THE STATEWIDE AI WORKGROUP
INSTRUCTIONAL FRAMEWORKS & ASSESSMENT

AI in Instruction & Assessment

An Instructional Guide for Michigan Educators

Overview and Purpose

In today's world, artificial intelligence, generative technologies, and data-rich tools are reshaping how we teach and learn. This framework provides a clear, research-informed vision for high-quality instruction that helps educators design meaningful learning experiences and prepare students for a technology-driven future. **This guide is not an evaluation tool**; it is meant to support teacher growth, collaboration, and student success.

The framework builds on two major strands of research:

> **Change Leadership Group at Harvard**: Studies of schools and districts that improved student learning at scale showed that improvement comes when all students engage daily in rigorous, meaningful work, and when teachers receive embedded, intentional professional learning.
>
> **Center for Educational Leadership (University of Washington)**: Their research into high-quality instruction led to the 5D Instructional Framework, which gives schools a shared language for teaching and learning. It helps educators reflect, collaborate, and refine practice, not as part of evaluation, but as a professional growth tool.

At the center of the framework is the Instructional Core: the relationship between teacher skill, student engagement, and rigorous content. Strengthening all three ensures deeper learning for every student.

The 5D framework organizes practice into five dimensions:

- Purpose – Clear learning goals that connect to big ideas and relevance.
- Student Engagement – Active participation and ownership of learning.
- Curriculum & Pedagogy – Rigorous, equitable, and culturally responsive instruction.
- Assessment for Student Learning – Timely, targeted feedback that guides growth.
- Classroom Environment & Culture – Inclusive spaces that promote belonging and respect.

This framework also considers the opportunities and challenges of AI and digital tools. New technologies can analyze data, personalize learning pathways, and provide real-time feedback. Used wisely, they can support equity, student voice, and teacher decision-making. This framework helps districts and teachers align instruction, professional learning, and innovation around a shared vision that empowers educators and students to create equitable, engaging, and future-ready classrooms in a world shaped by AI and emerging technologies.

Notes on Responsible Use

- Human in the loop: Treat AI as a planning and drafting partner, with humans making final decisions.
- Equity and access: Provide alternatives and teach students to cite AI assistance and recognize bias.
- Data privacy: Avoid entering personally identifiable information into public tools; use district-approved platforms.

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AI in Instruction & Assessment for STUDENTS

Using AI Outputs: Students review and analyze AI items for fairness, bias, alignment, and validity, and collect feedback from multiple sources
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Instructional Element	Description	Essential Questions	Student Role	AI can be used to…
Purpose	Understand the focus of learning, why it matters, and how to show progress and success using clear criteria.	Why does this learning matter and how does it connect to what is valued or already known?	Rephrase learning targets in their own words, connect them to prior knowledge, and explain why they matter. Use success criteria to communicate their learning.	• Rephrase learning targets and explore their relevance. • Compare AI's version to the posted goal • Reflect on why the learning matters and how it connects to prior knowledge or interests. • Use success criteria to communicate their learning."
Student Engagement	Engage in challenging, discipline-specific tasks that offer chances to develop, test, and refine ideas.	What does it look like to contribute ideas and stay focused when thinking deeply about real problems or tasks?	Engage in challenging, discipline-specific tasks that require sustained thinking. Share ideas, listen actively, and build on others' thinking to deepen learning.	• Generate ideas, then decide which to keep, revise, or discard • Use as a thought partner to refine thinking, but communicate learning in own voice • Explore different solutions and test them against the learning target or expectations • Compare feedback or examples with peer and teacher input to strengthen ideas
Classroom Environment & Culture	Promote belonging, risk-taking, and collaboration; use AI responsibly and value diverse thinking.	What does it look like to create a space where everyone feels respected, valued, and able to learn together?	Contribute to a safe, respectful space by listening, questioning, and collaborating responsibly, including ethical use of AI and valuing different ways of thinking.	• Support respectful collaboration and inclusive dialogue • Prepare for peer conversations by generating sentence starters or follow-up questions. • Rephrase a classmate's idea clearly to promote shared understanding. • Consider multiple perspectives by asking AI for alternative viewpoints. • Review AI suggestions for tone, accuracy, and inclusivity before sharing.
Curriculum & Pedagogy	Explore real-world learning that blends standards, inquiry, and practice; use tools and scaffolds to reach goals.	How can AI and other learning tools support deeper thinking and real-world application?	Apply learning to real-world problems or ideas. Choose tools, resources (including AI), and strategies to explore, test, and refine thinking.	• Explore concepts and connect learning to the real world • Access examples, models, or background information using AI to deepen understanding. • Ask AI to explain concepts in new ways or through different lenses. • Test and refine thinking by exploring real-world applications or alternative perspectives. • Evaluate AI responses for accuracy and connect them back to learning goals.
Assessment for Student Learning	Use success criteria to reflect, receive feedback, revise thinking, set goals and track progress.	What actions support tracking progress, using feedback, and improving learning?	Reflect on learning using success criteria, give and receive feedback, and revise my work or ask for help to improve my understanding and performance.Use success criteria to monitor progress and know when to revise.	• Generate exemplars or rubric-based models to compare to authentic work. • Provide feedback using specific success criteria. • Generate possible next steps or improvement strategies, then select and explain which to apply. • Review suggestions with a critical eye to decide what's useful and why

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Instructional Element	Description	Essential Questions	Teacher Role	AI can be used to…
Purpose	Daily and unit goals are clear, connected, and include success criteria students can use.	How will students see the relevance and transfer of today's goal? What success criteria and exemplars make the target actionable?	Backward-design targets and criteria; students restate purpose and monitor progress.	• Draft success criteria • Create varied exemplars • Brainstorm anticipatory hooks
Student Engagement	Tasks demand sustained discipline-specific thinking through dialogue and collaboration with authentic opportunities to develop and refine ideas.	Where will students do the heavy cognitive lift? How will I ensure that every student feels invited, supported, and valued in classroom dialogue?	Design tasks and monitor; students use talk stems and produce thinking artifacts.	• Suggest ways to scaffold rigor • Generate talk structures • Brainstorm real-world connection • Support participation
Classroom Environment & Culture	Spaces are safe, accessible, and culturally sustaining; norms include responsible AI use.	What routines will promote belonging, productive struggle, and integrity with AI?	Teach and reinforce norms; students follow and cite assistance.	• Draft use agreements • Revise protocols and routines • Brainstorm accessibility supports.
Curriculum & Pedagogy	Standards-aligned designs blend instruction, inquiry, and practice with multiple pathways.	Which representations and scaffolds best develop concepts and skills? Where should I release responsibility?	Map standards and design sequences; students select strategies and reflect.	• Draft unit plans • Synthesize curriculum • Analyze vertical alignment • Improve lesson plans with a targeted focus area
Assessment for Student Learning	Frequent checks for understanding to drive feedback and continued opportunities to learn ; criteria are visible and student-friendly.	What evidence will show learning today, and how will I respond in real time? How will students reflect and act on feedback?	Plans and implements checks for understanding and provides feedback to students	• Draft standards-aligned assessment items • Analyze assessments to review for validity, reliability, bias, and coherence to the curriculum • Translate assessments and rubrics • Provide stems to begin writing feedback. **Only FERPA-compliant data may be used for data analysis**

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Sub-Committee Members:

The Instruction and Assessment Sub-Committee brings together a diverse group of educators, leaders, and researchers from across Michigan to guide and support the responsible use of AI in instructional and assessment practices. The committee is comprised of a group of dedicated colleagues representing K-12 schools, ISDs, higher education, and professional organizations:

Karle Delo (Co-Chair)
Michigan Virtual

Dr. Mike Burde
Wyoming Public Schools

Chris Formsma
Jenison Public Schools

Dr. Kate Grunow
Macomb ISD

Dr. Roop Jayaraman
Central Michigan University

Nicole Kalmbach
Kalamazoo RESA

Jennifer Lawson
Northville Public Schools

Dr. Mike Maksimchuk (Co-Chair)
Kent ISD

Emilia McGuckin
Michigan Virtual

Allison Remington
Clinton County RESA

Colin Ripmaster
MASSP

Dr. Ed Roeber
Michigan Assessment Consortium

Travis Powell
Gogebic-Ontonagon ISD

Amy West
Allen Park Public Schools