



AI: Learning Science & Future-Ready Education

Purpose: Professional Learning Institute for Teachers and School Leaders

Audience: K-12 Teachers, Instructional Coaches, Principals, District Leaders

Format: 2 Days (6-6.5 hours per day) + Optional Day 3 for Education Leaders

- Day 1: Designed for educators. Introduces foundations. *
- Day 2: Designed for educators. Focused on implementation.
- Day 3: Optional. Designed for education leaders. Focuses on strategy, implementation, governance, and leading change across the organization.

** For a mixed audience or teams that are new to this work, we recommend starting with Day 1.*

Primary Outcome: Participants leave with the knowledge, skills, and implementation plans needed to responsibly leverage AI to improve teaching, learning, and student outcomes while preparing students for an AI-enabled future.

Day 1: Understanding AI and Its Impact on Teaching, Learning, and Society

Session 1

AI 101: What Every Educator Needs to Know

Learning Objectives:

- Understand what AI is and what it is not
- Distinguish between AI, Machine Learning, and Generative AI
- Understand the opportunities and limitations of AI systems
- Develop foundational AI literacy



Topics

What is Artificial Intelligence?

- Brief history of AI
- How AI works
- Large Language Models
- Generative AI
- Understanding prompts and outputs

Common Misconceptions About AI

- AI is not "thinking"
- AI is not always correct
- AI still requires human judgment
- The importance of verification

Interactive Activity: AI Myth vs. Reality Challenge

Session 2:

How AI is Transforming Industry

Purpose: Help educators understand why AI literacy is becoming a critical workforce skill.

Industry Examples

Healthcare

- Medical imaging support
- Predictive analytics
- Clinical decision support

Business

- Customer service automation
- Marketing content generation
- Strategic planning assistance

Finance

- Fraud detection
- Financial forecasting
- Risk assessment

Manufacturing

- Predictive maintenance
- Quality assurance
- Supply chain optimization

Technology

- Coding assistants
- Research acceleration
- Product development

Key Reflection

If AI is transforming every industry, what skills will students need to thrive in this future?



Session 3:

AI in Today's Schools

For Teachers

- Lesson planning
- Assessment design
- Differentiation
- Intervention support
- Parent communication

For Students

- Personalized tutoring
- Study support
- Writing feedback
- Organization and executive functioning support

For Administrators

- Strategic planning
- School improvement initiatives
- Communication development
- Data analysis and reporting

 **Hands-On Activity: Participants explore age-appropriate classroom applications.**

Session 4:

AI Literacy as a New Foundational Skill

Discussion Topics

Students now need:

- Critical thinking
- Information literacy
- Media literacy
- Digital citizenship
- AI literacy

AI Literacy Competencies - Students should be able to:

- Use AI responsibly
- Evaluate AI-generated information
- Recognize bias and misinformation
- Ask effective questions
- Collaborate with AI tools without replacing their own thinking

Session 5:

The Science of Learning + AI

A New Opportunity for Schools

Purpose: This session introduces the powerful connection between the Science of Learning and AI.



Key Message: The Science of Learning helps us understand how learning occurs.

AI can help us apply those principles consistently, efficiently, and personally for every learner.

Science of Learning Principles

Participants explore:

- Attention - Students learn best when attention is focused.
- Cognitive Load - Working memory has limits.
- Retrieval Practice - Learning strengthens when information is recalled.
- Spaced Practice - Learning improves when distributed over time.
- Feedback - Timely feedback accelerates learning.
- Metacognition - Students who understand their own learning become more independent learners.

How AI Supports Learning Science

Science of Learning Principle	AI Application
Attention	Personalized engagement and supports
Cognitive Load	Chunking and scaffolding information
Retrieval Practice	Question generation and quizzes
Feedback	Immediate formative feedback
Metacognition	Reflection prompts and coaching
Differentiation	Adaptive learning pathways

 **Reflection Activity: "How could AI help us apply learning science more consistently in our classrooms?"**

Day 2: From Responsible AI Use to Transformative Learning

Session 1:

The AI-Powered Teacher

Purpose: Use AI to enhance educator effectiveness while preserving the essential human roles of teaching.



Topics

Lesson Design - Using AI to: Differentiation - Supporting: Assessment Design

- | | | |
|--------------------------------|------------------------------|---------------------|
| • Create lessons | • Struggling learners | • Formative |
| • Generate examples | • Advanced learners | assessment creation |
| • Design interventions | • English Learners | • Rubrics |
| • Develop discussion questions | • Students with disabilities | • Success criteria |
| | | • Student feedback |

 **Hands-On Workshop: Build an AI-enhanced lesson using learning science principles.**

Session 2:

Designing Learning for an AI Future

Critical Question: If students have access to AI, what should we ask them to do?

Topics

Moving Beyond:

- Memorization only
- Low-level worksheets
- Information reproduction

Toward:

- Critical thinking
- Problem solving
- Creativity
- Collaboration
- Real-world application

Designing AI-Resilient Learning

Examples:

- Performance tasks
- Inquiry projects
- Problem-based learning



- Portfolios
- Presentations
- Socratic discussions

Session 3:

Responsible AI, Ethics, and Student Safety

Topics

Privacy

- Student data protection
- FERPA considerations
- Responsible use policies

Bias

- Recognizing algorithmic bias
- Evaluating outputs critically

Academic Integrity

- Appropriate student use
- Citation expectations
- Transparency practices

Healthy Student Use

- Maintaining human relationships
- Avoiding unhealthy dependence on AI
- Human oversight and support



Activity: Case-study decision making

Session 4:

Human Intelligence + Artificial Intelligence

Empowering Students Through Learning Science and AI Literacy

Purpose: Help schools envision a future where AI amplifies, rather than replaces, human learning.



Core Message: Students who understand how learning works and how AI works possess a significant advantage.

The goal is not to teach students to depend on AI. The goal is to teach students to:

- Think critically
- Learn effectively
- Solve problems creatively
- Use AI responsibly
- Transfer knowledge to the real world

The New Student Success Framework

Learning Science Provides:

- Self-regulation
- Focus
- Memory strategies
- Metacognition
- Growth mindset

AI Literacy Provides:

- Information evaluation
- Prompting skills
- Ethical use
- Productivity skills
- Digital fluency

Combined They Create:

- Better learners
- Better thinkers
- Better problem solvers
- Better collaborators
- Better future employees and citizens



Day 3: Building an AI-Ready School

Leadership Focus - School teams develop:

District Vision

- Why AI?
- Desired outcomes
- Success measures

Professional Learning Plan

- Teacher support
- Ongoing coaching
- Shared expectations and experiences

Governance Plan

- Policies
- Safety frameworks
- Responsible use guidelines

Implementation Roadmap

- First 30 Days: Awareness and exploration
- First 90 Days: Classroom pilots
- First Semester: Professional learning communities
- Year One: Scaled implementation

Institute Deliverables – Each participant receives:

AI Literacy Toolkit

- AI glossary
- Prompting guide
- AI use cases

Science of Learning Toolkit

- Learning science implementation guide
- Retrieval practice resources



- Cognitive load checklists

Classroom Resources

- Lesson planning templates
- Assessment templates
- Differentiation tools

Leadership Resources

- AI readiness rubric
- School implementation roadmap
- Responsible AI framework
- Sample district communications

Pricing: Starts at **\$6,500** for online delivery and **\$7,500** for on-site training. Contact us at contact@checkitlabs.com for quotes and details.