SJSU | CENTER FOR INNOVATION IN APPLIED EDUCATION POLICY

The Five Pillars of Practice (5POP) Framework

A Human-Centered Approach to AI, Teaching, Learning, and Educational Improvement

As artificial intelligence becomes increasingly integrated into educational systems, educators and leaders face an important question:

How can schools, colleges, and universities leverage AI to enhance learning while preserving the human relationships, judgment, creativity, and critical thinking that define quality education?

The Five Pillars of Practice (5POP) Framework was developed by the Center for Innovation in Applied Education Policy (IAEP) at San José State University to help educators, policymakers, and organizational leaders navigate this challenge.

The framework provides a practical set of principles for evaluating, designing, and implementing AI-supported teaching, learning, assessment, and policy initiatives. Rather than focusing solely on technological adoption, the framework centers the conditions necessary for deeper learning and human flourishing in increasingly AI-mediated environments.

The Five Pillars of Ethical AI Practice

Accuracy

How do we know?

Accuracy focuses on the quality, credibility, and trustworthiness of information. Educational systems should promote transparency, verification, critical evaluation of claims, bias awareness, disciplinary rigor, and developmentally appropriate uses of AI. Triangulation of sources of information is key.

Key questions include:

- How is information verified?
- What evidence supports a claim?
- What limitations or biases may exist?
- How do learners develop epistemic responsibility?

Agency

Who is doing the thinking?

Agency emphasizes human judgment, intellectual labor, and meaningful decision-making. AI should support rather than replace productive struggle, reflection, creativity, and professional expertise.

Key questions include:

- Who is directing the action? Making decisions? Deciding on “next steps/”
- What cognitive work remains essential?
- How does AI support rather than replace learning?
- How are students and educators exercising judgment?

Accessibility

Who can meaningfully participate?

Accessibility extends beyond access to technology. It focuses on equitable participation, appropriate supports, human scaffolding, and opportunities for all learners to engage meaningfully in deeper learning.

Key questions include:

- Who benefits from AI-supported learning?
- What barriers remain?
- Are supports developmentally appropriate?
- Does access lead to meaningful participation and understanding?

Assessment for Deeper Learning

What evidence demonstrates deeper learning?

Assessment should make thinking visible, provide actionable feedback, support revision, and generate meaningful evidence of growth. AI should strengthen formative assessment practices rather than simply automate grading and evaluation.

Key questions include:

- How is learning made visible?
- What evidence supports instructional decisions?
- How does feedback promote growth?
- How are students involved in assessment processes?

Authenticity

Whose voice and creativity are present?

Authenticity focuses on student voice, authorship, intellectual contribution, provenance, and integrity. AI should support human creativity and expression while maintaining transparency regarding how work is produced.

Key questions include:

- Whose ideas are represented?
- Who contributed to the work?
- How are sources and influences acknowledged?
- What is the difference between creative remixing and borrowing without attribution?
- Are contributions represented honestly and transparently?

Applying the Framework

The Five Pillars of Practice can be used to:

- Evaluate AI tools and technologies
- Guide AI policy development
- Design instructional programs and professional learning
- Assess organizational readiness for AI implementation
- Inform strategic planning and innovation initiatives
- Support responsible adoption of emerging technologies
- Shape standards for accreditation and evaluative review procedures
- Promote ambitious teaching and deeper learning across educational settings

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A Framework for Human-Centered Innovation

The Five Pillars of Practice are grounded in a simple belief:

Innovation should strengthen—not replace—human judgment, creativity, equity, and meaningful learning.

By helping educators and leaders ask better questions about technology, learning, and educational improvement, the framework provides a practical pathway for navigating the opportunities and challenges of AI while keeping students, educators, and learning at the center.

About the Framework

The Five Pillars of Practice (5POP) Framework was developed by Dr. Brent Duckor and Dr. Carrie Holmberg through their collaborative scholarship on assessment, feedback, deeper learning, and the ethical integration of artificial intelligence in education.

The framework is presented in their book, *AI and Deeper Learning: Promises, Paradoxes, and Evolving Practices* (Harvard Education Press, 2026), and serves as a guiding framework for the work of the Center for Innovation in Applied Education Policy (IAEP) at San José State University.

The Five Pillars—Accuracy, Agency, Accessibility, Assessment for Deeper Learning, and Authenticity—provide educators, policymakers, researchers, and organizational leaders with practical principles for evaluating, designing, and implementing AI-supported learning environments that preserve human judgment, meaningful participation, and educational integrity.

Framework Authors

- Brent Duckor, Ph.D., Professor, Department of Teacher Education and Executive Director, IAEP Center, San José State University
- Carrie Holmberg, Ed.D., Senior Lecturer, Department of Teacher Education and Assistant Director, IAEP Center.

Additional Resources

- AI and Deeper Learning: Promises, Paradoxes, and Evolving Practices (2026)
- Five Pillars of Ethical AI Use for Teaching and Learning (2025)

IAEP Center, San José State University. The Five Pillars of Practice (5POP) Framework© is used to support educational improvement, professional learning, policy development, and responsible AI implementation across educational settings.