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Your \$5 Million AI Investment Just Bought You a Faster Typewriter

Why Most Organizations Are Catastrophically Misunderstanding What AI Can Do For Learning

Gregg Collins • Brandon Dickens • April 2026

Most organizations are deploying AI in corporate learning to accelerate the production of content-heavy training: faster courses, automated assessments, streamlined authoring pipelines. This paper argues that such optimization misses the real opportunity—AI has eliminated the economic constraints that forced organizations to ration the learning approaches that actually work. A four-pathway adoption model (Automation, Expansion, Empowerment, Reimagination) distinguishes efficiency gains from genuine reinvention and explains why the vast majority of AI learning investment remains stuck on the first pathway. The payoff for organizations that reach the fourth pathway is categorical rather than incremental: the coaching and experiential approaches previously reserved for executives and high-potentials become economically feasible at scale. The pattern mirrors prior paradigm shifts in electricity, computing, the internet, and mobile—and, as in each of those cycles, the window to lead rather than follow is narrower than most organizations realize.

We've seen this movie before

When electricity first arrived in factories around 1890, engineers did something that seems absurd in retrospect: they replaced the central steam engine with an electric motor, but kept everything else exactly the same. Giant leather belts still ran from the central motor across the ceiling to power individual machines. The factory layout remained unchanged. The workflow stayed identical.

It took nearly 30 years before someone asked a different question: “What if we don’t need a central motor at all? What if we put a small electric motor in each machine?”

That question unlocked everything. Factories could reorganize around workflow efficiency rather than proximity to power. Manufacturing productivity exploded. Entire industries transformed.

But for three decades, organizations optimized around the old paradigm because they couldn't imagine the new one.

This pattern repeats with every transformative technology. The personal computer arrived in offices as an expensive typewriter. The internet was treated as a faster way to publish brochures. Smartphones were initially seen as better phones with email.

In each case, early adopters made the same mistake: they used revolutionary tools to make existing practices more efficient rather than asking what became possible when old constraints disappeared.

We're now watching this exact pattern play out with AI and learning. And the time window for getting this right is narrower than most organizations realize.

The four pathways—and why most organizations are stuck on the first

Every transformative technology gets adopted through four parallel pathways. Understanding these pathways explains why most AI investments in learning are missing the point—and what organizations should be doing instead.

Pathway One: Automation

Using new technology to do existing tasks faster and cheaper. This is where roughly 70% of organizations currently sit with AI in learning. They're automating course creation, generating quiz questions, and streamlining administrative processes. It shows immediate ROI, stakeholders understand it, and it feels safe.

It's also the least transformative pathway. Organizations on this path are optimizing existing approaches that are fundamentally limited.

Pathway Two: Expansion

Using new technology to do more of what was previously too expensive or difficult. This might mean creating personalized learning paths for more employees, or delivering more sophisticated simulations. Some forward-thinking organizations are exploring this territory—but they're still operating within the traditional training paradigm.

Pathway Three: Empowerment

Using new technology to enable people to do things they couldn't do before. This is where interesting possibilities emerge: AI coaches that provide real-time feedback on actual work, systems that identify capability gaps at the moment of need, tools that turn every work challenge into a learning opportunity. Very few organizations have reached this pathway, even experimentally.

Pathway Four: Reimagination

Using new technology to fundamentally reconceive what's possible. This is where the real transformation happens—and almost no one is here yet. This pathway asks: what would capability development look like if we designed it from scratch, knowing what AI makes possible?

Here's the critical insight: the value doesn't scale linearly across these pathways. The difference between Pathway One and Pathway Four isn't incremental—it's exponential. An organization operating on Pathway Four doesn't just have better training than one on Pathway One. They have capabilities their competitor literally cannot comprehend.

And right now, most organizations are stuck on Pathway One, congratulating themselves on efficiency gains while their future competitors are racing toward Pathway Four.

The \$5 million optimization

This brings us to the scenario playing out across corporate learning departments right now:

An organization invests heavily in AI for learning. They proudly announce they can now create courses 10x faster. Their learning management system generates quiz questions automatically. Their content development process is dramatically more efficient.

The result? Dozens of newly-minted eLearning modules featuring the same multiple-choice quizzes, the same linear content, the same completion metrics they've been using for a decade. Just produced faster.

They've spent millions to achieve Pathway One optimization of a fundamentally broken system.

It's like buying a jet engine and bolting it to a horse-drawn carriage. It's like those early factories with electric motors driving leather belts.

The rationing problem

To understand why this is so dangerous, we need to examine something the learning industry rarely admits openly: we've always known what works. We just couldn't afford to do it for everyone.

Corporate learning today operates through multiple models, but they exist in a clear hierarchy of effectiveness—and cost:

The traditional publishing model focuses on scaled delivery of classroom and e-learning content. It exists because creating better experiences for thousands of employees was economically impossible. Organizations needed approaches that could reach large audiences at manageable cost. This model dominates professional development and compliance training not because it's optimal, but because it's affordable at scale.

The experiential model creates high-quality simulations, immersive learning environments, and deep-dive case studies. When done well, it produces dramatically better results than traditional training. But it remains severely rationed—limited to executives, high-potential leaders, and mission-critical roles—because development costs are prohibitive at scale. Organizations know this approach works. They simply can't afford to do it broadly.

The performance-centric model focuses on learning through real work: coaching, mentoring, stretch assignments, and structured on-the-job development. This is arguably the most effective model—it's how elite performers have always been developed. But it's the most severely rationed of all, limited by the scarcity of qualified coaches and mentors. Organizations can't scale this approach because expert time doesn't scale.

Here's the uncomfortable truth: the learning industry has always known that experiential learning and performance-centric coaching produce far better results than content-heavy training. The industry has simply been unable to deliver these approaches at scale.

So organizations ration them. Executives get coaches. High-potentials get immersive simulations. Everyone else gets e-learning modules and hopes for the best.

AI doesn't just improve these models. It eliminates the economic constraints that forced this rationing.

Experiential learning is no longer prohibitively expensive at scale. Performance-centric coaching is no longer limited by coach availability. The approaches that actually work can finally reach everyone, not just the chosen few.

The tragedy is that most organizations are using AI to make the least effective model (content-heavy training) more efficient, rather than using AI to scale the most effective models (experiential learning and performance-centric coaching) to everyone.

Where the money is actually going

In our experience working with organizations deploying AI investments in learning, we've observed a striking pattern in how resources are actually being allocated—not by which portfolio area receives the investment, but by what type of transformation is being attempted.

The overwhelming majority of investment flows to Pathway One: automating existing content production. Organizations are deploying AI for:

- AI-generated course outlines and learning objectives
- Automated quiz and assessment question generation
- Faster PowerPoint-to-eLearning conversion
- Chatbots answering basic learner questions
- Streamlined content authoring workflows

This investment crosses all areas—professional development, leadership training, compliance, onboarding. But regardless of the topic area, it's all aimed at doing what

organizations already do, just faster and cheaper.

A smaller but still significant portion goes to Pathway Two: enhancing existing approaches. We see organizations investing in:

- More sophisticated adaptive learning paths (but still through existing content)
- Better recommendation engines (but still recommending traditional courses)
- More personalized content sequences (but still content-centric)
- Improved learner analytics dashboards (but still measuring completions)

This represents genuine improvement, but it's improvement within the existing paradigm. Organizations are making courses smarter, but they're still building courses.

A much smaller fraction goes to Pathway Three: new capabilities within existing structures. The investments here include:

- AI tutors that answer questions about course content
- Some automated feedback on practice exercises
- Limited real-time coaching for specific technical skills
- Performance support tools that provide just-in-time information

This starts to show real innovation, but it remains tethered to traditional learning structures and deployment models.

And then there's Pathway Four: fundamentally new approaches. In our experience, this receives barely a trace of most organizations' AI learning budgets. The rare investments we do see here involve:

- AI coaches embedded in actual work environments
- Systems that generate experiential learning scenarios on-demand

- Performance-centric development at scale through AI mentorship
- Real-time capability assessment during actual work

This is where the transformation actually happens—but it represents a rounding error in the allocation of resources and attention.

The pattern mirrors every previous technology adoption cycle: the vast majority of investment goes to optimizing what already exists, while the transformative opportunities remain virtually unexplored.

But here's the critical difference: the adoption cycle is compressing. It took 30 years for factories to reimagine manufacturing around distributed electric power. It took 15 years for businesses to reimagine work around networked computers. It took 7 years for companies to reimagine customer engagement around mobile.

How long will it take for someone in your industry to jump from Pathway One to Pathway Four?

The answer determines whether you'll lead or follow—or survive at all. And the organizations making that jump aren't gradually working their way up from Pathway One. They're leapfrogging directly to Pathway Four, asking fundamentally different questions from the start.

What “thinking bigger” actually requires

Moving beyond Pathway One requires asking fundamentally different questions—specifically, how AI enables the democratization of approaches that have always worked but have been economically constrained.

A pharmaceutical company recently got excited about using AI to create compliance training faster—classic Pathway One thinking.

A different question emerged: “What if, instead of training people on compliance rules, an AI coach was embedded directly into their work environment—guiding them through complex compliance decisions in real-time, learning from their patterns, and proactively identifying situations where they’re likely to make mistakes?”

This shifts from Pathway One to Pathway Four. It takes the performance-centric coaching model that the company already uses for senior scientists and makes it available to every lab technician and research associate.

Here’s what Pathway Four thinking looks like across different contexts—notice how it scales proven approaches rather than inventing new ones:

Instead of: Creating better onboarding courses (Pathway One)

Think: An AI mentor that replicates what the best managers already do with their top hires—accompanying them through their first 90 days, providing contextual guidance at the moment of need, adapting to their learning speed, and gradually fading support as they develop competence. Take the performance-centric model that works for elite talent and make it available to everyone. (Pathway Four)

Instead of: Developing leadership development programs (Pathway One)

Think: An AI coach that does what executive coaches already do—analyzes actual interactions (emails, meeting facilitation, decision-making) and provides personalized coaching on specific leadership capabilities, with practice scenarios drawn from real work context. Take the coaching model that executives receive and scale it to every manager. (Pathway Four)

Instead of: Building technical skills libraries (Pathway Two)

Think: An AI system that replicates what master craftsmen have always done with apprentices—observes how people work, identifies capability gaps in real-time, and intervenes with targeted coaching at exactly the moment when the learning will transfer to immediate application. Take the apprenticeship model and scale it to every role. (Pathway Four)

Instead of: Rationing immersive simulations to high-potential leaders (Pathway Two)

Think: AI-generated scenarios that create the same depth of experiential learning—realistic, complex, consequential decisions in dynamic environments—but can be created on-demand for any role, any situation, any learner. Take the experiential model and make it available to everyone. (Pathway Four)

The difference isn't about inventing new pedagogies. It's about finally scaling the pedagogies that have always worked but were too expensive to provide broadly.

The economics nobody's calculating

The business case for Pathway Four thinking demands attention—but most organizations aren't doing the math.

The average Fortune 500 company spends roughly \$15–20 million annually on learning and development. Traditional content-heavy training approaches, optimistically, produce about a 15% improvement in job performance for trained individuals.

Now consider what we've always known but couldn't afford to deliver broadly:

Bloom's 2 Sigma problem demonstrates that personalized tutoring produces a 2-standard-deviation improvement—jumping performance from the 50th percentile to the 98th percentile. This isn't theoretical. It's what happens when learners get the

kind of coaching and experiential learning that organizations currently ration to their elite populations.

A 2-sigma improvement transforms average performers into exceptional ones.

For an organization with 10,000 employees, if AI-enabled coaching and experiential learning can move even half of them from average to exceptional performance, what's the value?

- For a sales organization: potentially \$200–500M in additional revenue
- For a pharmaceutical company: potentially 12–24 months shaved off drug development timelines
- For a technology company: potentially 2–3x improvement in engineering productivity
- For a service organization: potentially the difference between market leadership and irrelevance

Here's the radical part: these aren't speculative gains from untested approaches. These are the gains organizations already see when they provide coaching and experiential learning to their elite populations. AI simply makes it economically feasible to provide these proven approaches to everyone.

And yet, organizations are spending the vast majority of their AI budgets on Pathway One optimization—making courses faster—because the ROI is easier to calculate and defend.

This is the classic innovator's dilemma playing out in real-time. The safe investment with predictable returns versus the transformative investment with uncertain but potentially massive returns.

History shows which organizations survive these transitions.

The tyranny of the completion metric

Here's how to identify organizations stuck in Pathway One thinking: they're still tracking course completions.

Completion rates measure whether someone sat through content. They reveal nothing about whether that person can DO anything differently. They're a process metric masquerading as an outcome metric.

It's like measuring gym success by attendance records rather than strength gains.

For decades, learning organizations used completion as a proxy because they had no alternative. They couldn't measure actual capability development at scale. They couldn't observe real behavior change. They couldn't provide continuous assessment in the context of actual work.

But here's what's interesting: organizations have never measured completion for their elite programs. They don't track whether executives "completed" their coaching sessions. They don't measure whether high-potentials "finished" their immersive simulations. For the programs that actually work, organizations measure outcomes: Are leaders making better decisions? Are high-potentials ready for bigger roles? Are critical capabilities developing?

AI eliminates the measurement constraints that forced the rest of the organization to settle for completion metrics.

AI can analyze a sales conversation and identify exactly which techniques the rep is struggling with. It can observe a coding session and pinpoint conceptual gaps. It can evaluate written communication and diagnose specific areas for improvement. It can watch a manager in action and identify precisely which leadership capabilities need development.

For the first time in history, organizations can measure what they actually care about—for everyone, not just the elite—Can this person perform better than they could before?

Moving to Pathway Four thinking requires adopting the measurement approaches that already exist for high-value learning programs and applying them broadly. Organizations unwilling to make this measurement shift will remain trapped in Pathway One, optimizing proxies while competitors measure what matters.

Why smart people make this mistake

Three forces consistently lead intelligent, well-intentioned leaders to underestimate what's possible:

Success creates blindness. Building a career optimizing the scalable model makes it psychologically difficult to acknowledge that the scaled model might be fundamentally inferior to the rationed models. Learning leaders know that coaching works better than courses. They've simply spent decades getting very good at courses because that's what scaled. As Bill Gates observed, "Success is a lousy teacher. It seduces smart people into thinking they can't lose."

The rationing seems necessary. No one working today has experienced capability development in a world where experiential learning and performance-centric coaching could scale economically. The assumption that "good learning is expensive and therefore must be rationed" feels like a law of nature rather than a temporary constraint. It's like asking someone in 1920 to imagine a world where everyone could have personal communication devices—the constraint seemed permanent until it wasn't.

Incrementalism feels safer. Proposing to make courses 10x faster gets approving nods. Proposing to eliminate courses for large populations and replace them with AI-

enabled coaching and experiential learning gets labeled as unrealistic—even though the latter is actually more achievable, more aligned with proven pedagogies, and more valuable. Organizations reward predictable improvement over transformative risk.

These forces explain why the pattern repeats with every transformative technology. The question is whether understanding the pattern allows organizations to break it.

The competitive reality

This isn't a philosophical debate about pedagogy. It's a competitive issue with existential stakes.

In every industry right now, someone is figuring this out. They're not asking how to make training faster. They're asking how to scale the learning approaches that actually work. They're not stuck on Pathway One. They're racing toward Pathway Four.

And when they arrive, they won't be incrementally better. They'll be operating in a completely different paradigm.

History is unambiguous about what happens to companies that miss paradigm shifts:

Blockbuster thought Netflix was just a more convenient rental service. They optimized their existing model—better store locations, faster inventory turns—while Netflix reimagined entertainment distribution. Blockbuster went bankrupt. Netflix became worth \$150 billion.

Nokia thought smartphones were just better phones. They optimized their existing model—better cameras, better batteries, better call quality—while Apple reimagined mobile computing. Nokia's market value collapsed from \$150 billion to near zero in five years.

Newspapers thought the internet was just a faster printing press. They optimized their existing model—online versions of print content, faster publication cycles—while Google and Facebook reimaged information distribution and advertising. The newspaper industry lost 70% of its value.

In each case, the incumbent had more resources, more expertise, and more market presence. What they lacked was the imagination to recognize that the rules had changed.

The gap between “faster content creation” (Pathway One) and “scaled experiential learning and performance-centric coaching” (Pathway Four) is precisely that large. It’s not incremental. It’s categorical.

The question is not whether this transformation will happen. The question is whether your organization will lead it, follow it, or be destroyed by it.

What to do tomorrow morning

For learning leaders recognizing they might be on the wrong path:

Stop optimizing the content model. Every dollar and hour spent on Pathway One optimization is a dollar and hour not spent scaling the approaches that actually work. The ROI on making courses faster is easy to calculate—and completely irrelevant if competitors develop capabilities you can’t match.

Inventory what works but doesn’t scale. Look at where your organization already sees exceptional results: executive coaching programs, high-potential immersive experiences, performance-centric development for critical roles. These aren’t anomalies. They’re proof of what’s possible when economic constraints don’t force rationing. Ask: what would it take to provide these proven approaches to everyone?

Assemble a team to answer Pathway Four questions. Not “how can we use AI to improve training?” but rather “How can we use AI to democratize the learning approaches that we already know work but have been unable to scale?” Give them permission to ignore the economic constraints that shaped current practices.

Run one real Pathway Four experiment. Pick one critical capability where you already have evidence that coaching or experiential learning works (because you’re probably using it for some elite population). Build an AI-enabled version that can scale to a broad population. Measure actual performance change, not completions. Compare it to traditional training approaches.

When the performance gap becomes visible, the strategic imperative becomes obvious.

Find partners who understand the rationing problem. Most vendors are selling Pathway One solutions—faster content creation—because it’s an easy pitch. The transformative partners are asking Pathway Four questions: “How do we scale experiential learning? How do we make performance-centric coaching available to everyone? How do we measure what actually matters?” They’re rarer, but they exist.

The pattern is clear. History shows that organizations stuck on Pathway One get disrupted by those who reach Pathway Four. The only variable is timing.

The choice that defines the next decade

Two paths lie ahead. Choose carefully—the decision locks in for years.

Path One: Optimization

Continue using AI to make content-heavy training more efficient. Create courses faster. Automate administrative tasks. Build better recommendation engines.

Incremental improvements to the scaled-but-limited model.

This path is comfortable. It's safe. It will show ROI on AI investment. Stakeholders will understand it. You'll get budget approved.

It will also leave you operating on Pathway One while competitors scale proven approaches to Pathway Four.

Path Two: Democratization

Recognize that AI eliminates the economic constraints that forced rationing of effective learning approaches. Use AI to scale experiential learning and performance-centric coaching to broad populations. Stop optimizing what scales poorly and start scaling what works extraordinarily well.

This path is uncomfortable. It requires acknowledging that the industry has been rationing the good stuff because of constraints that no longer exist. It's harder to explain to stakeholders. The ROI is harder to project using traditional metrics.

It will also create workforce capabilities at levels competitors can't match—and position the organization to survive the transition.

The stakes are higher than they appear

That \$5 million investment in faster course creation represents more than wasted money.

It represents a lock-in to the wrong paradigm. Infrastructure, processes, organizational muscle memory, vendor relationships, and stakeholder expectations all built around the scaled-but-limited model. Even when organizations realize their mistake, the switching costs—psychological, political, financial—become enormous.

Meanwhile, competitors who made the right bet are developing workforces that perform at levels that seem incomprehensible. They're not just training better. They're providing everyone the kind of development that organizations previously reserved for their elite populations.

That's not a training issue. That's an existential threat.

The economic history of transformative technologies shows that paradigm shifts create two categories of companies: those that led the transition, and those that didn't survive it. There is no middle ground.

The question that matters

Five years from now, when the capability gap between organizations and their competitors has become obvious and painful, what explanation will suffice to the board?

“We made our content creation process very efficient”?

Or: “We democratized the learning approaches that were previously too expensive to scale, and that's why we're still competitive”?

The technology to operate on Pathway Four exists today. The pedagogical approaches are proven—organizations already use them successfully for elite populations. The measurement approaches exist—organizations already use them for high-value programs.

What's lacking isn't capability or evidence. It's imagination. And courage. And willingness to acknowledge that the economic constraints that justified rationing effective learning approaches no longer exist.

The pattern has played out before with electricity, computers, the internet, and mobile technology. Early adopters optimize the old. Later, someone reimagines the possible—or in this case, someone recognizes that what was previously impossible is now economically feasible. The gap between these groups determines who leads industries and who exits them.

We're in the early days of this cycle with AI and learning. The window for leading rather than following is open—but closing faster than most organizations realize.

The organizations that bridge the imagination gap first won't just have better training. They'll have democratized the approaches that create exceptional performers—approaches they've been using successfully for years but couldn't afford to scale. They'll operate on Pathway Four while their competitors are still optimizing Pathway One.

And they'll be the ones writing the case studies about transformation, not appearing in the cautionary tales about disruption.