

Understand

Empathize

Transform

Prioritize

Engage

Teach

Learn

Align

Lead

WITH

INTENTION

Principles and Action Steps
for Teachers and School Leaders

TONY FRONTIER

Foreword by Jay McTighe

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Select portions of Chapter 2 and Chapter 8 of this book are based on articles originally published by the author in *Educational Leadership* and have been expanded upon with additional details, examples, and research.

PAPERBACK ISBN: 978-1-4166-3362-4 ASCD product #124032

PDF E-BOOK ISBN: 978-1-4166-3363-1; see Books in Print for other formats.

Quantity discounts are available: email programteam@ascd.org or call 800-933-2723, ext. 5773, or 703-575-5773. For desk copies, go to www.ascd.org/deskcopy.

ASCD Member Book No. FY25-4 (May 2025 P). ASCD Member Books mail to Premium (P), Select (S), and Institutional Plus (I+) members on this schedule: Jan, PSI+; Feb, P; Apr, PSI+; May, P; Jul, PSI+; Aug, P; Sep, PSI+; Nov, PSI+; Dec, P. For current details on membership, see www.ascd.org/membership.

Library of Congress Cataloging-in-Publication Data

Library of Congress Cataloging-in-Publication Data is available for this title.

Library of Congress Control Number: 2025004829

34 33 32 31 30 29 28 27 26 25

1 2 3 4 5 6 7 8 9 10 11 12

AI WITH INTENTION

Foreword by Jay McTighe..... ix

Introduction..... 1

Part 1: Leadership and AI **7**

1. Lead by Learning:

Build a Shared Understanding of What AI Is and Isn't 9

2. Take a Transformational Approach:

Align Leadership Behaviors to the Transformative Implications of AI 22

3. Emphasize Integrity:

Align Expectations for Academic Integrity with Intentional
Opportunities to Learn 36

4. Fidelity Before Efficiency:

Use AI Tools to Support Intentional Teaching and Learning 47

Part 2: Teaching, Learning, and AI **59**

5. Stand in Their Shoes:

Empathize with Students' Perceptions of AI Tools and Learning..... 61

6. Know Your Purpose:

Prioritize Students' Strategies and Efforts to Learn..... 75

7. Prompt AI Tools Intentionally:

Ensure AI Tools Are Used to Create Clarity for Teaching and Learning.....91

8. Empower Students to Use AI Tools Intentionally:

Teach Students to Use with AI Tools with Agency for Learning.....111

References 135

Index..... 141

About the Author 145



Introduction

In his book *Here Comes Everybody*, Clay Shirky (2008) argued that “Communications tools don’t get socially interesting until they get technologically boring” (p. 96). With the release of ChatGPT 3.5 in November 2022, generative artificial intelligence (AI) suddenly became technologically boring. Not only did this AI tool respond to conversational language and generate meaningful text, but no special programming language was necessary. All that was required was access to the internet.

In the months that followed, it became clear that students and educators found AI to be incredibly interesting. Students realized that these new AI tools were adept at answering homework questions or writing essays. Unsure of what these tools were capable of, administrators scrambled to block students’ access. Articles with titles such as “The End of High School English” (Herman, 2022) and “I’m a Student. You Have No Idea How Much We’re Using ChatGPT” (Terry, 2023) went viral. Some educators embraced the potential of AI tools to create efficiencies in teaching or to support students’ learning. Others responded by modifying their school’s or course’s plagiarism policy by adding “including the use of AI” . . . and then went back to teaching as usual.

Since then, new AI models have been developed that further improve the capacity, accuracy, fluency, modality, and reliability of these tools. It is clear that these powerful tools will be everywhere all the time. Like smartphones and the internet, they will be ubiquitous.

While much of the initial hype and urgency around AI has settled, we’re in the infancy of a new era. When transformative tools are suddenly available, there are always more questions than answers. But the questions we ask often reveal less about the transformative nature of the tools than of what we value in the existing system. For example, as I engage in dialogue with educators or

look through social media posts in various AI for Teachers user groups, the two questions that I see and hear most often are some forms of the following:

- *Help! I'm drowning! Is there an AI tool that can . . . (create tests, quizzes, lesson plans, slide presentations, projects, rubrics; write letters of recommendation; score student writing; etc.)?*
- *Help! My students are using AI to do their . . . (homework, reading, writing, math, essays, research, projects, presentations, etc.)!*

These are important questions. When they are placed in sequence, the irony is obvious. Yet I don't think any hypocrisy should be inferred here. These questions speak to the fact that teachers *and* students are overwhelmed by the amount of information and the number of expectations they face every day. Both groups are looking for ways to use AI tools as *all* tools have been used in human history: to accomplish work of value more efficiently.

But just because a tool can be used to accomplish a task more efficiently does not mean it is more effective. When new tools are put to use, there are always benefits and costs. For example, the internet allowed information to be shared and accessed more easily. But the increased capacity has resulted in a world that is awash with low-quality information and clickbait (Carr, 2008; McQuade, 2024). Similarly, social media allowed more access to more social networks than at any time in human history. But feelings of isolation, loneliness, and stress are rampant (Haidt, 2024).

What will be the benefits and costs of AI tools when used for teaching or learning? To consider this question, let's start with three true statements.

- AI tools have the capacity to plan and accomplish almost any academic task.
- AI tools have nearly unlimited capacity to support effective teaching and learning.
- AI tools have nearly unlimited capacity to undermine effective teaching and learning.

Given the first claim, the line between the second and third claims has little to do with the capacity of AI tools. The costs and benefits of AI on teaching and learning will be determined by *how* AI tools are used.

Uses of AI tools that undermine effective teaching and learning look very different for teachers and students. For teachers, the risk is that their interactions with AI tools are too vague, resulting in lesson ideas, assessments, rubrics,

or other instructional resources that are no better than what could have been found by randomly selecting the n th hit from a search engine or a teacher file-sharing site. For students, the risk is that their interactions with AI are too task-specific. Their superficial prompts are identical to the questions they've been assigned; they upload homework questions, math problems, or essays into an AI tool, and the tool spits out the answers.

These efficient but ineffective uses of AI tools run along parallel paths that eventually converge at the same place: students are either unable to or don't need to align and apply effort to strategies that result in deeper learning. Given this misalignment, the greatest threat AI poses to education may not be that students use AI tools to cheat, but that they receive answers from AI tools and think they've learned. Potentially even more debilitating, students come to see intelligence as something that is external, instantaneous, and effortless rather than something that is developed through a process that is internal, circuitous, and effortful.

How can we avoid these hazards and tap into the unlimited capacity of AI tools to support effective teaching and learning?

Intentional Teaching and Learning

The premise of this book is that the purpose of teaching is to create conditions where students are intrinsically motivated to apply effort to strategies that result in deeper learning. To do that effectively requires *intentional* action by both the teacher and the learner.

To act with *intention* is to consciously apply effort, in specific ways, to strategies and tools in order to attain a desired purpose or goal. Throughout this book, I use *intentional learning* and *intentional teaching* to mean the following:

- “Intentional learning refers to cognitive processes that have learning as a goal rather than an incidental outcome” (Bereiter & Scardamalia, 1989, p. 363).
- Intentional teaching refers to the alignment of “success criteria, feedback, learning strategies, teaching methods, activities, and assessments” (Hattie, 2023, p. 307) to support students’ intentional learning.

Add the wisdom of those terms and definitions together, and a value statement to guide effective, intentional uses of AI tools comes into focus:

- To use AI with intention means teachers and students apply conscious effort, in specific ways, to AI tools to support intentional teaching and intentional learning.

The intent of this book is to move beyond conversations about what AI can or can't do, and ask a deeper question: "What should *we* do, and what shouldn't *we* do to use AI tools to effectively support intentional teaching and intentional learning?" Whether you are a true believer who reaches for nearly every shiny AI-related object, a naysayer who sees AI as a dark cloud about to envelop us all, or an educator who feels powerless on all things AI because you aren't a technologist, you'll find ideas in this book that affirm and challenge your thinking and support your capacity to use AI tools more intentionally.

AI with Intention: How This Book Is Organized

Guiding principles are broad, strategic guidelines that inform decisions and actions to achieve goals. This book's chapters are organized around four guiding principles for leaders and four guiding principles for teachers. Each chapter explores a specific question aligned to that principle, a strategic choice educators can make to ensure intentional uses of AI tools, followed by aligned action steps.

In Chapters 1 through 4, I explain four guiding principles for school leaders to address the essential question: *How can leaders build capacity to ensure AI tools are used to effectively support intentional teaching and learning?* Figure I.1 shows the guiding principles, strategic choice, and aligned action steps.

In Chapters 5 through 8, I explain four guiding principles for teachers to address the essential question *How can teachers and students use AI tools to support intentional teaching and learning?* Figure I.2 shows the guiding principles, strategic choice, and aligned action steps.

While the two sections broadly focus on leading and teaching, both sections are relevant and will benefit all educators, regardless of their role.

FIGURE I.1 AI WITH INTENTION: GUIDING PRINCIPLES FOR SCHOOL LEADERS

Essential Question: How can leaders build capacity to ensure AI tools are used to effectively support intentional teaching and learning?		
Guiding Principle	Strategic Choice	Action Steps
Lead by Learning: Build a shared understanding of what AI is and isn't	Learning Organizations vs. Reactive Organizations	• Develop a basic understanding of the form and function of AI • Acknowledge misconceptions of AI • Identify patterns and trends in the development and use of AI • Learn the jargon of AI • Know the Gartner Hype Cycle
Take a Transformational Approach: Align leadership behaviors to the transformative implications of AI	Transformational Leadership vs. Transactional Leadership	• Align leadership behaviors to the magnitude of change • Ask big transformational questions • Place purpose and pedagogy before technology • Provide opportunities for low-stakes practice and play
Emphasize Integrity: Align expectations for academic integrity with intentional opportunities to learn	Humanism vs. Behaviorism	• Teach students what academic integrity is • Articulate expectations for stakeholders • Clarify the parameters of when and how AI tools can be used • Emphasize integrity, transparency, and explainability
Fidelity Before Efficiency: Empower educators to use AI tools to support intentional teaching and learning	Effectiveness vs. Efficiency or Automaticity	• Avoid the “twin sins” of AI integration • Discuss fidelity, efficiency, automaticity, and effectiveness • Take the expert approach: know <i>how</i>, <i>why</i>, and <i>when</i> • Ensure fidelity, transparency, and explainability

FIGURE I.2 AI WITH INTENTION: GUIDING PRINCIPLES FOR TEACHERS

Essential Question: How can teachers and students use AI tools to support intentional teaching and learning?		
Guiding Principle	Strategic Choice	Action Steps
Stand in Their Shoes: Take an empathetic approach to students' perceptions of AI tools and learning	Empathetic Design vs. Non-Empathetic Design	• Acknowledge students' misconceptions about learning • Acknowledge AI could deepen misconceptions about learning • Acknowledge misconceptions influence students' AI use • Take action to address student misconceptions • Affirm students' strengths, challenges, and interests • Take action to minimize cognitive load
Know Your Purpose: Prioritize students' strategies and efforts to learn	Learning vs. Compliance	• Acknowledge superficial uses of AI harm learning • Avoid the "twin sins" of curriculum design • Emphasize purpose for learning, not compliance • Teach students to plan, monitor, and self-assess • Emphasize integrity, transparency, and explainability
Prompt AI Tools Intentionally: Ensure AI tools are used to create clarity for teaching and learning	Clarity vs. Clutter	• Prioritize before prompting • Prompt with purpose • Revise for fidelity, document for transparency, and ensure explainability • Use AI as a fidelity coach • Use AI as an empathy coach
Use AI Tools for Intentional Learning: Empower students to use AI tools with agency	Independent vs. Dependent	• Pursue learning goals • Self-assess • Ask for help • Provide meaningful feedback • Be persistent and assertive • Apply strategies for intentional learning, including when using AI tools



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About the Author



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