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Changing Digital Learning From the Inside Out
System-level considerations for shaping online experiences that engage learners and teachers

By Kristin Rouleau

About the Author

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About McREL

McREL International is a nonprofit, nonpartisan organization committed to improving education outcomes for all students through applied research, product development, and professional services to teachers and education leaders. We collaborate with schools and school systems across the U.S. and worldwide, helping educators think differently about their challenges and providing research-based solutions and guidance that help students flourish.

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The year 2020 has demanded change in education unlike anything most teachers and school leaders have experienced previously. When the coronavirus pandemic struck, schools and districts around the world made the sudden shift from business-as-usual schooling to online schooling—which was, for many, uncharted territory. The changes were significant, and often reactive, because the situation called for such swift action. Education agencies published guidance to support school systems with their new online schooling challenge. Districts scrambled to put technology in the hands of students, identify online learning platforms, and provide teachers with tools and guidance for teaching online. Teachers created new online routines, transitioned lesson plans from hands-on activities to digital experiences, and worked long days to better understand how to engage learners from a distance. Parents, family members, and caregivers suddenly became fully involved participants in at-home learning, a role many didn't feel prepared to take on. Students were often left without a voice in shaping what their new school experience would be.

The result? More than a few school and district leaders described the spring of 2020 as "crisis schooling," focusing on efforts to connect with students and families, maintain some level of engagement and learning, and manage the changes that swept through schools globally. The results of these efforts weren't what many hoped for: Researchers projected in the spring of 2020 that students would return to school in the fall with "approximately 63–68% of the learning gains in reading relative to a typical school year and with 37–50% of the learning gains in math" (Kuhfeld, Soland, Tarawasa, Johnson, Ruzek, & Liu, 2020, p. 2). A McKinsey report projected how much learning students would lose based on various return-to-school scenarios during the 2020–21 school year, recognizing that student access to and quality of remote learning, the amount and quality of support available at home, and overall engagement all factor into the amount of learning loss. For some students the loss would be significant (Dorn, Hancock, Sarakatsannis, & Viruleg, 2020).

It is now the fall of 2020, and there remains no road map to guide us. We're in the midst of an unprecedented adaptive challenge, and yet the temptation for many educators and leaders may be to revert to the familiar—seeking technical solutions and implementing them from the top down. Moreover, there's a real possibility that even when things go back to "normal," so much may have changed that we cannot "go back home" again. Leaders need to consider how to take action today that can prepare for the uncertain road ahead.

What could have been done differently? Hindsight is 20/20, as they say, so let's rephrase the question more helpfully: What can be done differently *in the future?*

Back in 2015, McREL CEO Bryan Goodwin asked educators a provocative question: "After more than a quarter century of reliance on top-down, test-driven accountability as the primary driver of reform, are we ready to take a road less traveled—one that starts with student curiosity and builds, inside-out, from there?" (Goodwin,

2015, p. 9). In *The Road Less Traveled: Changing Schools From the Inside Out*, we challenged educators with a different paradigm for change that was—and largely, still is—the norm in schools: change from the top down, or the outside in. Change theorists describe change in myriad ways—transformational, adaptive, technical, incremental, strategic—the list goes on. Theories abound about why people are willing to change, why some struggle with or even resist change, and what actions leaders can take to effectively monitor and manage change. Knowing key steps in the communication chain to support one another in transitioning from what *was* to what *will be* (Bridges, 2003) is certainly helpful. Identifying how different members of the same organization are experiencing change and recognizing who is ready to lead a change and who is waiting to see what happens (Rogers, 2003) are foundational to managing the changes an organization goes through.

> When considering how team members respond to change, a useful distinction to know about is *adaptive* versus *technical* problems. An influential *Harvard Business Review* article defined them this way:
>
>> Technical problems, while often challenging, can be solved applying existing know-how and the organization's current problem-solving processes. Adaptive problems resist these kinds of solutions because they require individuals throughout the organization to alter their ways; as the people themselves are the problem, the solution lies with them (Heifetz & Linsky, 2002).
>
> The pandemic shutdowns were so disorienting for educators because they forced us to confront both kinds of problem at once.

But what if, rather than focusing on how we respond to and manage change *after* it has occurred, we take the inside-out advice from the beginning and *change the way we change*? More specifically, how can schools position digital learning as change from the inside out that results in different outcomes for students and their teachers?

A shifted paradigm

Looking back at some significant reform efforts in the last two decades—including moving toward standards-based education, the passage of the No Child Left Behind and Every Student Succeeds Acts, and states' all-over-the-map reaction to the Common Core—there is an obvious theme of being well-intentioned in seeking success for all learners. However, these reforms, driven from the top down in most cases, have disappointed. As an education system, we're working harder than ever, yet still not making the gains that we might expect for all this additional effort. A review of 17 years of performance data determined that better standards and test-driven accountability resulted in some incremental performance gains among the lowest-achieving students in the lowest-performing states, but did little to improve pedagogy or student performance overall (Goodman, 2012).

It's no surprise, then, that widespread, full-time distance schooling, something many of us had little frame of reference for, did not generate the results our students deserved. But now, we have an opportunity. As schools return to session in the fall of 2020, distance schooling (which I'll refer to as digitally mediated schooling) is still with us. Indeed, districts from Bemidji to Bahrain are prepared for a different look to school, including fully virtual options, blended options where students split their time between in-person and virtual classes, and full-time face-to-face options. And then there will be

variations within the variations! While there are certainly many *technical* problems to be solved—technology access, scheduling, platform selection, and more—educators may be well-served to approach the *adaptive* challenge of transforming digitally mediated *schooling* into digitally mediated *learning* through an inside-out approach to change.

Digitally mediated learning

Before we delve too deeply into how this transition can be implemented from the inside out, it may be helpful to clarify our use of the term "digitally mediated learning." The first distinction is that this term shifts from *schooling* to *learning*. Schooling, in the context in which it has been used here, refers to the basic processes of school, such as teachers organizing classes and students attending them. Distance or online school, then, refers to students having access to classes and instruction delivered through a digital means.

Digitally mediated learning, then, differs from online school in at least two important ways. First, it acknowledges that learning occurs through a variety of digital means: classes held using the school's selected learning platform, the comment thread for a collaborative writing assignment, student-selected online texts and multimedia content, virtual tutoring sessions, and more.

Second, when we replace *schooling* with *learning*, it reinforces that it isn't enough to provide students the opportunity to attend classes; there must also be an explicit intended outcome of *learning* for each student. Fortunately, we know how to support students in learning; cognitive science, including research about the stages of human memory and the power of curiosity, provides a road map for how people learn that can be translated into a model for learning. We suggest that when educators merge what is known about how students learn with the landscape of digitally mediated learning in an inside-out model for

change, the outcomes for learners can be vastly different from what has been experienced so far. To do that, however, requires a form of change that is also different from what is typically experienced.

Changing learning from the inside out in a digitally mediated world

Although every change initiative has its unique context and intended outcomes, there are seven actions organizations can take to drive the change process from the inside out, rather than responding to the reform after the fact. To take advantage of the opportunity to shape digitally mediated learning in ways that engage learner and teacher curiosity and leverage what is known about the science of learning, we suggest schools and districts consider the following.

1 **Develop a moral purpose**—a shared understanding about what you're trying to accomplish and why. What do you want for your students? How about your staff? Your larger school community? *And what do they want for themselves and each other?* In the flurry of activity to make sure families have internet-connected devices, providing teachers with know-how for a variety of online collaboration tools, and rewriting grading policies to reflect a new reality, it can be easy to lose sight of your purpose. However, because maintaining clarity about shared goals is a key correlate of district success (Waters & Marzano, 2006), taking time to reflect on moral purpose is essential. Further, research shows that believing in something important has a spillover effect into believing that change is possible (Duhigg, 2012)—and when you're aiming for an outcome that's different from what you've achieved in the past, belief that you can overcome obstacles to achieve that goal becomes important. Some questions to consider when engaging in discussion about moral purpose include:

- What do we do? *We provide opportunities to learn and the supports needed to ensure success—in person and online.*

- For whom do we do that? *We make sure each student in our care has meaningful opportunities and is successful pursuing those opportunities—in person and online.*

- What do they need from us, and how do we know? *Our students need us to hold high expectations of them. We need to believe they can achieve at a high level and design learning with collective goals. They need us to trust them and give them voice and choice in their learning. We know this because we asked them.*

- How will they (and we) change as a result of our work together? *Our students will achieve their goals, feel supported in their learning, and be willing to tackle challenging learning tasks of their own design. We will be empowered to share decision-making with our students and take risks to expand our own skills and knowledge—and we will do all of it in person and online.*

If the answers to these questions can be accomplished with the plans you already have, keep going. If the questions inform a new statement of purpose that runs a bit counter to your existing operations, it's time to establish a new path forward. Use the next six actions to guide your work from the inside out.

2 **Engage everyone's curiosity.**
Cultivating curiosity in your school or district will reap dividends beyond your expectations. Curiosity can be defined as "the recognition, pursuit, and intense desire to explore novel, challenging, and uncertain events" (Kaufman, 2017, p.1). The more curious we are—as youth *and* adult learners—the more we learn and the more we retain. Curiosity is more strongly linked to student success than IQ or persistence (Shah et al., 2018), supports better relationships, and leads to more fulfilling lives. Digitally mediated learning

is ripe for fostering curiosity. When thought of as one component of a larger ecosystem of learning, technology—whether used in school, at home, or in the larger world—has the potential to establish a foundation for what Ito et al. (2013) referred to as *connected learning*. Connected learning is conceived of not as a strategy or a set of tools, but as a means to build community and collective capacity for learning for all youth—and especially those who may otherwise lack access to broad educational opportunities.

Consider, then, the power of tapping into learner curiosity to build these communities, to use digital tools, and engage students. Centering students in the design of curiosity-driven projects that meet the outcomes required by the standards and also address students' deep intrinsic need to pursue real-life challenges will both engage students and demonstrate what students can accomplish. Likewise, engaging teachers to explore their own curiosity provides opportunities for staff to develop collective efficacy as they share the possibilities about what they can achieve for students using digitally mediated learning. After all, we want teachers and leaders to be equally curious as their students, asking questions about what could happen if students were to propose digitally mediated experiences to support deep learning of content, how to maximize learning across virtual and in-person settings, or the digitally mediated problem- or place-based learning that might spark students' curiosity and encourage them to persist in learning.

3 **Look for and build on bright spots.** Intrinsic motivation is a powerful driver for adults and youth. Often, when seeking to improve, we isolate the negative data points and impose a top-down solution to solve the

"problem." What could happen if, instead, we identify and build on strengths to address our challenges? What if we called out successful practices from our brick-and-mortar experiences, and instead of simply trying to replicate them online, we investigated the root cause of our success, and then created the conditions for that same level of success online?

Start with the immediate challenge you're trying to address. Ask staff to be curious. What's the one thing that, if it could change tomorrow, would make a difference for learning for each student? *Students aren't attending online classes regularly. They report low levels of engagement and seem to be doing the minimum required to get by.*

Identify bright spots. Where are the data inconsistent with this challenge? It's likely you can point to examples of high student engagement, either in person or online. Engage staff and students in a discussion of where learning is happening—where students show up and commit to learning.

Here are three exemplars of where I have seen engagement flourish within otherwise lackluster learning environments:

- Our performance music programs have high levels of engagement. Students show up, commit to playing as part of an ensemble, and work toward continuous improvement.

- Students in our required senior government course report consistently high levels of engagement. Their end-of-course assessments demonstrate high levels of learning and many students plan to study related topics in college or in their community.

- Our 4th graders choose to attend voluntary online project work sessions and when they're there, they work!

Identifying bright spots isn't the end. For each exemplar, the next step is to uncover the reason it exists, look for themes across the exemplar, and then learn from them.

Looking back at our exemplars, we can imagine the reasons they proved successful: Students in performance ensembles rose to the occasion when others relied on them to do their part; senior government students were empowered to apply their classroom learning to real-life, community-based problems that mattered to them; and 4th graders showed up for project work because their teachers and classmates were there to provide targeted, specific feedback that helped them improve—and they got to select their own curiosity-driven projects and digital platforms, within the parameters set by the school and curriculum.

When we understand why something works, we can replicate it in a different context. What are the digitally mediated versions of performance ensembles? How do we support students to connect with local organizations to pursue projects that matter to the community? What are effective practices for feedback to help students know where they are and what they can do next to advance learning? How do we establish success criteria *with students* that are linked to the learning objectives and at the same time allow flexibility and choice in how the success criteria are demonstrated?

Employing a focused data analysis protocol like the one described here to identify and exploit bright spots doesn't have to take a lot of time, and it can broaden everyone's perspective about what is possible.

4 **Empower leaders to be change agents.** The recent changes in teaching, leading, and learning are not easily solved with checklists and a prescriptive solution. The complex, adaptive nature of these challenges requires leaders to engage others in the process of leading—to actively and genuinely seek and listen to stakeholders' voices. Principals and other school leaders, as agents of change, must become comfortable asking questions, challenging the status quo, admitting they don't have all the answers, and turning to those who have different ideas about how to create digitally mediated learning experiences that work for each student. When people are looking for answers, it can be tempting for leaders to respond with a directive. An alternate—and, we propose, more effective tactic—is for leaders to step back, embrace an inquiry approach, and challenge their communities

to find a response consistent with their articulated moral purpose.

In a study of effective school leadership (Marzano, Waters, & McNulty, 2005), behaviors such as willingness to challenge the status quo and lead change initiatives with uncertain outcomes were identified as hallmarks of leaders who were empowered as change agents and in turn empowered staff members to take risks in the best interest of student learning. Planning for and effectively implementing digitally mediated learning requires some risk-taking, often sparked by curiosity. Questions such as those that follow are examples of how a leader can promote change from the inside out with curiosity thinking that disrupts the status quo in a productive way.

- Does our practice of requiring every student to use the same set of online creation tools provide flexibility for each student to demonstrate learning in ways that are personally meaningful?

- Now that we are comfortable using our digital platform, how can we stretch ourselves to be even better?

- What can we learn from our students that will make our shared work of digital learning more effective?

- How can we leverage the ways students interact digitally during out-of-school time to support learning?

- What are the best and worst outcomes of having students design curiosity-driven, digitally mediated projects to demonstrate learning at the end of a unit?

5 **Get better together.** Whether operating in a traditional classroom or in a digitally mediated environment, schools are human organizations, not, fundamentally, collections of technology. And research suggests that the way for human organizations to get better is through focused collaboration that spans contexts. Ecological perspectives on learning and development (that is, the theory that learning occurs within and across settings and communities) have

recently garnered renewed interest given research suggest that connections across environments—among formal schooling and informal, out-of-school, and curiosity-driven learning—contribute to more equitable learning environments and outcomes for youth learners (Banks et al., 2007; Bevan, Bell, Stevens, & Razfar, 2013; Greenhow, Robelia, & Hughes, 2009; Ito et al., 2013). Such connections result from the ways individuals move across learning ecologies, or "the set of contexts found in physical or virtual spaces that provide opportunities for learning" (Barron, 2006, p. 195). These settings can include a learner's home, school, community, work, and neighborhood, as well as distributed resources such as online environments and social networks (Leander, Phillips, & Taylor, 2010). This holds true for youth and adult learners; the very nature of a learning ecology as spanning contexts emphasizes the pervasiveness of collaboration in learning.

A central point in this discussion is that collaboration and learning across contexts is essential for both students and their teachers. While some structured collaboration may be necessary to confirm that everyone understands the intended purposes for working together and to help teachers and students develop and become comfortable with shared working agreements and ways of interacting, learner-designated means of collaboration are valuable as well. For example, we've long known that the key to professional learning lies in combining theory, demonstration, practice, feedback, and peer coaching (Joyce & Showers, 2002)—and when used as a way for teachers to give and receive "critical friend" feedback, peer coaching can be a powerful form of collaborative professional learning (Joyce, Hopkins, & Calhoun, 2014). For students,

genres of participation such as "hanging out, messing around, and geeking out" (Ito et al., 2010)—often accomplished in digitally mediated ways—can be powerful channels for collaboration when students are the ones to determine how and for what purposes they are used to advance learning.

If a school is to change from the inside out, considering how and to what end individuals collaborate—including what's required and what's done voluntarily—is of value. Collaboration needs to work for those engaged in it, and in a digitally mediated environment, the options are plentiful for students and teachers alike.

6 **Fail forward and keep learning.**
Working in schools provided plenty of opportunities to fail forward and keep learning, and that hasn't changed with the sudden need to push into digitally mediated learning as *the* environment for teaching, leading, and learning. We can only fail forward, however, when we know how things are working (or not) and when we're willing to accept data that suggest changes need to be made. Recognizing that we are working in a context that continues to change, you may want to resist looking at data with a high-stakes lens. We need to acknowledge the realities of what the data tell us—but often when we apply high stakes to data, we hide rather than learn from our mistakes, which stifles innovation. To create the kind of learning environments needed to allow students, teachers, and curiosity to flourish, schools need to emphasize learning by doing—continually testing and improving what they're doing in rapid cycles. Encouraging teachers and students to take risks, co-develop different approaches to learning, and then test and improve them based on the data they collect—and mistakes they find along the way—will likely result in a better set of protocols for teaching and learning. It will

also promote a curiosity-driven approach to collaborative problem-solving, which is the core of changing from the inside out.

7 **Reframe the goal.** Our seventh action, which is tightly connected to the first, is to think differently about what you're aiming to achieve—and who has a say in determining that. What we measure is what we get. If all we measure is student performance on standardized achievement tests, we'll likely continue to drive teaching and learning toward that outcome.

We know standardized tests are part of our landscape; yet, like you, we believe there are other, parallel outcomes worth pursuing. Go back to your moral purpose. What did you say you want for your students, your staff, your community? What do they want for themselves and one another? When the goal is reframed to reflect outcomes that matter to each learner, each teacher, each family and community member, you'll always be able to point back to what you're trying to achieve, why the hard work is worth it, and how continuing to learn and grow is essential to the process.

Back to the beginning

We started this paper with encouragement to change the way you change: Rather than focusing on how you respond to and manage change after it has occurred, start at the beginning and pursue change from the inside out. Lave and Wenger (1991) remind us that "learning is never simply a matter of 'transmission' of knowledge or the 'acquisition' of a skill" (p. 116). McREL's experience is that educators want more than transmission of knowledge or acquisition of skills for their students; however, they often find themselves in cycles of reform that aren't focused on different outcomes. With the sudden need to design—with our students—digitally mediated

learning experiences that empower students and teachers to pursue outcomes that matter to each stakeholder, this is a good time for a change in how we change. Next time schools undergo sudden change—and there will be a next time, there always is, even if it is more local in nature than what we experienced globally in 2020—we'll all be better prepared. ■

References

Banks, J. A., Au, K. H., Ball, A. F., Bell, P., Gordon, E. W., Gutiérrez, K. D., Brice Heath, S., Lee, C. D., Lee, Y., Mahiri, J., Suad Nasir, N., Valdés, G., & Zhou, M. (2007). *Learning in and out of school in diverse environments: Life-long, life-wide, and life-deep.* LIFE Center: University of Washington, Stanford University, SRI international.

Barron, B. (2006). Interest and self-sustained learning as catalysts of development: A learning ecology perspective. *Human Development, 49*, 193–224.

Bevan, B., Bell, P., Stevens, R., & Razfar, A. (Eds.). (2013). *LOST opportunities: Learning in out-of- school time.* Springer.

Bridges, W. (2003). *Managing traditions: Making the most of change* (2nd ed.). Da Capo Press.

Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2020). *COVID-19 and student learning in the United States: The hurt could last a lifetime.* McKinsey & Company.

Duhigg, C. (2012). *The power of habit: Why we do what we do in life and business.* Random House.

Goodman, J. (2012). *Gold standards? State standards reform and student achievement.* Program on Education Policy and Governance, Harvard University.

Goodwin, B. (2015). *The road less traveled: Changing schools from the inside out.* McREL International.

Greenhow, C., Robelia, B., & Hughes, J. E. (2009). Learning, teaching, and scholarship in a digital age: Web 2.0 and classroom research: What path should we take now? *Educational Researcher, 38*(4), 246–259.

Heifetz, R., & Linsky, L. (2002, June). A survival guide for leaders. *Harvard Business Review.* https://hbr.org/2002/06/a-survival-guide-for-leaders

Ito, M., Baumer, S., Bittanti, M., boyd, d., Cody, R., Herr-Stephenson, B., Horst, H., Lange, P., Mahendran, D., Martinez, K., Pascoe, C. J., Perkel, D., Robinson, L., Sims, C., & Tripp, L. (2010). *Hanging out, messing around, and geeking out.* MIT Press.

Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., Schor, J., Sefton-Green, J., & Watkins, S. C. (2013). *Connected learning: An agenda for research and design.* Digital Media and Learning Research Hub.

Joyce, B., Hopkins, D., & Calhoun, E. (2014). Winning with coaching: Strengthening the links between professional learning, CCSS, and STEM. *Changing Schools, 72*(3), 8–10.

Joyce, B., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). ASCD.

Kaufman, S. (2017, July). Schools are missing what matters about learning. *The Atlantic.* https://www.theatlantic.com/education/archive/2017/07/the-underrated-gift-of-curiosity/534573/

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). *Projecting the potential impacts of COVID-19 school closures on academic achievement.* (EdWorkingPaper: 20-226). Annenberg Institute at Brown University. https://doi.org/10.26300/cdrv-yw05

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge University Press.

Leander, K. M., Phillips, N. C., & Taylor, K. H. (2010). The changing social spaces of learning: Mapping new mobilities. *Review of Research in Education, 34*(1), 329–394.

Marzano, R., Waters, T., & McNulty, B. (2005). *School leadership that works: From research to results.* Mid-continent Research for Education and Learning.

Rogers, E. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Shah, P., Weeks, H., Richards, B., & Kaciroti, N. (2018). Early childhood curiosity and kindergarten reading and math academic achievement. *Pediatric Research, 84*(3), 380–386.

Waters, T., & Marzano, R. (2006). *School district leadership that works: The effect of superintendent leadership on student achievement*. Mid-continent Research for Education and Learning.

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