes across the guidance documents—including themes that appear in multiple documents, even if they don’t appear in all documents—this report aims to help the educational leader or teacher who doesn’t have the time to read these documents or doesn’t live in one of the states that has published a guidance document. Herein, educators will also find information on the featured opportunities for using AI that these states perceive, as well as the risks they foresee. Finally, many of the states offered a roadmap to local education leaders. This report synthesizes these roadmaps in the final section, “What Should School Districts Do?”

Digital Promise conducted this review using generative AI as a supportive tool, but also read each state document and fact-checked key ideas and quotes. We observed that in summarizing the documents, generative AI missed key ideas, occasionally invented quotes, and made errors and mistakes. To counter this, we thoroughly reviewed and edited outputs of generative AI before we used them as a basis for our writing of this document.

Table 1 provides a link to the seven guidance documents. The Appendix provides more details about each state.

Table 1: The seven state documents, with links, length, and approximate reading time.

State	Linked Guidance Document	Length & Approximate Time to Read
California	Learning With AI, Learning About AI	6000 words / 30 minutes
North Carolina	North Carolina Generative AI Implementation Recommendations and Considerations for PK-13 Public Schools	7000 words / 35 minutes to read)
Ohio	AI Toolkit	18000 words / 60 minutes to read
Oregon	Generative Artificial Intelligence (AI) in K-12 Classrooms	5000 words / 25 minutes to read)
Virginia	Guidelines for AI Integration Throughout Education in the Commonwealth Of Virginia	1900 words / 10 minutes to read)
Washington	Human-Centered Artificial Intelligence in Schools	4000 words / 20 minutes to read)
West Virginia	Guidance, Considerations, & Intentions for the Use of Artificial Intelligence in West Virginia Schools	7000 words / 35 minutes to read

Common Themes Across Seven States' Guidance

We determined the following seven major themes in most (but not all) of the seven guidance documents we reviewed.

1. Evolving Workforce Needs: The states discuss the changing economy and how AI will be necessary for jobs—students will need to use AI in their future work. This forms a key portion of the rationale. For example, West Virginia notes that the responsible application of AI in schools can lead to “acquisition of necessary skills for the workforce of today and tomorrow, such as knowledge of computer science and data literacy.” Ohio starts by describing its governor’s overall vision of innovation leadership and the need to prepare students to “live, work and thrive in an AI world.”

2. Human-Centered, Responsible Use of AI Technologies: All documents take a human-centered perspective and emphasize the importance of responsible use of AI tools. They discuss the need for policies and guidelines to ensure AI is used ethically, safely, and for the benefit of students. They promote an approach in which AI is used as a tool to augment human capabilities rather than replacing them. Several refer to the e-bike analogy in the U.S.

Department of Education's [report](#), with North Carolina noting, "This analogy demonstrates using AI as a learning partner, to help reduce struggles, support individual needs, and result in more productive learning, but always with human oversight and control."

3. AI Literacy and Professional Development: The documents highlight the significance of AI literacy among students, educators, and community members. They call for professional development opportunities to equip educators with the skills and knowledge to effectively integrate AI into teaching and learning, and also for building students' AI literacy. For example, California states: "AI literacy is foundational for a well-rounded education to prepare students for today and tomorrow." West Virginia offered language that teachers could use to guide their own thinking regarding AI literacy, stating that teachers should tell themselves "I will educate myself about AI. Promoting AI literacy among students is central to addressing the risks of AI use and teaches critical skills for students' futures. I will do my best to learn how to use AI, when to use it, and how it works, including foundational concepts of computer science and other disciplines."

4. Equity and Inclusion: Many of the documents emphasize the need to address equity and inclusion concerns related to AI use in education. They discuss the importance of ensuring AI tools are accessible to all students, regardless of their background or abilities, and recommend a variety of inclusive design practices. For example, Oregon writes, "While digital learning and education technology has the potential to address inequities when implemented with an equity focus and mindset, in the absence of this intention, [they] can also exacerbate existing inequities and make schooling more difficult for those who are already marginalized within the system."

5. Data Privacy, Security, and Safety: All of the documents address the importance of protecting student data privacy and ensuring the security of personal information used by AI systems. They discuss the need for robust data governance and cybersecurity measures to mitigate potential risks. Most also discuss plagiarism. Oregon provides a table that aligns mitigation strategies to risks. Virginia states, "When it comes to using AI or any other technologies in school, it is important to establish conditions for effective use. Clearly outline the school or system's policies and protocols around data privacy, honor code, student code of conduct, acceptable use, and ethical considerations when using AI, including those related to plagiarism and proper use of secondary sources."

6. Pedagogical Considerations: Most documents explore pedagogical considerations for integrating AI into the classroom. They discuss how AI can be used to enhance teaching and learning, promote critical thinking, and foster creativity. They call for evidence that selected AI tools will improve student learning outcomes. Washington's guidance document poses a pointed question: "Students and educators are already engaging with AI, but the key question remains: How will we use it in a way that empowers critical thinking?"

7. Computer Science Education: Some of the documents discuss the importance and role of computer science education. California writes, "Educational leaders are encouraged to provide

access to computer science education for all K-12 students so that students learn about AI equitably. As educators and students demystify AI systems, as they see past the perceived ‘magic’ of these technologies and deconstruct them to build a conceptual understanding of their inner workings, they are better able to engage as responsible, ethical citizens of emerging technologies.”

Opportunities to Use AI

The states describe many opportunities to use AI to advance education. Many of these opportunities appear in multiple state guidance documents, with specific information tailored for students, teachers, and administrators. As each document goes into the potential for AI in education, their overall tones are encouraging, with safe exploration recommended.

Personalize Learning and Feedback

- For Learners: Receive personalized learning experiences tailored to their needs and progress, both during normal school hours and outside school hours.
- For Teachers: Generate individualized feedback on assignments, saving time and allowing for more student engagement.

Lesson Plan Development and Assessment Design

- For Learners: Engage with lessons and assessments that build on their strengths and interests and implement research-based recommendations.
- For Teachers: Save time and improve the quality of lesson plans and assessments.

Translation Services

- For Learners: Access educational materials and resources in their native language, promoting inclusivity.
- For Teachers: Break language barriers and communicate effectively with multilingual students.

Critical Thinking and Analysis

- For Learners: Stimulate higher-order thinking skills, data analysis, and the ability to draw insightful conclusions.
- For Teachers: Encourage deeper learning and foster curiosity among students.

Using AI to Provide Assistive Technology

- For Learners: AI can be used to provide assistive technology (e.g. screen readers, text-to-speech devices) and can generally provide students with more ways to access information, engage within information, and show what they know and can do. Both the California and Oregon documents point educators to the [Universal Design for Learning framework](#).

Automating Administrative Tasks

- For Teachers and Administrators: States note that AI can help with many of the time-consuming administrative tasks that teachers have to do, such as writing letters to parents, scheduling activities, and preparing lesson plans. This can free up teachers to spend more time on teaching and interacting with students. The documents do not do a particularly good job in linking the issues of bias to these same possibilities. For example, if a teacher uses AI for grading, there are important risks that the grading may be biased. In particular, studies have found that plagiarism detectors are biased and may falsely flag certain student groups at a disproportionate rate.

Creating New Learning Opportunities

- For Teachers and Content Creators: AI can be used to create new and engaging learning experiences that would not be possible without technology. For example, AI can make it easier for educators to provide examples of contrasting historical viewpoints, create simulations, modify interactive games, and personalize learning paths. The documents do not say much about the role of research and evaluation in determining if these new learning experiences are effective.

Risks of Using AI

Each of the seven states describe within their guidance documents the risks of AI as it enters the educational system, although the work to manage these risks appears to be at an early stage. In reading the state documents, we wondered if some were a little too upbeat and encouraging, given current levels of school readiness to tackle the risks. Notably, Ohio's document gave voice to the kinds of specific uncertainties that district leaders, school principals, teachers, counselors, and parents are experiencing. Ohio offers tangible scenarios, such as:

A district information officer who once thought he had a handle on the data generated and stored in his district, finds that the new technologies being introduced to schools, both by teachers and students, have seriously undermined the comprehensiveness of his "data map," raising new worries about data privacy, security, and integrity.

Digital Promise notes that underlying all risks is the fact that the behavior of generative AI tools are difficult to explain, inspect, or predict; this underlying complexity is inherent in the statistical nature of their mechanisms.

Bias and Inaccuracy

AI models can be biased due to the data they are trained on, leading to unfair or discriminatory outcomes. AI systems can generate inaccurate or false information, particularly when presented with unfamiliar or complex topics. Generative AI is known to make up erroneous information that sounds plausible but is incorrect.

Bias in generative AI can lead to the introduction of stereotypes and inaccurate information. Many of the states presented similar thoughts on this topic, including:

- North Carolina: "Because generative AI models are trained on the Internet, there is always the potential for inherent societal biases surrounding gender roles, race, religion, and politics."
- Oregon: "Algorithmic bias in AI systems can perpetuate and amplify societal biases, leading to discriminatory outcomes, particularly affecting marginalized communities."
- California: "Algorithmic bias refers to the presence of unfair and discriminatory outcomes in machine learning algorithms and AI systems due to the data used to train them or the design choices made during their development. As educators and educational leaders, our commitment to confronting hate, bigotry, racism, and bias aligns seamlessly with the need to raise awareness about algorithmic bias and its far-reaching societal effects. By integrating these concepts, we can empower educators and students to become informed advocates in the fight against bias and discrimination."

Data Privacy and Security

AI systems often collect and store large amounts of data, including personal information, which raises concerns about data privacy and security. If not properly secured, this data could be accessed or misused by unauthorized individuals. According to the California document, "Data privacy refers to safeguarding individuals' personal information and ensuring that it is handled in a responsible and ethical manner. It entails protecting data from unauthorized access, breaches, and misuse." West Virginia's document says, "All AI-driven data collection will adhere to local data protection regulations and best practices." The Washington document says, "Ensure that your [Local Education Agency] AI use complies with student/personal privacy and data protection laws." The California document also asks educators to check out the data retention policies of the AI systems they use.

Plagiarism

AI tools can easily generate text, code, or other content that can be plagiarized or used for cheating on assignments. Students may be tempted to use AI tools to complete assignments without doing the work themselves.

The West Virginia document seeks to call this out by explicitly discussing how "dependence on AI tools can decrease human discretion and oversight. Important nuances and context can be overlooked and accepted. Teachers will clarify if, when, and how AI tools should be used in their classrooms through discussions and modeling, and teachers and students are expected to review outputs generated by AI before use."

The North Carolina document says, "In the not-too-distant future, it will be a common assumption that all writing from academic papers to news reports and emails may be written with AI. In light of this, it is perhaps shortsighted to automatically consider all use of AI as 'cheating'. Educators will need to rethink their ideas of what constitutes plagiarism and

cheating in today's world, and adapt their teaching, assignments, and expectations to this new reality."

Oregon suggests ways to mitigate plagiarism by changing the nature of assignments, such as to "create more opportunities for students to problem solve, analyze and synthesize and share their thinking in classroom settings."

Bullying and Harassment

The West Virginia document states, "Using AI tools to manipulate media to impersonate others for bullying, harassment, or any form of intimidation is strictly prohibited. All users are expected to employ these tools solely for educational purposes, upholding values of respect, inclusivity, and academic integrity at all times." The California and Washington documents are also concerned with how bullies may use AI to harm others.

Overreliance on Technology

All of the state documents take a human-centered approach, but three state documents discuss the problem of overreliance on technology. Despite best intentions, people may come to rely on AI to do things for them, and may defer to AI instead of trusting their own judgment. Decision makers may misbalance the role of people and the insertion of more technology-driven experiences for students. For example, the West Virginia document states, "Dependence on AI tools can decrease human discretion and oversight. Important nuances and context can be overlooked and accepted." The Washington and North Carolina documents also discuss overreliance as a problem. At Digital Promise, we worry that even as AI may make teachers' jobs easier, schools may then give teachers more students, negating the benefit to the process of teaching.

Increasing the Digital Divide via Unequal Access

AI has the potential to exacerbate digital divides by providing better access and opportunities to students who already enjoy more resources, and lesser access and opportunities to students who are presently provided with fewer resources. This could occur between more densely populated and more rural areas, between schools that serve different populations, and within school districts where families have varied circumstances. The companies that develop applications of generative AI will seek to recover their costs, and the ability to pay those costs may be unequally distributed.

What Should School Districts Do?

Each of the documents give educators advice on what they should do when incorporating AI in education. The roadmap below reflects common steps that appear across many of the documents. With regard to policy development, Ohio offers a thorough roadmap.

1. Engage with Communities

- Schools should involve parents, students, educators, and community members in the development and implementation of AI policies and practices.
- This will help ensure the school's approach to AI is responsive to the needs of the community.

2. Apply Existing Policies and Develop Additional Policies for AI Use

- Educators should continue to adhere to existing policies and regulations.
- Further, as new AI policies are developed, they must be aligned with regulations, such as [FERPA](#), [COPPA](#), [IDEA](#), and [CIPA](#), to ensure compliance with data privacy and security laws.
- Policies should address acceptable uses of AI, data privacy and security, and academic integrity.
- Acceptable Use and other policies should be regularly reviewed and updated as needed.

3. Provide Professional Development for Educators

- Educators should be trained on how to use AI tools effectively in the classroom, including potential biases and limitations, as well as strategies for integrating AI into lesson plans.
- Training should also cover ethical considerations, such as the importance of avoiding bias and discrimination when using AI.

4. Create a Supportive Learning Environment

- Schools should provide students with access to devices and reliable internet connectivity to ensure equitable access to AI tools.
- Students should be encouraged to explore and experiment with AI tools in a safe and supportive environment.
- Schools should also provide opportunities for students to learn about the ethical implications of AI and how to use it responsibly.
- Schools should cultivate cultures of integrity.

5. Monitor and Evaluate AI Use

- Schools should monitor the use of AI tools to identify potential issues, such as bias or misuse.
- They should also evaluate the effectiveness of AI tools in improving student learning and adjust as needed.

Conclusion

Seven states have already produced guidance about AI in education. Their documents have similar themes, and describe similar opportunities and risks. To motivate their audience, many documents describe jobs of the future. The documents describe needs for policies, including acceptable use policies, procurement policies, academic integrity policies, and data privacy and security policies, and seek to guide policy development. Educators are asking for guidance and these are a great starting point for an exploratory phase of AI in education.

Yet there is clearly work to be done. To do many of the things described in the policies, resources may need to be allocated. Although risk areas are described, most of the documents don't give many examples of specific risks or how these risks would be identified and managed. Despite the availability of research about AI in education going back 50 years, references to key lessons from the research are missing or light. Although directives are given to some roles in educational systems to minimize harm, more thinking will likely have to occur on how roles will have to change in order to address AI risks comprehensively and effectively.

Appendix: Overview of the Seven State Guidance Documents

California ([link](#))

“Students are encouraged to not only learn with AI but also to learn about AI through hands-on exploration. This opportunity can be provided to students through engagement with computer science concept areas, each of which can align with AI.”

The California document encourages students to learn about AI to prepare for future job opportunities. The best way to do this is to link learning about AI to learning about computer science. Both AI skills and computer science standards should be integrated into the curriculum to develop critical thinking, creativity, and problem-solving abilities. The California document suggests, “As educators and students demystify AI systems, as they see past the perceived ‘magic’ of these technologies and deconstruct them to build a conceptual understanding of their inner workings, they are better able to engage as responsible, ethical citizens of emerging technologies. Professional learning initiatives can support educators in integrating AI effectively, so they can prepare students for future careers. Further, educators need to learn about ‘bias and social impacts’ of AI to keep their students safe.”

Interesting Feature: The California document has a “maker” sensibility. It emphasizes the significance of developing AI curriculum within schools as an extension of computer science education, thus promoting active engagement of students in the creation, programming, and understanding of artificial intelligence. It aims to foster students' roles as creators and innovators.

North Carolina ([link](#))

“The North Carolina Department of Public Instruction (NCDPI) advocates for the responsible integration of AI technologies in education, aiming to cultivate an educational environment that empowers each individual to reach their full potential and cultivates a lasting passion for continuous learning.” -- Dr. Vanessa Wrenn, Chief Information Officer, North Carolina Department of Public Instruction

North Carolina recommends a four-step roadmap for the responsible implementation of AI:

- Establish a Foundation
- Develop Your Staff
- Educate Students & Community
- Assess and Progress

Interesting Feature: The North Carolina document includes five levels of AI Assessment with descriptions of each, along with disclosure or citation recommendations. A scale such as this can help build the common understanding and language to ensure fair and equitable treatment of issues of suspected plagiarism or cheating with AI in the K-12 setting.

Ohio ([link](#))

“Stakeholders want guidance that enables concrete action. There is a place for high-level principles, but what is needed now is a path to operationalize those principles, an actionable plan for putting them into practice in a way that is effective and measurable.”

This AI Toolkit guides policymakers, teachers, and parents in understanding and implementing AI in education. It provides a step-by-step approach for policy development, an inventory of resources for each step, and a review of key AI governance guidelines. The toolkit emphasizes a multi-stakeholder approach, considering the perspectives of administrators, educators, students, and parents to ensure responsible and effective integration of AI in schools. The web-based design of the toolkit is particularly effective in curating external documents; a reader could use the well-organized, expandable descriptions of documents to build a reading list.

Interesting Feature: The Ohio document has step-by-step guidance for developing policy. In short: Start by examining the current technological landscape, laws in place, and the resources at your disposal for using AI. Align AI-related policies to Ohio’s values, as expressed in strategic planning documents. Create principles specific to AI to address possible risks and opportunities; guide both adoption and use. Derive policies from the principles. Put the policies into practice with appropriate training, support, and monitoring.

Oregon ([link](#))

“It is vital that schools and districts plan proactively in developing policies related to the use of AI in classrooms so as to ensure that policies are clear, attentive to the current moment, mindful of student data privacy and equity centered.”

The Oregon document emphasizes the need to consider equity when using generative AI in K-12 education. The document also discusses the potential benefits of generative AI, such as its ability to personalize learning and create more engaging content. It stresses the importance of having clear policies and procedures in place regarding the use of generative AI in schools, as well as providing teachers with adequate training on the topic.

Interesting Feature: The Oregon document uses tables to align potential strategies to key opportunities and risks, thereby offering a pragmatic path forward.

Virginia ([link](#))

“While AI tools can analyze information and enhance certain aspects of learning with unmatched efficiency, we must remember that education is ultimately a human endeavor. The true art of teaching involves wisdom, judgment and interpersonal skills that machines cannot replicate. As such, AI should never fully replace teachers, who nurture students’ critical thinking, values and character development.”

The Virginia document aims to apply AI to enhance learning, innovation, and economic growth while addressing risks and ensuring responsible use. Guidelines focus on harm prevention, ethics, human augmentation, empowerment, partnerships, and adaptability. Strategies include exploration, professional development, success showcases, stakeholder conversations, and setting conditions for effective use. The overall goal is to prepare students for a future shaped by AI while safeguarding data privacy, and security. Virginia emphasizes the need to establish a culture of integrity in which all stakeholders are committed to the ethical use of AI.

Interesting Feature: The Virginia document provides considerable detail on the expected roles and responsibilities for state agencies as well as for governing boards, leadership, and educators. For example, state agencies are directed to work with the Community College system on micro-badging and micro-credentials. Governing boards are directed to codify acceptable use policies and educators are directed to integrate digital citizenship across the curriculum.

Washington State ([link](#))

"Our commitment is not just to integrate AI into the classroom; it's to do so with a vision that places our educators and students at the center of this digital revolution with a priority for human inquiry.... Start with human inquiry, see what AI produces, and always close with human reflection, human edits, and human understanding of what was produced." -- Chris Reykdal, Superintendent of Public Instruction

This document provides guidance for integrating AI into K-12 education in Washington state. It emphasizes a human-centered approach, prioritizing the needs and abilities of students and educators. The guidance covers topics such as creating AI learning environments, implementing AI in student learning, protecting sensitive data, building AI policies, and providing professional development for educators. The goal is to empower students to use AI responsibly, ethically, and safely, preparing them for a future where AI plays a significant role. The Washington state document contains fairly extensive guidance on how districts could build human-centered AI policies.

Interesting Feature: Washington proposes a "Human AI Human" or "H - AI - H" model, which emphasizes that AI should always be used as a tool to enhance human capabilities, rather than as a replacement for human judgment and decision-making. This differs from the other documents, which focus primarily on the technical aspects of AI implementation and the potential benefits and risks of AI in education.

West Virginia ([link](#))

“We must distinguish between innovation with AI compared to AI with innovation. This distinction is where our educators, and those who support them, make the difference. As AI continues to emerge and provide innovations (AI with innovation), educators will ultimately continue to innovate using AI (innovation with AI).”

This guidance document’s primary goals are to help educators use AI effectively and responsibly while addressing potential risks and the need for careful oversight. It uses a series of metaphors to introduce ways of thinking about AI: as a personal coach, as a toolbox, as a spotlight, as a library, as a canvas, and as a bridge. The document provides strong coverage of data privacy and student safety in the context of AI use. In general, the West Virginia document appears to be particularly comprehensive.

Interesting feature: The West Virginia document provides strategies to ensure more accurate responses from Large Language Models (LLMs), such as using specific prompting techniques, verifying information with credible sources, and encouraging critical thinking and evaluation of AI-generated content. Several documents recommend the [CRAFT](#) approach for creating effective prompts.