

Leveraging AI to Help School Systems Innovate for Scale and Sustained Impact: Case Studies of Pedagogy, Culture, and Capacity-Building

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Abstract

Yourway Learning is a research-based developer of AI software for K12 education with a focus on leveraging technology for scale and sustained impact. Transforming K-12 education requires more than technology—it demands a strategic alignment of pedagogy, culture, and capacity building. This paper examines how AI can and should support—not dictate—systemic change by fostering student-centered learning, collaborative cultures, and professional growth.

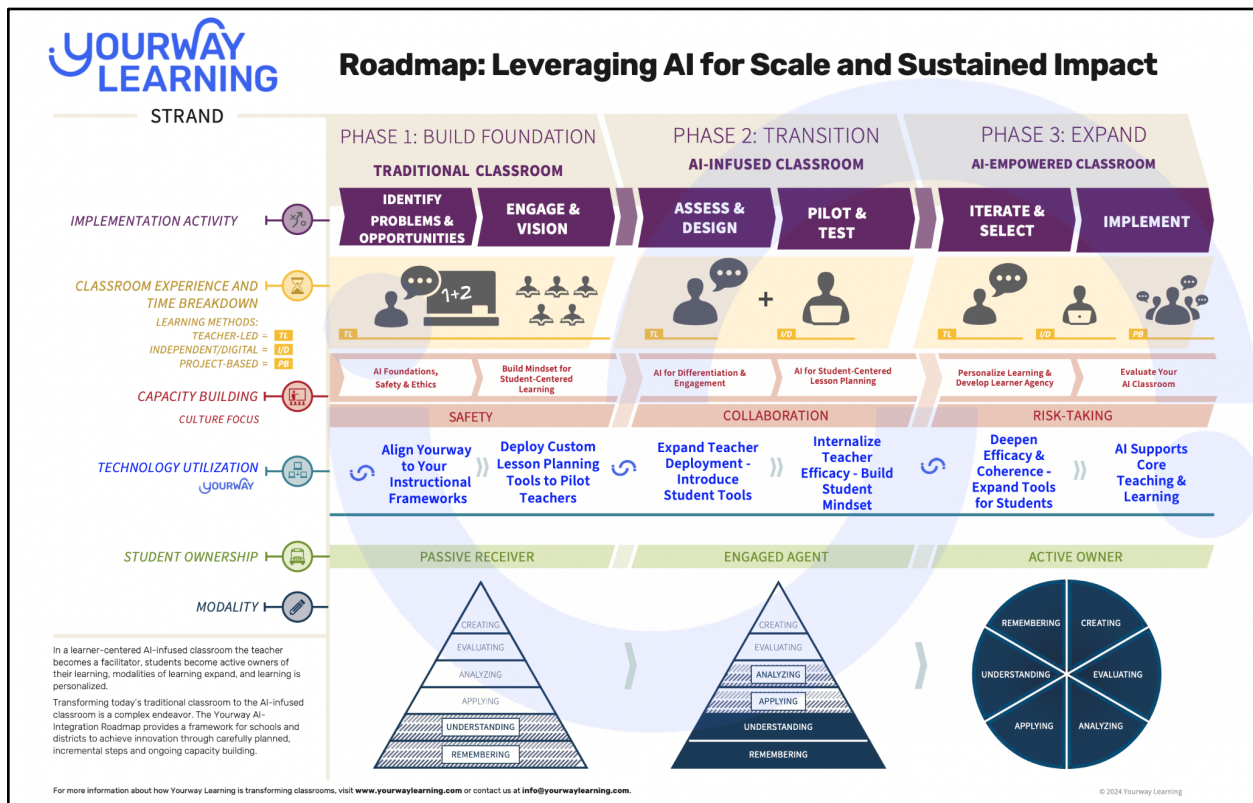


Illustration: Roadmap connecting critical elements of transformation to a sustained process leveraging technology (Yourway Learning, 2024)

Introduction

We were 10 minutes into a meeting with Anne Arundel County Public School district leadership when the Chief Academic Officer received an urgent message. A security issue at a school required immediate attention. She abruptly exited. About 5 minutes later, the Chief of Schools received the same message. The remaining was our Yourway Learning team and the CIO.

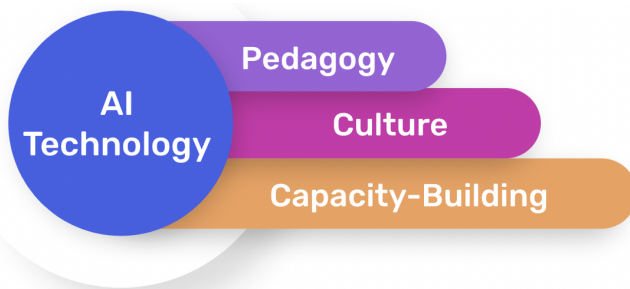
In most cases, this would have been the end of the meeting with a hopeful reschedule in 6-8 weeks to accommodate for busy schedules. Months would be lost, the initiative put on hold, and critical student needs would go unmet. Another thwarted initiative in the annals of K12 education.

But something very different happened. The meeting continued. The CIO had been a contributing and valued member of the planning and creation of the district's strategic plan and vision. He viewed himself as a partner and supporter of the instructional team, not an adversary. He deeply understood and embraced the district's objectives. This was not a collection of individuals jawing for departmental power. This was a team with a shared goal. We forged ahead!

It may not seem like much on the surface, but this was a monumental example of a culture of trust and cohesion. It is also why their innovation efforts will succeed.

School systems face particular challenges to innovation because there are so many entrenched structures that create friction: outdated policies, politics, bureaucracy, limited resources, multiple stakeholders, competing interests, and incoherence, among others. Even with these factors, though, innovation is possible. In this essay, I will discuss the three critical elements—**pedagogy, culture, and capacity building**—that, if present and functioning together, create the foundation for sustained, transformative change. I will use case examples from implementations of Yourway, an AI platform designed to support and enhance instructional planning, to

demonstrate how AI **technology** can serve as an integrator and accelerator of innovation.



To be sure, this is not an essay in AI fanaticism, but in AI practicality. There is no doubt that AI will transform how humanity functions at large, but will school systems leverage AI beyond efficiency and into scaled

transformational impact? The humans in the loop and our collective ability and willingness to bring systems thinking to this moment will be the primary determinants of this question.

Pedagogy

A clear pedagogical vision should be the driving force of any school transformation initiative. The superintendent of Brooklyn North High Schools, Janice Ross, has been committed to seeing

her classrooms shift from teacher-led lectures to hands-on, student-driven learning. She knew this was key to implementing career-connected classrooms that would prepare her students for their rapidly changing world. This shift is a tall order in a system of 40+ high schools and approximately 3000 teachers spread across NYC’s largest borough. Over the years of her leadership, she implemented several strategies and initiatives all focused toward this end: professional development, observations, coaching, lesson templates, and technology implementations. As with any transformation initiative, different strategies yielded varying degrees of success. At the heart of all of her efforts, however, the constant was a clear and unwavering goal of learner-centered pedagogy.

Over the course of the past year, our team worked with Superintendent Ross to build and customize AI instructional tools in Yourway in direct alignment with her pedagogical vision. These tools, including lesson planners, assessment generators and teacher observation rubrics, provided a daily bridge to practice for teachers and leaders aligned to the district vision. School leadership and district teams noted immediate observable results as teachers received AI-guided instructional support to implement new learner-centered strategies.

As the mindset in many of today’s classrooms remains teacher-centered, just inserting new technology is not enough. In the same way that interactive whiteboards became expensive chalkboards, AI tools could become nothing more than learning crutches, cheating tools, answer-producing machines, or vehicles to automate outdated teaching practices. Shifting toward student-centered, empowered learning requires a shift in mindset from delivering content to designing and facilitating learning experiences.

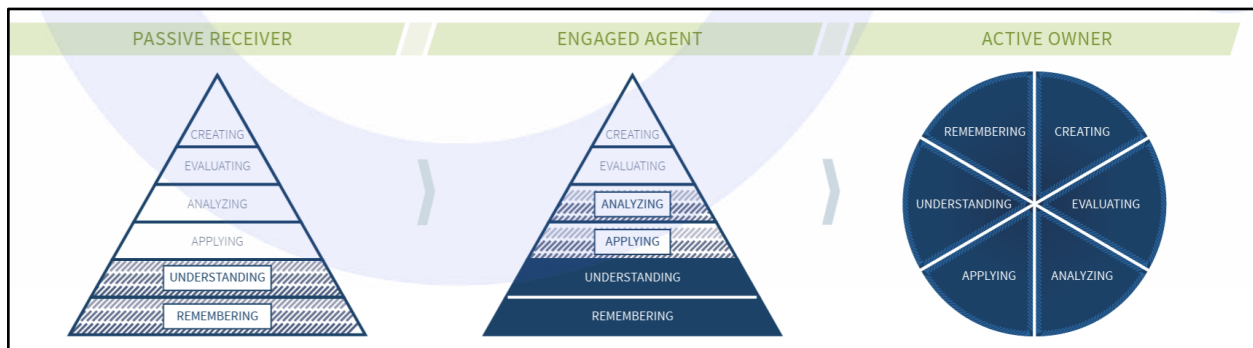


Illustration: Progression of Bloom’s Taxonomy for Student-centered Learning (Yourway Learning, 2024)

This necessary progression, which helps students evolve from Passive Receivers to Active Owners of their learning, can be very uncomfortable for many educators as it requires relinquishing control. This is where a **culture** of generativity must be nurtured.

Culture

Over decades of supporting transformation efforts in schools, I have seen culture serve as either the gas or the brakes of a change initiative. Dr. Mark Bedell, Superintendent of Anne Arundel

County Public Schools, understands this. What happened in the meeting referenced above doesn't happen by accident. It happens from the intentional building of culture that starts at the top. Peter Drucker famously said that culture eats strategy for breakfast. Culture is sustaining like the current of a river, always moving within an organization with its own force. A culture of fear or rigidity will stagnate any change initiative, regardless of the strategy or tools deployed. Conversely, the best innovation happens in a generative culture where people feel safe enough to try new things, collaborate vulnerably, and continuously learn.

Anne Arundel Public Schools is facing a big task. They have a rapidly changing population with a growing English-language learning population. There is an increasing instructional need that is especially impacting middle schools. This will require multiple stakeholders coming together to do things differently than they have done before. This is quintessential change management.

Innovative organizations are not haphazard about building culture. Describing the early days of Netflix, co-founder Marc Randolph states, "It's not about having good ideas...it is about building a system, process and culture for testing lots of bad ideas." Our team has worked with AACPS to align Yourway with the strategic plan of AACPS and their instructional priorities. Teachers will leverage AACPS-aligned AI tools in Yourway for daily instructional innovation, creating a culture-building system for trying new things, iterating, and identifying what works.

With a generative culture and reinforcing systems, even in moments of crises, stakeholders have enough trust, risk-taking, and collaboration to weather inevitable challenges. One of the best ways to build a generative culture is through thoughtful structures of *capacity building*.

Capacity Building

Capacity building is too easily confused with doing a workshop or a one-off tools training. This is not capacity building – this is event planning. Capacity building is about structures of continuous and supported learning rooted in adult-learning science. We grounded our development of Yourway in the foundational adult-learning science and research of Dr. Arnetha Ball of Stanford University. Over 20+ years, Dr. Ball researched the key elements of sustained teacher growth. Her Model of Generative Change supports reflecting on existing beliefs, engaging with new ways of thinking, conducting action research, and continuously iterating practice. This approach reinforces constant learning of students and adjusting to meet their needs – a stark contrast to more passive sit-and-get models.

In planning his professional development, Dr. Mario Andrade, Superintendent of Nashua School District in New Hampshire, is leveraging Yourway to ensure that adult-learning science is deeply embedded. Yourway is a critical element of this action-research approach as teachers and leaders use Yourway to generate new ideas and implement Nashua-aligned instructional strategies. They are then given opportunities to reflect individually and collaboratively on their effectiveness. They have also built professional learning planning tools and observation tools in Yourway aligned to their district needs to help support ongoing organizational growth structures.

In this approach, educators are not only learning how to operate new tech tools, they are shifting mindsets and becoming “agents of change, not objects of change.” (Ball, 2009)

Conclusion

In each of the above examples—Brooklyn North High Schools with pedagogical vision, Anne Arundel County Public Schools with culture, and Nashua Public Schools with capacity building—technology, specifically Yourway, serves as a catalyst that accelerates and binds the initiative. It is thoughtfully interwoven to serve organizational outcomes. In planning and adopting AI technology, some important considerations may include:

1. How clearly defined is the district’s pedagogical vision, and how can AI tools support—not drive—that vision?
2. Do we have a culture that supports trust, collaboration, and risk-taking across departments and roles?
3. Are we building sustained, supported systems for adult learning, or are we relying on one-off trainings?
4. How will we ensure AI tools are implemented in a way that increases efficiency, efficacy, and coherence rather than fragmentation?
5. Who will be involved in our AI adoption decisions—and do they represent the instructional, operational, and community sides of the house?

In a world of AI hype, it may seem that technology is the goal. It is not. Core technologies must understand and adapt to the complexity of school districts to ensure that we realize the promise of technology. Supporting and enhancing learning to meet the needs of all learners requires the humans in the loop to leverage technology to drive system-wide change.

Learn more about how we are supporting schools and school systems to save time, elevate teaching and learning, and drive coherence at www.yourwaylearning.com.

Endnotes

Toward a Theory of Generative Change in Culturally and Linguistically Complex Classrooms,
Arnetha F. Ball, *Am Educ Res J* 2009 46: 45 originally published online 13 October 2008 DOI:
10.3102/0002831208323277