



BranchED AI Compass

Domain-to-Practice Guide

Domain 5

This guide¹ helps teacher educators support teacher candidates' (TCs) readiness for an AI-enabled world. It translates the BranchED AI Compass domain and competency language into concrete learning experiences, evidence sources, and course- and clinical-design decisions that teacher educators can incorporate into existing preparation experiences. The sections below show how the domain's competencies work together and provide practical guidance to help TCs develop and demonstrate the knowledge, skills, dispositions, and professional judgment reflected in the AI Compass.

How the Competencies Work Together

This domain contains one competency, but it integrates several connected practices: interpreting AI-supported insights, triangulating multiple sources of evidence, personalizing support, monitoring impact, and adjusting instruction. Teacher candidates should experience these as parts of one continuous improvement cycle rather than as separate data-use tasks.

A Note on Policy and Context

AI use takes place within institutional, professional, and educational contexts. Teacher educators and teacher candidates should be familiar with and adhere to applicable program, institutional, school, district, state, and other relevant policies and guidance related to AI use, data privacy, approved tools, academic integrity, and professional practice. The AI Compass and accompanying resources are intended to support the development of AI readiness and informed professional judgment within these contexts; they do not establish or supersede institutional or district policy.

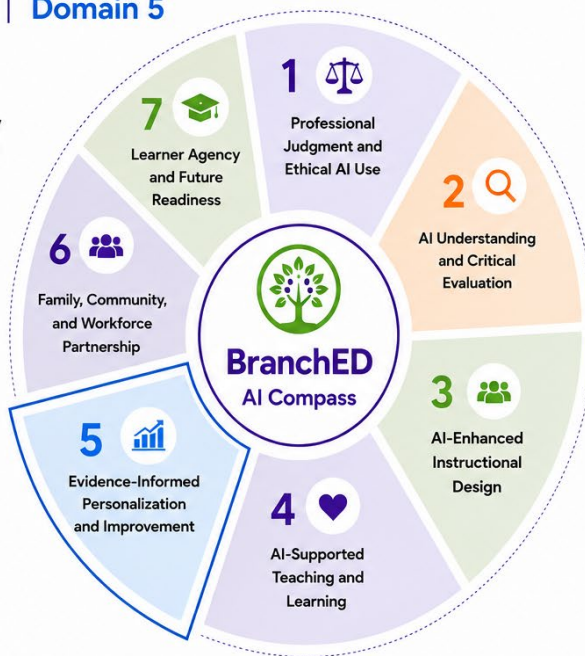


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Each domain contributes to educators' ability to use AI in ways that advance learning, equity, and human flourishing.



YOU ARE HERE:
DOMAIN 5

Evidence-Informed Personalization and Improvement

Educators use AI-enabled technologies to personalize learning, make informed decisions, and continuously improve practices and outcomes for each learner.

COMPETENCY IN THIS DOMAIN

C9 Data-Informed Personalization and Continuous Improvement

Educators use AI-enabled technologies, when appropriate, to gather, analyze, and interpret data that inform instructional decisions, personalize learning, and improve outcomes for each learner through ongoing reflection and continuous improvement.



WORKING TOGETHER

These seven domains are interconnected and mutually reinforcing. Strength in one domain amplifies impact across all others.

¹ The development and design of this guide was assisted by ChatGPT.

Domain 5: Evidence-Informed Personalization and Improvement

Educators integrate AI-supported insights with professional judgment and other evidence of learning to personalize instruction, monitor progress, and improve learner outcomes.

This domain helps TCs use AI-supported data and insights as part of a broader evidence base for instructional decision-making. The emphasis is not simply on accessing or interpreting data, but on integrating AI-supported insights with other evidence of student learning, knowledge of students and context, and professional judgment to make responsible decisions about instruction and support. TCs should learn to recognize bias, uncertainty, and missing context; retain human responsibility for consequential decisions; and use evidence iteratively to monitor impact and improve practice.

The sections below translate this competency into development activities, readiness indicators, evidence sources, and opportunities for teacher educators to integrate these practices into coursework and clinical experiences.

Competency 9 | Data-Informed Personalization and Continuous Improvement

AI Compass Competency

Data-Informed Personalization and Continuous Improvement: Educators interpret AI-supported data and insights responsibly, integrate multiple sources of evidence, personalize learner supports, and continuously improve instruction. Human-in-the-loop decision-making, awareness of bias, and educator accountability guide all consequential decisions.

What This Means for Teacher Candidate Development

For TC development, this means learning to interpret AI-supported data and recommendations as one source of evidence rather than as objective or definitive conclusions. TCs need repeated opportunities to integrate AI-supported insights with student work, assessment information, observations, contextual knowledge, and other relevant evidence; identify potential bias, uncertainty, or missing information; and use professional judgment to determine an appropriate instructional response. They should also learn to monitor the effects of their decisions and adjust instruction or support when emerging evidence suggests a different approach is needed.

Design Principle: Use AI-supported insights to inform judgment, never replace it.

In Practice

For TCs, this competency means using AI-supported data or recommendations as one source of information, not as an automatic decision-maker. TCs should be able to combine multiple forms of evidence with knowledge of students and professional judgment, check for bias or uncertainty, and retain responsibility for consequential instructional decisions.

Why This Matters

AI can help identify patterns and organize evidence, but data-driven recommendations may be incomplete, biased, or detached from student context. Educators need to interpret rather than obey AI-supported insights and use evidence iteratively to improve support for students.

What Teacher Candidates Need to Know & Understand

- AI-supported data and recommendations are interpretations or predictions that may contain bias, error, uncertainty, or missing context.
- Sound personalization draws on multiple sources of evidence, including student work, observation, assessment, conversation, knowledge of student context, and student and family perspectives when relevant.
- Human-in-the-loop means consequential decisions remain subject to educator review, professional judgment, and accountability.
- Continuous improvement involves using evidence to act, monitor what happens, learn, and adjust rather than treating a recommendation as final.

What Teacher Candidates Need to Practice

- Comparing AI-supported insights with other evidence before making an instructional recommendation.
- Identifying possible bias, missing context, uncertainty, or overconfidence in AI-supported data or predictions.
- Developing personalized supports that respond to student evidence without reducing students to a data profile.
- Monitoring the effects of an instructional decision and revising support when evidence indicates a different approach is needed.

Ways to Develop the Domain

Teacher educators can develop this domain by giving candidates repeated opportunities to apply the connected competency practices. The experiences below show how each contributes to the domain as a whole.

Learning Experience	Primary Focus	How It Builds the Competency
One Data Point Is Not a Student	C9	Provide TCs with an AI-generated student profile or recommendation along with additional evidence, such as student work, assessment data, observations, or contextual information. Ask them to compare the sources, identify where they align or differ, and justify an instructional decision based on the full body of evidence rather than the AI output alone.
Human in the Loop	C9	Present a simulated or de-identified AI-supported recommendation, such as a suggested instructional group, support option, or resource allocation. TCs identify what evidence, context, and professional review would be required before any action is taken.
Bias in the Pattern	C9	TCs examine a data pattern or prediction for possible bias, missing variables, or contextual explanations and identify additional evidence needed.
Act, Check, Adjust	C9	TCs create a short improvement cycle: select an evidence-informed support, define what they will monitor, and specify how they will decide whether to continue, adapt, or stop.

Indicators of Developing Readiness

These indicators describe how readiness across the domain may develop over time. They should be interpreted across multiple forms of evidence rather than as a rubric for scoring a single learning activity. Teacher educators can use evidence gathered across coursework, clinical experiences, simulations, reflections, and authentic performances to identify where TCs are developing and where additional practice opportunities may be needed.

Developmental Level	Observable Indicators
Emerging	Treats AI-supported data or recommendations as objective or authoritative and makes decisions from a single source with limited attention to context, bias, or uncertainty.
Developing	Uses more than one source of evidence and recognizes possible limitations, but may inconsistently integrate context, student perspectives, bias considerations, or follow-up evidence.
Ready	Triangulates AI-supported insights with multiple evidence sources and knowledge of students, checks for bias and uncertainty, retains human responsibility for consequential decisions, and monitors outcomes to improve practice.
Extending	Interrogates complex data systems and patterns, anticipates unintended consequences, incorporates stakeholder perspectives, leads iterative improvement, and helps others maintain strong human-in-the-loop decision-making.

Possible Sources of Evidence

Teacher educators may draw on multiple sources to understand how a TC is developing this domain, including:

- Data-analysis cases and evidence-triangulation maps
- Student-support or personalization plans
- Progress-monitoring and improvement cycles
- Clinical decision rationales
- Bias or uncertainty analyses
- Intervention reflections and oral defenses

Try It in Your Course

Use these prompts to identify one practical opportunity to strengthen this domain in an existing course or clinical experience.

Where does this competency already show up in my course or clinical experience?

My idea:

Where could TCs more explicitly practice integrating AI-supported insights with multiple sources of student evidence?

My idea:

What existing assignment, learning experience, or assessment could be adapted to include human-in-the-loop decision-making and continuous improvement?

My idea:

What evidence could I collect to understand whether TCs are interpreting AI-supported insights responsibly rather than treating them as final conclusions?

My idea:



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