

AI Framework for Educator Preparation



Developed by

**AACTE Programmatic Advisory Committee
on Innovation and Technology**

AACTE

FOREWORD

Artificial intelligence (AI) is rapidly reshaping education and educator preparation. From lesson planning and assessment to personalized learning and administrative support, AI-enabled tools are changing how educators teach, learn, and work. Yet amid this rapid technological change, one principle remains constant: excellent education depends on well-prepared educators exercising professional judgment, ethical reasoning, and deep knowledge of learners.

Recognizing both the opportunities and challenges AI presents, AACTE has worked with the **Programmatic Advisory Committee on Innovation and Technology** to develop the *AI Framework for Educator Preparation* to guide educator preparation programs in the responsible integration of artificial intelligence.

Rather than viewing AI as simply another educational technology, the framework positions AI as a catalyst for reexamining the core purposes of educator preparation. It affirms that AI should augment, not replace, the expertise, relationships, and professional judgment that define effective teaching. It also underscores the responsibility of educator preparation programs to equip future educators not only to use AI tools, but also to evaluate them critically, recognize their limitations and potential biases, and make informed decisions about when their use is and is not— appropriate.

AACTE is committed to working with members, partner organizations, policymakers, and the broader education community in advancing human-centered approaches to AI that strengthen teaching, learning, and educator preparation. This Framework is not intended to be the final word. Rather, it offers a foundation for continued learning, dialogue, research, and collective action as AI continues to evolve.

We invite members and partners to use the Framework, engage their faculty and candidates in thoughtful discussion, share what they are learning, and join us in shaping the future of educator preparation in an AI-enabled world.

“As we navigate the rapid integration of artificial intelligence in K-12 and higher education, we must prioritize pedagogy over technology. The release of the AACTE AI Framework marks a critical step forward in ensuring that our educator preparation programs (EPPs) are equipped to train the next generation of teachers through a Safe by Design lens.”

— Erin Mote, CEO, InnovateEDU

“Artificial intelligence presents both tremendous opportunity and significant responsibility for educator preparation. AACTE’s Framework reflects our commitment to ensuring that technology serves, not supplants, the expertise, ethics, and professional judgment of educators.”

—Cheryl Holcomb-McCoy, Ph.D., President and CEO, AACTE

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INTRODUCTION

AACTE (American Association of Colleges for Teacher Education) recognizes that artificial intelligence (AI) is rapidly reshaping teaching, learning, assessment, communication, and educational leadership across P-12 and higher education contexts. As the leading professional community for educator preparation, AACTE affirms that educator preparation programs (EPPs) have both an opportunity and a responsibility to guide the ethical, equitable, and human-centered integration of AI into educational practice. In this document, we present guiding principles for the use of AI in educator preparation settings, including clinical practice settings in schools and communities.

At a time when AI is transforming nearly every sector of society, AACTE affirms that the future of education depends not on technology alone, but on the expertise of highly prepared educators. This is the case whether AI is used as a pedagogical tool in teaching and learning with P-16 students or as a professional tool in support of the administrative and other non-instructional work of education. The more sophisticated AI becomes, the more important it is that teachers, counselors, school leaders, and educator preparation professionals possess the judgment, ethical reasoning, pedagogical expertise, cultural competence, and relational capacity necessary to use these tools responsibly. AI may change how education and educator preparation are delivered, but it does not change the essential role of educators in fostering learning, human development, belonging, opportunity, and democratic participation.



AI encompasses a broad and rapidly expanding range of technologies, including rule-based systems, machine learning algorithms, large language models, generative AI, and emerging agentic systems. Because these technologies differ in their design, capabilities, and the benefits and risks they pose, EPPs and faculty must be prepared to make informed, context-sensitive decisions about AI adoption, instruction, and governance.

AACTE’s mission is to empower institutions and individuals to lead with influence, advocate with impact, and prepare the next generation of teachers and educators with excellence. To fulfill this empowering mission, we present the following foundational pillars. These guiding principles provide the framework necessary for EPPs to lead the responsible integration of AI in educator preparation boldly.

Figure 1. AACTE Guiding Principles for AI in Educator Preparation.

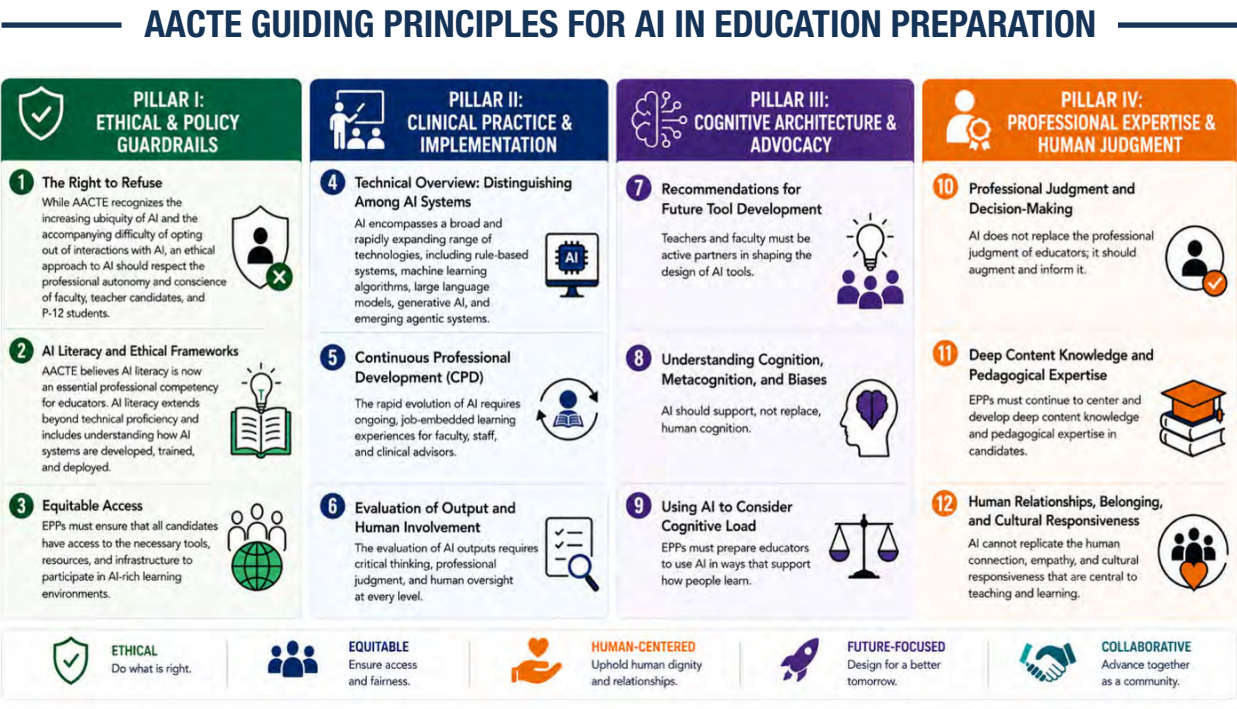


Figure created using OpenAI ChatGPT (GPT-5.5) image generation based on content developed by the authors, June 2026.

PILLAR I: ETHICAL & POLICY GUARDRAILS

The first column of the framework establishes policy dimensions, professional boundaries, and human rights that should govern the adoption of technology in educator preparation.

1. The Right to Refuse

While AACTE recognizes the increasing ubiquity of AI and the accompanying difficulty of opting out of interactions with AI, an ethical approach to AI should respect the professional autonomy and conscience of faculty, teacher candidates, and PK-12 students. To the extent feasible, EPPs should establish transparent policies that recognize a Right to Refuse interaction with specific AI technologies. The right to refuse may be invoked in the face of valid institutional, ethical, pedagogical, or privacy concerns.

- **Faculty Instructional and Pedagogical Autonomy:** Faculty must retain the pedagogical freedom to determine whether the use of generative AI aligns with the learning objectives of their courses, choosing to restrict or integrate its use based on disciplinary standards.
- **Candidate and Student Protections:** Teacher candidates and other EPP personnel students should not be penalized or academically marginalized if they opt out of using AI tools that compromise personal data privacy, violate cultural or religious values, or conflict with verified accessibility accommodations.
- **Alternative Pathways:** Programs should establish alternative, non-AI pathways for learning and assessment to ensure that non-adoption does not result in systemic barriers to degree completion or professional licensure.
- **Right to exclude intellectual property.** Material that is created as a result of human intellect and endeavor should be safeguarded from inadvertent or unattributed inclusion in Large Language Model (LLM) and other AI systems.

2. AI Literacy and Ethical Frameworks

AACTE believes AI literacy is now an essential professional competency for educators. AI literacy extends beyond technical proficiency and includes understanding how AI systems are developed, trained, and deployed; recognizing the limitations and potential inaccuracies of AI-generated outputs; evaluating issues of bias, privacy, intellectual property, accessibility, and misinformation; and exercising sound pedagogical judgment regarding when and how AI should be used in teaching and learning.

- **Foundational Infrastructure:** A grasp of how AI systems are built, trained, and deployed, including the role of large-scale data harvesting and the inherent limitations of predictive language models.
- **Core Ethical Tenets:** The integration of AI must prioritize human dignity, equity, transparency, and professional responsibility. Programs must remain transparent about when AI is used, actively audit tools to prevent disparate impacts or cultural biases, guard personally identifiable information (PII), and ensure meaningful human oversight remains central to all high-stakes educational decisions.

3. Equitable Access

As AI tools become foundational infrastructure for educational delivery, a widening digital divide threatens to exacerbate existing inequities in the educational landscape. AACTE is committed to advocating for equitable access to advanced technological resources across all P-20 educator preparation contexts.

- **Resource Disparities:** High-quality, privacy-protected, and pedagogically appropriate AI tools should be accessible to under-resourced institutions, not only to wealthy or well-resourced programs. The educational field should advocate for funding models, public infrastructure, and institutional licensing arrangements that prevent AI from deepening existing educational inequities.
- **Universal Design for Learning (UDL):** AI tools adopted by EPPs should meet stringent accessibility standards (such as WCAG 2.2), ensuring full compatibility with assistive technologies used by candidates and students with disabilities.
- **Infrastructural Support:** State and federal policymakers should be encouraged to invest in public educational technology infrastructure, ensuring that rural, urban, and under-resourced EPPs and partner districts have the broadband capabilities, hardware, and institutional licensing necessary to participate fully.



PILLAR II: CLINICAL PRACTICE & IMPLEMENTATION

The second column bridges foundational understanding with daily operational and instructional realities, focusing on system types, output evaluation, and professional development.

4. Technical Overview: Distinguishing Among AI Systems

- AI technologies include a broad range of systems and tools that perform tasks traditionally requiring human cognition, including prediction, pattern recognition, language generation, personalization, automation, and decision support. Because these systems differ significantly in purpose, capability, transparency, and risk, EPPs should help future educators develop the knowledge and judgment necessary to distinguish among AI tools and evaluate their educational appropriateness. EPPs should ensure candidates understand the distinction between:
- **Rule-Based and Analytical AI:** Pre-programmed systems that follow deterministic logic or statistical models to categorize data, track progress, or provide automated feedback based on specific parameters.
- **Adaptive Learning Platforms:** Systems powered by machine learning algorithms that dynamically adjust the pace, sequence, or style of content delivery based on real-time diagnostic performance metrics of individual learners.
- **Generative AI Applications:** Advanced deep-learning systems capable of producing novel text, images, audio, video, synthetic data, and complex instructional materials based on prompts.
- **Agentic AI:** An emerging class of systems designed to, and capable of, taking independent action that the systems can initiate with no human impetus. In their simplest forms, it is easy to understand the attraction of such systems. As agentic technology is emerging at the time of this framework's publishing, it is noted as an area for future study.

5. Continuous Professional Development (CPD)

The rapid advancement of AI technologies means that traditional isolated workshops or static instructional modules are insufficient as professional development. EPPs, in collaboration with PK-12 school partners, should build sustainable infrastructure for CPD. These structures will have the capacity to support faculty learning, align P-20 educator preparation with the policies and tools used in clinical placements, and help educators develop adaptive competencies in AI literacy, data privacy, ethical decision-making, instructional design, verification of outputs, and critical evaluation of emerging technologies.

- **Faculty and University Personnel Upskilling:** Institutions should invest significantly in ongoing professional development for higher education faculty, finding skilled and experienced AI educators, ensuring that university teacher educators are actively modeling advanced, research-validated digital pedagogies for their pre-service teacher candidates.

- **P-20 Collaborative Alignment:** CPD initiatives should bridge the gap between higher education theory and P-12 classroom realities, ensuring that pre-service candidates enter P-12 clinical spaces fluent in the specific platforms, privacy guardrails, verification mechanisms, and acceptable-use guidelines of their partner school communities.
- **Adaptive Competency Frameworks:** Professional development structures should avoid static, checklist-oriented approaches and move toward dynamic, inquiry-based competencies that focus on systemic policy critique, data privacy law literacy, and emergent interactive pedagogical architectures.
- **Mode of Delivery:** The CPD experience should have extended duration, with emphasis on content and how the participants can collaborate and foster active creation of knowledge, include the showcasing of effective practice, provision of mentoring, feedback, and time for reflection, and should be conducted over time in ways that embed practice in the participants' spaces.

6. Evaluation of Output and Human Involvement

While AI systems can produce rapid simulations, adaptive assessments, and complex text, they do not possess authentic human intelligence — empathy, lived cultural understanding, ability to verify information, or professional accountability. Although AI systems may reflect cultural patterns in the data on which they are trained, those patterns inevitably also reproduce dominant perspectives, stereotypes, omissions, or bias. One could consider AI an apparent expert; however, it is the human interaction and verifications that are needed as expert inputs for the AI. AACTE therefore asserts that continuous human-in-the-loop oversight is essential in educator preparation and practice.

- **Evaluating Instructional Integrity:** AI-generated lesson plans, rubrics, and curricular materials should not be adopted blindly. Candidates must be taught to meticulously audit every output for developmental alignment, scientific accuracy, and instructional sequencing before implementation. Verification is a key to using AI effectively.
- **High-Stakes Clinical Guardrails:** High-stakes evaluations, such as candidate admissions, clinical field-placement observations, grading of complex portfolios, and certification recommendations, should not be outsourced to autonomous algorithmic scoring models.
- **The Relational Core of Teaching:** Teacher educators should promote dialogue with pre-service candidates to understand their bonds with or aversion to AI technology in order to effectively address group needs. Therefore, EPPs should reinforce that technology is merely a supplement to the irreducibly human, relational, and ethical bond between a teacher and a student.

PILLAR III: COGNITIVE ARCHITECTURE & ADVOCACY

This pillar focuses on the deepest psychological layer of learning, cognition, metacognition, and cognitive load, and projects forward into how tools must be designed for the future.

7. Recommendations for Future Tool Development

The current market of educational technology is largely dominated by commercial, consumer-oriented AI models that were not designed with the unique clinical, developmental, and ethical needs of teacher education in mind. AACTE calls for a paradigm shift in how future educational AI tools are conceptualized, built, and brought to market.

- **Co-Design with Educators:** AI developers, technology firms, and researchers should actively co-design tools designed for educational purposes alongside or, at a minimum, with input from expert teacher educators, learning scientists, and PK-12 practitioners to serve verified pedagogical needs.
- **Evidence-Based Efficacy:** Technology developers should provide transparent, peer-reviewed empirical evidence regarding the safety, validity, and educational impact of their algorithms before deploying them in classrooms. Systems that lack such evidence should be kept away from educational settings.
- **Specialized Teacher Education Systems:** We encourage investment in the research and development of specialized, secure AI applications tailored specifically for the clinical side of teacher preparation, such as secure synthetic-data simulators, interactive pedagogical architectures for curriculum mapping, and ethical video-reflection feedback systems.

8. Understanding Cognition, Metacognition, and Biases

AI applications are not neutral mirrors of an objective reality; they are trained on historical human data that reflects pervasive societal biases. Educators must possess a sophisticated understanding of human cognition and metacognition to effectively counter the subtle psychological impacts of interacting with automated systems.

- **Automation Bias:** EPPs should explicitly train candidates to resist automation bias, the psychological tendency for humans to uncritically trust automated, machine-generated outputs over their own clinical observations, professional knowledge, or lived experiences.
- **Deconstructing Algorithmic Bias:** Future teachers should be equipped to recognize how generative AI can normalize cultural stereotypes, omit minority perspectives, or misinterpret non-standard linguistic patterns.
- **Metacognitive Modeling:** Educators have the opportunity to learn to use AI as a tool to externalize and model metacognitive processes, prompting adjustments out loud so PK-12 students can learn how to actively monitor their own comprehension and problem-solving strategies.

9. Using AI to Consider Cognitive Load

When designed responsibly, AI can serve as an effective cognitive partner, helping educators manage the overwhelming administrative and instructional demands of the modern classroom. EPPs should instruct candidates on how to leverage AI to strategically balance cognitive load.

- **Reducing Extraneous Load:** AI can automate time-consuming, administrative, and routine tasks, such as drafting initial lesson plan templates, parsing large datasets, organizing schedule frameworks, or generating varied reading-level versions of a core text. By outsourcing these tasks, educators can lower their extraneous cognitive load.
- **Minimizing Cognitive Load:** By freeing up mental bandwidth from rote tasks, educators can redirect their primary cognitive energy toward high-leverage practices that require deep clinical judgment, such as building strong relationships, diagnosing misconceptions, and designing culturally responsive pedagogy.
- **P-12 Student Scaffolding:** Educators should design learning experiences where AI is capable of handling baseline procedural sub-tasks for students as appropriate to their developmental stage, allowing learners to focus on higher-order conceptual tasks like structural analysis, synthesis, and systemic design.
- **Incorporation of agentic tools.** As Agentic AI becomes more widely available, tools that act independently provide the promise of fully automating tasks that are not central to the educational process. This is a powerful potential which should be carefully monitored.



PILLAR IV: PROFESSIONAL EXPERTISE AND HUMAN JUDGMENT

The final pillar affirms a foundational principle of educator preparation: artificial intelligence should augment, not replace, the professional expertise, ethical reasoning, and human relationships that define effective educational practice. As AI systems become increasingly sophisticated, the value of highly prepared educators becomes even more important. Educator preparation programs should ensure that candidates develop the knowledge, dispositions, and professional judgment necessary to evaluate, adapt, and responsibly integrate AI while maintaining accountability for teaching and learning.

10. Professional Judgment and Decision-Making

AI systems can assist with information gathering, content generation, pattern recognition, and administrative efficiencies, but they cannot assume responsibility for professional educational decisions. Effective teaching requires contextual awareness, ethical discernment, and informed judgment developed through preparation, clinical practice, and professional experience. AACTE affirms that educators remain the primary decision-makers in all matters related to teaching, learning, assessment, and student well-being.

- **Human Accountability:** Decisions affecting student learning, assessment, placement, support services, and educational opportunities must remain under the authority of qualified educators who are accountable to learners, families, institutions, and communities.
- **Contextual Decision-Making:** Educators should be prepared to evaluate AI-generated recommendations within the unique social, cultural, developmental, and instructional contexts in which learning occurs.
- **Professional Agency:** Educators should retain the authority to accept, modify, reject, or supplement AI-generated outputs based on their professional expertise and the needs of their learners.

11. Deep Content Knowledge and Pedagogical Expertise

The increasing availability of AI-generated content does not diminish the need for strong disciplinary knowledge and pedagogical expertise. On the contrary, educators require a deep understanding of subject matter and learning sciences to evaluate the accuracy, appropriateness, and instructional value of AI-supported materials.

- **Content Expertise:** Educators must possess sufficient disciplinary knowledge to identify inaccuracies, omissions, misconceptions, and oversimplifications within AI-generated materials.
- **Pedagogical Expertise:** Effective teaching requires selecting instructional strategies, scaffolds, assessments, and learning experiences that align with learner needs and educational goals. These decisions require professional expertise that extends beyond the capabilities of AI systems.
- **Instructional Adaptation:** Educators should be prepared to refine, customize, and improve AI-generated resources to ensure alignment with curriculum standards, developmental appropriateness, and evidence-based instructional practice.

12. Human Relationships, Belonging, and Cultural Responsiveness

Education is fundamentally a human endeavor grounded in relationships, trust, belonging, and care. While AI may support certain instructional and administrative functions, it cannot replicate the relational dimensions of teaching that contribute to student engagement, identity development, motivation, and success. Educator preparation programs should continue to prioritize the interpersonal and culturally responsive competencies that remain central to effective practice.

- **Relational Teaching:** Strong educator-student relationships remain among the most influential factors in learning and development and cannot be delegated to automated systems.
- **Cultural Competence and Responsiveness:** Educators must exercise professional judgment to ensure that AI-supported practices respect the linguistic, cultural, and experiential backgrounds of learners and communities.
- **Fostering Belonging and Opportunity:** Educators play an irreplaceable role in creating inclusive learning environments where all students feel valued, supported, and empowered to succeed.

AACTE affirms that artificial intelligence should strengthen, not replace, the professional expertise of educators. As AI capabilities expand, the need for highly prepared teachers, counselors, school leaders, and educator preparation professionals becomes even greater. The future of education depends not on technological advancement alone, but on educators who possess deep content knowledge, pedagogical expertise, ethical reasoning, cultural competence, and a commitment to human flourishing. AI can support educational work, but educators remain the essential professionals who guide learning, build belonging, exercise judgment, and create opportunity for every learner.