KnowledgeWorks



Navigating Disruption in Education

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Adapting to Disruption

Disruptions – large and small, positive and negative – have always had a role in shaping learning communities' realities. A beloved teacher leaves. A regulation change enables new flexibilities. A region experiences a natural disaster, interrupting power and internet access. A district receives a major donation of new technology.

However, accelerating change is causing uncertainty to increase and disruptions to become more frequent, extreme and interconnected. For example, when a natural disaster hits, people could be displaced from their community. The school district's enrollments might plummet and perhaps never recover, adding more challenge to a massive recovery. Such a disruption could occur at the same time as repeated cybersecurity incidents and a series of dangerously extreme temperatures, requiring the district to devote resources to updating cybersecurity infrastructure and modernizing multiple schools' heating and cooling systems even as it struggled to resume basic operations.

Most school-, district- and state-level educational institutions' strategic plans do not address the emerging reality of accelerating, compounding and cascading disruptions. As such, these entities are not well-equipped with strategies to withstand or influence – much less to thrive in – the volatile environment that will characterize the next decade and beyond. Disruptions are and will increasingly be a fact of life for all learning communities. Learning to work through them will be a key leadership skill for not only navigating but also creating the future of learning.

Defining Disruption

In this publication, "disruption" refers to a change that interrupts the daily life, operations or plans of an institution or learning community and requires some kind of response. A disruption might be an event, large or small. It might reflect a tipping point in a change that has been building over time. A disruption might interrupt regular activity for days, weeks or even years. It might also change the operating environment forever.

About This Paper

This paper explores what it might take for education leaders to navigate disruption effectively over the coming decade and beyond. It builds upon KnowledgeWorks' *Charting a New Course for Education*, which identified "Everyday Disruptions" as one of four drivers of change shaping education over the next decade. That driver of change described how disruptions are becoming more prevalent and more intense, upending established approaches to education management and changemaking.

This paper grounds itself in the use of strategic foresight methods, including engaging with educators, futurists, subject matter experts and changemakers. It neither aims to predict the future nor to focus on risk management or disaster preparedness. Instead, this paper aims to help education leaders use insights about future possibilities to inform strategic decisions and disruption ready ways of operating today.

It includes a disruption toolbox for education leaders, followed by three scenarios illustrating various ways in which a fictional community and its school district might navigate increasing disruption. The paper ends with guidance on applying the disruption toolbox to one's context.

A Disruption Toolbox for Education Leaders

Today, education leaders' attention and energy and education systems' resources related to disruption focus on reacting and recovering after an event occurs.

In today's environment, this "take-it-as-it-comes" approach leaves people exhausted and dealing with the social, financial, emotional and educational consequences of instability. It also hampers any hope of creating the intentional change that so many leaders work tirelessly to create and that education systems so desperately need. Looking ahead, continuing to rely only on reacting and recovering will put learning communities at the mercy of accelerating and compounding changes that are outside their control. Being constantly overwhelmed and caught off guard by change will simply become the norm.

However, that approach is not the only way forward. Leaders can expand their disruption toolbox, shifting attention, energy and resources toward anticipating and preparing and away from only reacting and recovering. Engaging differently with disruption requires change in both what steps leaders take before and after disruptions and how they think about navigating disruption.

Continuing to rely only on reacting and recovering will put learning communities at the mercy of accelerating and compounding changes that are outside their control. Being constantly overwhelmed and caught off guard by change will simply become the norm.

However, that approach is not the only way forward.

Responding Differently to Disruption

No one can predict exactly what disruptions will occur in their community or when those disruptions will happen. Reacting to immediate circumstances will always be a necessary part of dealing with disruption. However, by pausing to look ahead before disruptions occur and reflecting on responses afterward, leaders can consider, prepare for, adapt to and even harness possible future disruptions.

The "Disruption Response Cycle" diagram shows the steps that leaders can take to face disruptions proactively. This varied approach offers a range of options for planning for and responding to disruption. It enables leaders to design for disruption proactively instead of simply coping with its consequences.

Detailed guidance on practicing with these steps appears in the "Expanding the Disruption Toolbox for Leaders" section of this publication.

Disruption Response Cycle



Thinking Differently About Disruption

When navigating disruption, acting differently and thinking differently are equally essential. Many leaders hope simply to avoid disruption and to bounce back quickly if it occurs. This mindset might be appropriate in a landscape where disruptions are rare, isolated and straightforward. It is unfit to match the volume, intensity and complexity of the disruptions that learning communities are likely to face over the coming decade and beyond.

The guiding principles offer shifts in how leaders should think about disruption as a new reality emerges. Applying these principles before, during and after disruptions occur can help illuminate possible opportunities, strategies and solutions.

Principles for Navigating Disruption

Respond with intention
instead of
reacting from fear

Codesign alongside lived experts
instead of
controlling through hierarchy

Address multiple, interconnected needs
instead of
solving isolated problems

Plan for place
instead of
applying generic best practices

Nurture authentic relationships and networks
instead of
accumulating transactional connections

Protect necessary safeguards
instead of
prioritizing short-term efficiency above all

Respond with Intention

Disruption requires action. Instead of reacting from fear of change or with the goal of preserving the familiar, leaders should use their visions to guide next steps, even in urgent and challenging moments.

Address Multiple, Interconnected Needs

Disruption and its aftermath demand resources. Instead of addressing issues in an uncoordinated way as they arise, leaders should identify what people might need across a range of disruptions and find solutions that can meet several of those needs at once, both in preparation for and after disruption.

Nurture Authentic Relationships and Networks

Disruption is buffered by connections. Instead of focusing on expedient partnerships or viewing relationship building as optional, leaders should cultivate meaningful relationships within their teams and foster mutually beneficial connections with other leaders, institutions and sectors to help everyone weather disruptions, both emotionally and practically.

Codesign Alongside Lived Experts

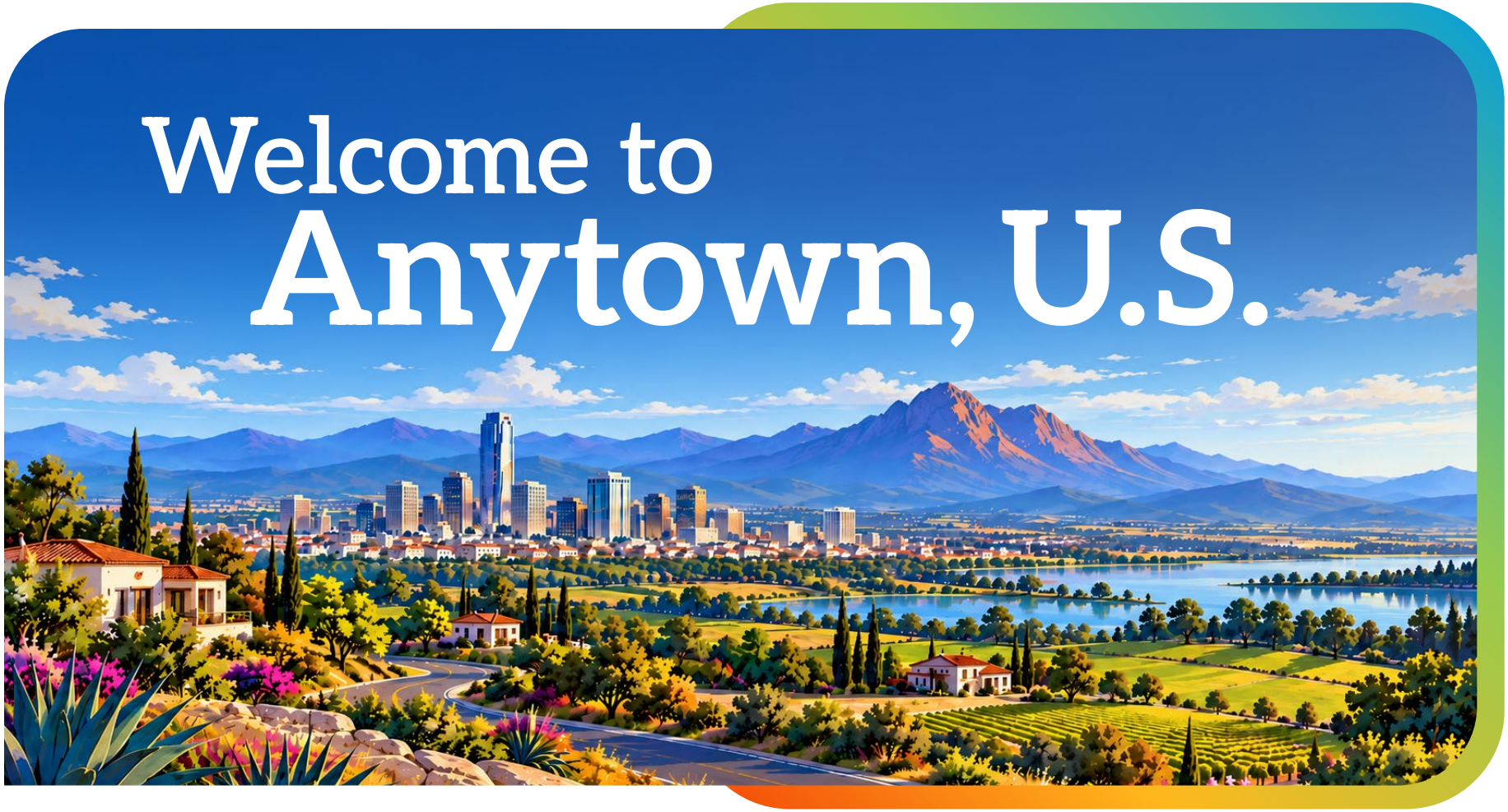
Disruption reveals both wisdom and gaps in understanding. Instead of attempting to control emergent situations through top-down decision-making and communication structures, leaders should co-design plans and responses alongside people who will experience or are experiencing a disruption, including learners and their families and caregivers.

Plan for Place

Disruption affects each community and the people within it differently. Instead of assuming that plans or response strategies from other places will be effective locally, leaders should adapt best practices to their specific community and its diverse needs when possible and be prepared to design new approaches when needed.

Protect Necessary Safeguards

Disruption exposes and intensifies a system's vulnerabilities. Instead of treating safety nets and backup plans as excess that can be streamlined and reduced, leaders should take both short- and long-term views of resource management and recognize what safety nets and redundancies are necessary investments.



To help with anticipating how disruptions could impact education, look no further than Anytown. A fictional community in the U.S., Anytown represents a range of communities across the country that are facing opportunities and challenges as the landscape becomes increasingly uncertain.

Anytown covers a diverse region. It has a dense urban corridor, which includes a downtown district and commercial and cultural centers. Outside its urban corridor, there are established suburban communities. Beyond those communities lie rural areas, small towns and agricultural lands. Anytown School District works hard to serve learners across the region.

The pages ahead explore three possible futures for Anytown using scenarios, which are stories about the future. These scenarios imagine what education could look like in the year 2036 and what people who call Anytown home could be experiencing. They draw upon modified versions of three scenario archetypes to tell three distinct stories.



Friday Night Limits uses the ***new equilibrium*** scenario archetype to describe a future in which disruption leads to the emergence of a new normal. In this scenario, Anytown School District responds to a technological and environmental tipping point by prioritizing stability over limitless growth and efficiency.

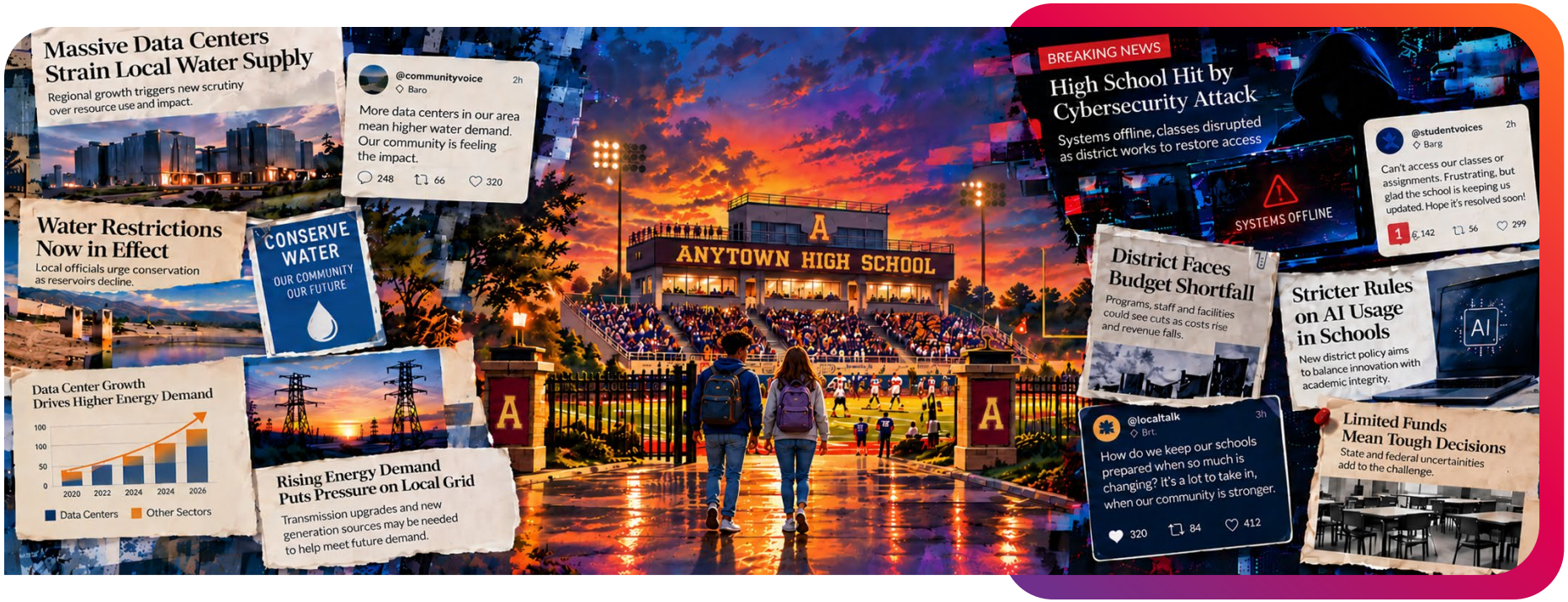


At the Playground uses the ***collapse*** scenario archetype to depict a future in which existing structures are unable to adapt to mounting pressures and change outpaces those structures' capacity to respond. In this scenario, Anytown's weakened school district receives help from a large corporation to modernize one of its schools.



Built for What Comes Next uses the ***transformation*** scenario archetype to explore a future in which fundamental changes reshape institutions, relationships and ways of learning and living. In this scenario, the Anytown community has embraced anticipation and has deeply reimagined education and public systems.

Take a trip to Anytown to explore how a community and its education system might respond to disruption. As you tour these possible futures, look for changes and strategies specific to each scenario. Notice, too, how a common set of underlying forces – climate change; social fragmentation; and accelerating technology, particularly artificial intelligence (AI) – could manifest in different ways. Alongside each scenario, you will find an overview, a list of early indicators that informed the scenario, information on the person from whose perspective the future unfolds, a recap of how the school district and its constituents navigated disruption and a reflection question.



Friday Night Limits

In 2036, Anytown's public schools feel pressure to make cautious, efficiency-driven decisions. They are settling into a new normal after the double shock of a cybersecurity attack and tight environmental quotas.

Because federal funding has declined and state budgets have shrunk with declining enrollment, the district sits at the intersection of constraint and choice, working to balance the promise of AI with the realities of cost, trust and workforce and environmental limits. Over the past decade, access to AI tools expanded rapidly, becoming embedded in nearly every platform that students and educators used. As access to these tools grew, distrust spread, particularly among some young people who increasingly pushed back against its role in learning.

Local data centers also proliferated. The strain that these data centers placed upon water and energy systems made AI's environmental footprint hard to ignore, especially as climate volatility and weather disruptions affected everyday life in Anytown more and more often. Additionally, an aging population and declining entry-level job opportunities reshaped the workforce. Now Anytown School District is working hard to seek a new sense of stability by managing tight resources while navigating intense public scrutiny.



NAME
Robina Khan

PRONOUNS
She/Her

AGE
42

OCCUPATION
Anytown School District's Director of AI

BIOGRAPHY

Robina Khan grew up in Anytown. She left for college but returned to take care of her aging parents. She is a single woman. For the past four years, she has directed the school district's use of AI. Robina aims to balance innovation with responsibility as the district searches for stability.

Early Indicators of This Future

These signals of change point the way toward the future possibilities illustrated in this scenario:

- Education institutions are targets of cyberattacks because they manage large amounts of sensitive data, usually have a mix of new and older systems and have limited budgets for cybersecurity
- According to a recent report by The Brookings Institution, the potential risks of using AI in children's education currently outweigh the benefits
- A recent U.N. report projects that the data-center boom could require 9.3 trillion liters of water by 2030

A Day Through Robina's Eyes

In a recurring nightmare, Robina recalls the events that changed everything two years ago. The nightmare starts with a single headline flashing across her screen:

"District Data Exposed Through AI Vendor Integration"

Then the messages begin stacking faster than she can read them.

From the superintendent:

"What systems are affected? Should we shut everything down?"

From teachers:

"Students are asking if their work is out there. Can we continue using the platform today?"

From parents, hundreds of them:

"Are our records safe?"

Robina scrolls and scrolls. The article names the cause plainly: for months, a third-party AI assessment tool linked to Anytown's learning management system has been rerouting confidential student data through a public network address meant to optimize for energy efficiency, exposing everything in the process.

Another alert flashes:

"Audit Reveals District Under Scrutiny Has Exceeded Natural Resource Limits for Years"

Everything blurs together.

Robina pulls up a contingency plan built for small outages and hacks. It feels useless against this slow, invisible extraction of data tied to the very systems that claimed to make everything more efficient, and it contains nothing about environmental limits.

Her phone won't stop vibrating. Robina feels overwhelmed, as if she is going to faint. Everything goes black.

After a restless night's sleep, Robina wakes before sunrise, as she has since the data breach and when the district moved to split start times to conserve power during peak heat hours. By 6:15 a.m., she is already scrolling through the pared-down monochrome dashboard that her team built to save energy. It loads slowly, intentionally. There is a line of text at the bottom: "Energy usage within district limits." She checks it every morning.

Notice how disruptions changed the daily operations of Anytown School District and what was different before and after these events.

Since the breach and the audits that uncovered the environmental overshoot, there have been subtle changes, like the screens getting dimmer. Other changes have been less subtle. Seven years ago, most screens in the district were dense with projections, always-on system status, risk scores, real-time behavioral nudges and so on. Now only a few monitors show strictly what the board approved: chronic attendance flags, energy usage rates and status reports for the few remaining online systems. Even so, Robina knows how much they are spending to maintain them. The district is locked into contracts that it cannot afford to break. Sunk costs, the superintendent calls them. Robina calls them the ghosts that haunt her.

Her inbox is always full.

One message is from Daniel Harpery, a seasoned teacher. It is marked "urgent."

"We need clarity on the assessment protocols again. Students keep asking why they can't use the writing tools they have at home. I'm spending half the period policing instead of teaching."

She exhales. Daniel is one of the last ones who remembers teaching without any digital layer at all. She understands his frustration. Teachers were told for years to trust the data, to follow the insights and to let the system guide them. Now they are being asked to unlearn that reliance and rebuild their instincts, and to do it fast.

Another message is from the district's legal counsel. Its subject line reads, "Reparations Committee Meeting." A group of former students and their parents is preparing a class-action suit. Their argument is simple: years spent learning through AI systems that were later deemed harmful to the environment and that made all their private data vulnerable have had long-lasting effects on their lives, and there is no undoing them. Robina flags the email for later.



By 7:30 a.m., she is in her car passing the edge of town where the data center looms. It hums, drawing water and energy that the town cannot spare. There had been protests once. Now there is just quiet apathy and constant humming.

At Anytown High School, the day moves at a staggered rhythm. To avoid the heat, some students start at dawn; others won't arrive until late afternoon.

Robina runs into Daniel in the hallway. He looks tired. They all do.

"I need to know what counts as 'assisted' now. More students keep asking me," he says, skipping greetings. "A student drafts something at home using whatever tool they want, comes in and rewrites part of it by hand. Is that acceptable? Or do I have to treat the whole thing as invalid?"

Robina pauses. This is the kind of problem that no one can quite solve. Without the constant tracking and analysis that the old systems provided, verification depends on human judgment again. That's complicated.

"We're asking for demonstration," she says carefully. "If a student can explain their thinking, revise in real time, show they understand the work…"

Daniel nods, but not convincingly. "That takes more time than we have."

She doesn't disagree. Many teachers resigned right after news of the data breach broke two years ago. Those who stayed now cover more classes, filling gaps the district cannot afford to staff because of the compounding effects of the sunk costs from long-term contracts, decreased enrollment and declining federal funding. "Efficiency and Stability" is the district's current motto.

Robina walks past a classroom where Bob Jenkinson, a formerly retired scientist turned classroom mentor, is setting up lab materials. He nods at her.

"Analog today," he says, holding up a glass beaker as a small victory. "No system lag or energy spike to worry about."

Bob is one of a handful of older adults who get small stipends and flexible hours to educate students. There is something steadying about his presence. Students listen to him differently.

Later, in the cafeteria, Robina joins a student council meeting. “So let me get this straight,” says Elena, the president, who was still in middle school when the cyberattack and the environmental overshoot were uncovered. “We can’t use the AI here, but we’re supposed to compete with students in other schools who can?”

This is the comparison that Robina hears everywhere. Nearby districts that aren’t scaling back as much. Private schools advertising “full-spectrum AI learning.” Charter schools boasting complete independence from AI. The landscape is uneven, and everyone knows it.

“We’re prioritizing the tools that we can verify and that our natural-resources quotas allow,” Robina says.

Elena shrugs. “Feels like we’re behind.”

Some students nod. Others look indifferent, already accustomed to the shifting rules.

By mid-afternoon, Robina is back at her desk, reviewing procurement proposals. Vendors have quickly adapted their marketing to the district’s new climate and privacy restrictions: “low-energy models,” “transparent data use,” “locally hosted solutions.” Each claim comes with metrics, but she reads them with caution. There had been metrics before.

After the data breach and the reports on the district’s environmental impact, everything tilted toward tighter IT systems, stricter rules and more layers of approval. Regaining absolute control of the situation became the goal. “Overengineering,” Daniel called it once. He wasn’t wrong. But the alternative felt riskier.

Robina checks one last report before heading out: energy usage projections for the week. They are close to the threshold again.

That evening, the stadium lights flicker on over the homecoming game. The homecoming game is one of the things that the district has held onto. It gives people a sense of continuity. The athletes and cheerleaders are lined up, the band plays and students laugh in clusters that look as if they could belong to any year.

But there are small differences. The lighting is dimmer than it used to be. The scoreboard is analog. Sporadic announcements remind attendees to conserve water and energy. It seems normal-ish.

Robina stands near the sideline. For a moment, it almost feels as if everything is going to be all right. Then she remembers the emails waiting for her Monday morning.

Recovery, she has learned, is not swift, but it is not going to last forever either. Robina looks up at the field lights again, remembers the energy projections for the week and sighs audibly. For now, the lights stay on.

Navigating Disruption in This Scenario

This scenario illustrated the fundamental dynamics of the new equilibrium archetype. This list shows how disruption was navigated in this future:

» Anytown School District reacted from fear when it slashed the deployment of most AI tools because they were deemed the source of the disruptions that the district had experienced. The district also chose to seek stability by preserving familiar rituals such as homecoming, which provided a sense of normalcy even though they could be considered superfluous or wasteful by some.

» Robina interacted with three characters in different positions, listening to and processing both their complaints and successes. These individuals trusted Robina enough to share their authentic thoughts with her, showing that she had cultivated meaningful relationships with them. Their exchanges illustrate how their connection with Robina helped them cope with disruptions.

» The district's post-disruption motto, "Efficiency and Stability," reflected a focus on addressing short-term needs that risked overlooking the long-term consequences of streamlining every system and eliminating redundancies and safety nets. Additionally, the scenario showed how the overreliance on AI tools before the disruptions had diminished educators' judgment and confidence around teaching and learning without AI tools.

Reflect

» *Among the actions that Anytown School District took, which ones seem likely to help the district bolster its position against future disruptions?*

» *Which ones seem likely to make the district more vulnerable?*



At the Playground

In 2036, Anytown faces continued challenges. The school district lacks the necessary funding and resources to keep learners engaged and achieve academic success. Even keeping the lights on is not easy.

Dwindling water reserves caused by a corporation's "investment" in the community led many people to leave Anytown over the past decade. As the overall population declined, some high schools did not have enough students to stay open. District leaders moved the remaining learners into the flagship high school, Anytown High School. They also simplified other aspects of operations to make ends meet. Seeing the strain and wanting to strengthen the local workforce, the corporation decided to invest in Anytown High School and its learning platforms, promising "state-of-the-art learning facilities" and "clear pathways to careers for every learner." As the school year starts and renovations are unveiled, the building feels less forward-looking and intentional than promised. The corporate investment threatens to accelerate the school district's path toward collapse.



NAME
Veron Johns

PRONOUNS
They/He

AGE
16

OCCUPATION
Student at Anytown High School

BIOGRAPHY
Five years ago, Veron and their caregivers moved to Anytown in pursuit of job opportunities at ProGnosti Corporation. Veron has an interest in sustainability and survivalism and enjoys growing food for his loved ones. Veron enjoys repurposing used containers and other goods to create art.

Early Indicators of This Future

These signals of change point the way toward the future possibilities illustrated in this scenario:

- Amazon founder Jeff Bezos has invested in Bezos Academy, a network of Montessori-inspired, tuition-free preschools that broker leasing agreements with organizations that already provide services to families in under-resourced communities
- A resident applied for the abandonment of Hartman, Colorado, because there were no elected officials to govern and run the town, much less to provide a proper water supply for the remaining citizens
- The Alpha School is an AI-forward private school that does not employ traditional teachers; instead, it hires human guides who do not manage grades or curriculum

A Day Through Veron's Eyes

Veron awakes to the smell and sizzle of bacon. They make their way to the kitchen area to greet their loved ones. For Veron and their caregivers, sharing a morning meal gives everyone some time to learn, laugh and witness one another. Veron appreciates the love that he receives at home and how everyone supports his learning.

At 7:00 a.m., he heads out for the first day of his third year at Anytown High School. The heat already feels intense. Fortunately, school is just a short distance away. Veron takes a few sips from a small bottle of water with electrolytes, saving the rest for their walk home.

Just a few years ago, Veron did not have to think about rationing water. Things changed after ProGnosti Corporation built a processing plant in Anytown. The plant created jobs, generated tax revenue and brought other businesses to the area. It also used large amounts of water, which soon began draining Anytown's reserves. After a while, residents and retailers had to start importing drinkable water.

Veron reaches school. As he walks toward the entrance, he notices that the "Anytown High School" sign has been replaced by one that reads, "Playground Park High School." Veron remembers hearing that the school would be renovated, but he didn't realize that its name would change. Veron finds himself grieving the school he knew.

He reminisces about his love for Anytown High School's agriculture program his freshman year. Veron had named every seed he'd planted. He'd regularly thanked the land for providing sustenance. The produce had also helped ensure that they and their loved ones had fresh fruit and vegetables to eat. Unfortunately, the agriculture program could not continue, as Anytown School District had had to make some "difficult decisions." The program's yield had declined because of a crop-eating pest, increasingly erratic weather and dwindling water reserves. Veron hopes this year's changes will come with an opportunity to learn about growing produce and foraging.

An adult's voice jostles them from their daydream, alerting them that they have 10 minutes before class starts. Veron does not recognize the adult, who is wearing a badge reading, "Daniel D., He/Him, Chaperone." As Veron hurriedly walks toward the entrance, the chaperone wishes him a great first day at Playground Park. Veron assumes that this person came with the changes.

> *Notice how Anytown School District's attempts to address disruption ended up contributing to it.*

Inside the building, Veron is astonished by how different it looks and feels. The once-gray walls are now garish greens, yellows and blues. Everywhere they turn, Veron sees shiny screens and LED lights replacing bulletin boards and wall art. He finds it all overstimulating and knows that, if he is having a hard time adjusting, his peers with sensory issues will too.

As his eyes adapt, Veron sees an ad for something called LearnInsure on one of the screens. It says that LearnInsure is an affordable, supplemental life insurance policy for families who may experience a school-related, sudden loss. He shudders at the thought of needing insurance for that but knows that Anytown has seen two school shootings in the last three years. His family always says, "If you stay ready, you won't have to get ready." With that in mind, Veron quickly sends a picture of the ad to a group chat with his caregivers.

The intercom dings. “To our lovely learners, welcome,” the voice begins. “My name is Suzanne. I’m Playground Park High School’s virtual administrator. The first order of business is to wish each of you a strong, smart and safe start to your school year. The second order of business is to let you know that the renovations you see are courtesy of ProGnosti Corporation.” Uneven applause echoes over the intercom. “Now, a chaperone will guide you to your assigned classrooms to start your day,” Suzanne finishes.

Vernon recognizes the chaperone who approaches as Mx. McCall, a teacher who has been at Anytown High School for over 25 years. He’s glad she’s still here. Mx. McCall smiles warmly at Veron and the other learners. As they are walking, one of them asks what happened to the other teachers. Without looking back, Mx. McCall says that most of the teachers were let go during the summer break. Her voice sounds sad. She stops, turns toward the learners and motions toward the classroom. “Have a marvelous day.”



In the classroom, Veron and his peers see another chaperone and a few rows of cubicles with their names written on sticky notes. The learners mumble and grumble among themselves as they head to their assigned cubicles. Inside each cubicle are a desk, monitor, chair and headphones. The monitor reads, “Thank you for your attendance and attention. Please click ‘Continue’ to begin your coursework.” The chaperone tells them to quiet down and get to work. Veron feels surprised but curious, as he likes being able to learn with few distractions while having his peers close.

Most of the lesson seems straightforward. When Veron has a question, the system prompts him to engage with a digital learning instructor. Thinking that an adult would be more helpful than a chatbot, he steps out of his cubicle to ask for help. After several attempts, the chaperone encourages Veron to use the digital learning instructor because it clearly knows more than they do. Veron groans in frustration but relents and engages with the digital learning instructor. When he finally receives the answer he needs to move forward in the lesson, he does not quite understand the logic behind it.

Suzanne buzzes again. “Lovely learners, thank you for your attendance and attention. It is now time for lunch. Proceed to the food space. Once you receive your meal, move to the multipurpose space. There, you can eat your food and socialize.”

As the learners approach the food space, Veron notices a collective grimace on their faces. The Anytown High School cafeteria had long, rectangular tables with slightly uncomfortable seats. The Playground Park High School food space has dimmed lighting and no seating; there is just a chaperone behind a counter with the learners’ pre-packaged lunches. Veron thinks that the meals look unappetizing at best, but food is food.

Veron sees a younger student fumbling with their lunch container. As soon as they take a bite, they start coughing and scratching their face. Veron alerts the chaperones while many of the other learners start buzzing with anxiety, curiosity or fear. One of the chaperones rushes over to the child. The chaperone asks if they have any epinephrine. The child shakes their head no, eyes welling with tears. The chaperone picks up the child and hurries to the nurse’s office. Wanting to make sure that the kid is okay, Veron goes too.

To his shock, the nurse's office does not actually have a nurse in the office. Instead, a mounted monitor reads "ProGnostiHealth." A nurse appears on the screen, and the chaperone starts sweating and stammering about the situation. Looking through the monitor with concern, the nurse suggests calling an ambulance and administering a dose of epinephrine to the learner before logging off. The chaperone makes the call and begins searching for the epinephrine. The cabinets do not have clear labeling, and the child is beginning to look faint. Distraught, the chaperone rushes with them toward the entrance to await the ambulance.

As the chaperone runs, Veron hears an electric boom and the lights go out. The learners' voices get loud, and the chaperones' voices get louder as they try to corral the distressed students. Veron overhears that the school had not received the generators that ProGnosti Corporation had promised. He knows that his first day will be ending early.

The chaperones escort the learners to the front entrance. As they exit the building, each learner receives a standardized learning packet to complete at home. Veron scoffs at the waste of time but puts the packet in his backpack and starts his short walk home.

Because school let out early, Veron walks into an empty house. He sits on the couch and begins grounding himself after the stressful day. A few moments later, one of his caregivers walks in. Veron takes one last deep breath, opens his eyes and joins his caregiver in the kitchen for a snack.

Between bites, Veron tells his caregiver about his day: the changes, the chaos and the silly packet. His caregiver asks if he needs anything from them. Veron asks if he can start learning more about agriculture at home because digital learning is not helpful. His caregiver agrees and suggests starting with a windowsill garden. Veron hugs them excitedly and rushes off to make decorations for the forthcoming garden.

Navigating Disruption in This Scenario

This scenario illustrated the fundamental dynamics of the collapse archetype. This list shows how disruption was navigated in this future:

» In this scenario, Anytown High School's look, feel and culture changed more abruptly than Veron could have expected. The sudden shift to complete reliance on adaptive learning overlooked the school's tradition of engaging, hands-on learning. Veron's school no longer felt like his school. The district could have prioritized the students' social, relational and health needs. Instead, it failed to consider their specific, diverse needs.

» When facing an electrical failure, Playground Park High School did not know how to adapt effectively. Learners were sent home with standardized work packets. If the school had invested more in preparing for possible interruptions to learning, then the learners could have had more effective resources.

» Veron could not rely on Playground Park High School to deepen his learning experience because the school had not been staffed to do so. The adults were chaperones, not educators, and their inability to explain the digital lesson hampered Veron's learning. In contrast, Veron's caregiver had an authentic connection with him, allowing for trust, care and the exploration of at-home learning experiences.

Reflect

» *How might district leaders consider tradeoffs when establishing partnerships to navigate disruption?*

» *How might power dynamics affect such partnerships?*



Built for What Comes Next

In 2036, Anytown has transformed in the face of disruption. The community uses anticipation and social cohesion as key resilience strategies.

Schools function as community hubs that support learning, health services, civic life and emergency response. Competency-based learning pathways, community educators, AI-enabled support systems and portable learning records enable learning to continue across other settings and during disruptions. After daily and civic life had become increasingly difficult over the past decade, Anytown decided to invest in rebuilding trust and relationships.

Climate disasters had brought extreme fire seasons, and broader economic instability had hollowed out the local economy. In response, many residents had moved away. Those who remained had struggled with political polarization until things got bad enough that the community began actively cultivating social cohesion across lines of difference. Joining forces to make Anytown more livable and revise its struggling education system led residents to shift focus from crisis response to anticipation. It also led the community to question traditional institutional boundaries. As a result of intentional reconfiguration, education is now seen as a shared, community-wide responsibility.



NAME
Howard Lopez

PRONOUNS
He/Him

AGE
67

OCCUPATION
Retired/Elder/Educator

BIOGRAPHY

Howard is a lifelong resident of Anytown. A former educator and changemaker who retired early, Howard finds himself back in the role of teacher as part of a Social Fabric Initiative. He is excited to be teaching again and to be experiencing many of the changes to education that he dreamt about when he first entered the profession. Howard is married; has one grown child and lives in the rural outskirts of Anytown with his wife, their dog and two cats.

Early Indicators of This Future

These signals of change point the way toward the future possibilities illustrated in this scenario:

- UNESCO's Futures Literacy Initiative works with communities, municipalities and civic organizations around the world to spread futures literacy so that people use insights about the future to act in the present
- The Indiana Microschool Collaborative is a network of tuition-free, public-charter microschools that offer highly personalized learning pathways and remain part of the public education system
- The Close Screens Open Minds campaign is a non-partisan, parent-led initiative that is pushing for comprehensive national standards on classroom technology and is pushing back on screen-first education approaches

A Day Through Howard's Eyes

Howard sits on his porch, coffee warming his hands as the morning sun cuts through a thin haze. He looks at his watch and smiles. In another hour, he will head into school to begin teaching for the day.

Ten years ago, he would never have imagined returning to the classroom. Like many experienced educators, Howard was pushed into early retirement when Anytown School District consolidated schools after years of budget strain. Repeated rebuilding after wildfire seasons, rising insurance costs and population decline caused by climate and economic migration had hollowed out local revenues for both the community and the school district. Student enrollment had dropped, schools had closed and neighborhoods had frayed. Like many others, Howard lost his job.

Howard remembers the 2020s vividly. Political polarization had reached a breaking point. Trust in institutions was low. People argued constantly about what was wrong but rarely agreed on what should happen. Many residents felt that policies had been imposed on them, not created with them. Disruptions had been accelerating, even as debates raged over whether some of them were even real. Finally, the disruptions became too large for anyone to ignore and too persistent for any single leader to solve alone.

In Anytown, things began to shift during the devastating fire season of 2028. Entire neighborhoods were displaced. Schools became shelters. Families who barely knew one another found themselves sharing meals, generators and temporary housing. Then came the closing of the battery factory, one of the town's main employers, followed by another unprecedented fire in 2030. The community was heartbroken, but amidst grief, people began gathering to ask difficult questions:

» "How do we want to live together? What kind of future are we building for our children?"

» "What should schools become in a world defined by disruption?"

» "How might we make our community a safe place for children and youth?"

Notice how Anytown's transformation helped the community respond more effectively to disruptions.

The conversations lasted months. They involved students, educators, business owners, elders, parents and caregivers, and local officials. The process was messy and emotional, but it produced something that Anytown had not experienced in years: a shared vision. Centrally, the community wanted young people to practice relationship-building, cooperation and mutual support, attributes essential to navigating continual disruption.

Many of the changes that followed grew from a simple realization: if resilience depended on relationships, then Anytown needed to invest directly in its social fabric. Across the country, communities grappling with their own challenges engaged in similar conversations as systems designed for a more stable era struggled to meet the challenges of a more volatile one. Communities began reimagining schools, local institutions and civic life itself, recognizing that thriving, not just surviving, would require transformation. What emerged was the beginning of something new: systems designed to adapt, learn and evolve alongside the people whom they served.

The state's government took notice. Drawing inspiration from Depression-era initiatives, it launched the Social Fabric Initiative, which enabled unemployed adults to spend several years working in trust-bearing and community-supporting roles while receiving a living wage. Some became learning guides, mentors and tutors. Others rebuilt infrastructure like roads, restored ecosystems, engaged in intentional forest management and wildfire recovery, planted urban forests, cared for elders or strengthened local emergency response networks. Building community was treated as essential work.

Schools changed too. The state implemented policies giving districts maximum flexibility to help them navigate disruption and serve learners. Competency-based assessment allowed learning to continue across settings and providers. Grade bands loosened, and seat time faded in importance. In Howard's first career, education had revolved around buildings, schedules and grade levels. Learning had happened inside the system. Now the education system can follow learning wherever it occurs and flow around disruptions.



Every student has a low-bandwidth learning ledger that documents mastery of competencies, along with projects, experiences and contributions. Teachers still support and validate learning, but so can community experts. Students move through personalized pathways that provide access to hands-on experiences. Learning is relevant to learners' interests and goals and broader societal needs. And when disruption strikes, the web of support surrounding each young person might strain, but it doesn't snap. A network of people and places provides backup.

Howard is excited to return to teaching now that it is so much more flexible and learner-centered.

Teachers remain central. They maintain consistent content instruction and cultivate relationships while applied learning happens beyond the school walls. But the role is no longer held exclusively by certified educators. Retirees like Howard teach alongside community experts like artists, tradespeople, researchers and entrepreneurs. Elders facilitate dialogue and conflict resolution. Even learners contribute specialized knowledge. AI handles many administrative and support functions, freeing adults to focus on coaching, relationship-building and learning.

Howard appreciates the help.

In preparation for returning to the classroom, he took part in a robust re-entry program. The program serves as an alternative certification program for prospective teachers and helps returning teachers brush up on their skills, including using AI systems to help design lessons and adapt materials and instruction to learners' needs.

While AI is leveraged as a tool, students spend far less time staring at screens than many experts predicted 20 years ago. After years of living through digital saturation, polarization and internet outages, Anytown and similar communities embraced hands-on projects, physical tools, local knowledge and shared experiences. That resulted in both deeper engagement and greater resilience, as students developed the confidence, practical skills and collaborative problem-solving abilities needed to help their communities thrive through disruption.

The physical design of schools reflects this focus. Anytown School District no longer relies on a handful of large campuses. Instead, it operates a distributed network of small learning sites that are woven throughout the community. Most students can walk or bike to a location near their home. Autonomous shuttles, e-bikes and community mobility systems fill the remaining transportation gaps.

The buildings use thermal mass, passive cooling, solar energy and repurposed electric-vehicle batteries to operate efficiently. Green zones surround every campus, creating protective buffers from wildfire risk and helping with heat mitigation while also serving as outdoor learning environments and food-producing landscapes.

The sites also function as third spaces for the community, acting as makerspaces, community kitchens, health clinics, gathering places and cultural centers when classes are not in session. Many service providers and civic groups share the buildings, making it possible for residents to access medical, support and career development services in one place. During emergencies, the sites rapidly transform into shelters, cooling centers, distribution hubs and recovery sites. Howard often thinks about how different this approach is from his earlier career, when schools were expected to solve enormous social problems with limited resources and coordination.

The district's approach to planning has changed dramatically too. Teams made up of district leaders, students, and families and caregivers routinely examine emerging risks, develop alternative futures and generate long-term implications. Instead of asking whether disruption will happen, they ask how the district will respond when it does.

A perfect example happened just last month.

District analysts detected signs of possible power grid instability and internet outages linked to unusually high regional data-center usage and energy consumption. Their AI agents observed escalating tensions among several student groups outside of school that could potentially turn violent. Meanwhile, digital safety teams detected signs that someone might release AI-generated deepfakes targeting staff members.

Twenty years ago, district leaders likely would have waited until problems erupted. This time, they got ahead of them. Several larger school facilities shifted into cooling centers, moving their students to other sites. District-supported mesh networks were activated across the community to ensure internet continuity. Teams of elders and guidance counselors met with students to address tensions before they escalated. AI agents identified and countered the deepfakes before they spread.

These actions didn't feel extraordinary. They simply reflected how the entire community now operates. Anytown School District had learned that resilience means taking action before a crisis fully arrives. It had transformed from a system perpetually recovering from disruption into a system built for it.

Howard finishes his coffee and glances at the time. Soon he will meet with today's learners. Some are studying climate adaptation. Others are designing neighborhood mobility systems. One group is helping restore a nearby watershed. Another group is documenting oral histories from residents who lived through the turbulent decades that reshaped Anytown. It feels good to work in a system that's based on trust, one where relationships take center stage and people face the uncertain future together.

Navigating Disruption in This Scenario

This scenario illustrated the fundamental dynamics of the transformation archetype. This list shows how disruption was navigated in this future:

- In this scenario, Anytown's transformation was guided by a shared vision, which helped the community and education providers co-design responses to disruption with intention and in ways that speak to the region's unique context. Investing in the work of creating a shared vision gave Anytown a screen for evaluating possible responses to disruption and other changes.
- The trust built from authentic relationships was an important part of Anytown's resilience strategy. It allowed for deep partnerships and served as a key ingredient for transformative change across the community and in Anytown's approach to education, helping the residents respond with intention.
- Anytown and its school district implemented solutions that meet multiple, interconnected needs. Adopting personalized, competency-based learning boosted engagement and relevance. It also provided flexibility and nimbleness to foster learning across a range of environments, even amidst disruption. In addition, school buildings housed multiple providers and were networked so that they did not all have to offer the same services and there was some redundancy in operations when certain buildings closed.

Reflect

- *Which aspects of Anytown's approach to resilience would create the greatest benefits for learners?*
- *Which might generate new challenges?*

Exercising Agency

As reflected in the scenarios, the new normal being created by persistent disruption will require different thinking and approaches than have been common in education.

As they work to strengthen resilience, education leaders and other constituents must remember that, even when they may not have power or control, they do have agency. Part of that agency lies in anticipating and preparing for possible disruptions and their impacts. Another part of that agency involves accepting the limits of anticipation and preparation while committing to responding to disruptions in new ways.

The need to rethink disruption responses and reimagine education systems for the emerging landscape presents both challenge and opportunity. Instead of searching for perfect solutions, education leaders will need to identify options with manageable trade-offs as they work through the disruption response cycle. They will also need to accept the impossibility of anticipating every challenge. While anticipation can help leaders identify emerging risks, some disruptions will emerge unexpectedly, requiring adaptation in real time. In such moments, leaders may be forced to make difficult decisions with incomplete information and competing priorities. However, if they have planned for possible ways of addressing anticipated disruptions and have practiced using the disruption principles, they will have a strong foundation for making informed decisions and responding thoughtfully to an increasingly uncertain and unpredictable future.

To explore ways of navigating disruption in your context, continue to the next section.

Expanding the Disruption Toolbox for Education Leaders

This paper makes the case that education leaders should expand their disruption toolbox by spending time anticipating and preparing for disruption, applying guiding principles and reflecting on their experiences after disruption occurs.

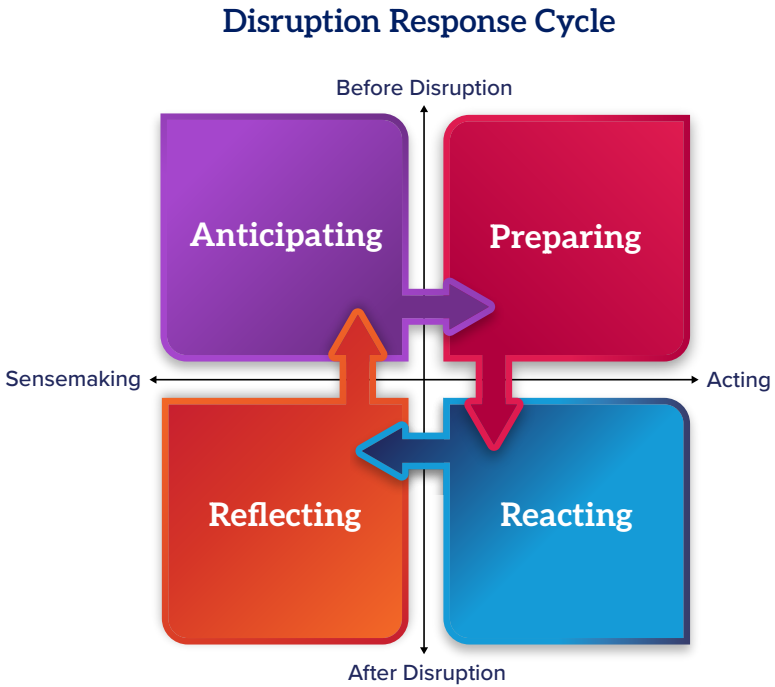
The three scenarios highlight ways in which a fictional community might navigate disruption, with varying degrees of intentionality and success. This section provides guidance on how to apply the disruption toolbox in your context.

The exercises that follow are meant to support you in anticipating, preparing for, reacting to and reflecting on possible or past disruptions that seem relevant to the education systems or approaches you lead. Pick where to start based on where you are in the disruption response cycle.

» If you are thinking ahead to future disruptions, begin with the exercises for "Anticipating" and "Preparing," which support each other and should be completed in sequence

» If you are facing a current or past disruption, begin with "Reflecting"

As you work through the relevant exercise(s), use ideas and insights from the scenarios to support thinking about how you might navigate disruption in your community.



Exercise 1: Anticipating Before Disruption

Even though the increasing rate of change and resulting uncertainty can make it hard to anticipate disruptions, it is possible to identify current developments that could lead to them. This exercise, which uses the STEEP framework with the additional category of education, will prompt you to do that in your context. You will notice trends, identify possible tipping points where those trends might become disruptions, identify possible disruptive events and consider impacts that those disruptions and events might have on everything from day-to-day operations to approaches to teaching and learning.

1. Notice trends

This step will help you recognize changes underway that might eventually lead to disruption. Your output will be a short list of trends that could be important for your context.

a. Review the "STEEPEd Trends" table and select a few trends that seem relevant to your context. The chart outlines trends across core domains – society, technology, the economy, the environment, politics and education – that seem to be gaining momentum.

b. Generate a list of other changes that have been increasing or decreasing over time. Ask yourself:

   i. What's increasing?

   ii. What's decreasing?

   iii. What new issues are people talking about?

2. Identify possible tipping points

This step will help you recognize how the trends that you highlighted might become disruptions. Your output will be a list of possible disruptions that could emerge from relevant trends.

a. Select one STEEPEd trend from the "Notice Trends" step of this activity, either one from the chart or one that you generated.

b. Consider what might tip that trend to disrupt daily life, operations or plans. Ask yourself:

   i. Has this trend already caused disruption? If so, what kind and what did we do about it?

   ii. What might push this trend toward becoming a disruption to which we would have to respond?

c. Consolidate your thinking into a list of disruptions that might emerge from your selected trend.

d. Repeat with additional STEEPEd trends as useful.

STEEPEd Trends

Social

- Increasing rates of sickness and disease
- Increasing backlash against AI
- Increase in aging of the U.S. population
- Decline in mental health
- Decrease in trust and confidence in institutions

Technological

- Increase in the rate at which digital technologies advance
- Increasing consolidation and siloing of media
- Increase in cyber crime
- Increased use of robotics and AI in the workplace

Environmental

- Increasing cost of disaster recovery
- Increasing use of water reserves
- Increase in crossing of major climate thresholds
- Increased interest in and adoption of sustainability practices
- Increase in climate migration

Economic

- Decrease in federal funding for education
- Increased unpredictability of state budgets and tax revenues
- Increase in federal debt
- Decrease in hiring for entry-level jobs
- Increase in household debt

Political

- Increase in political polarization
- Decrease in independence of federal agenesis
- Decrease in federal environmental regulations
- Decrease in federal tracking of key climate indicators
- Increase in political violence

Educational

- Increase in school closures
- Increase of enrollments in alternatives to traditional public education
- Increase in school districts investing in safety measures
- Increase in debt held by school districts
- Increasing adoption of policies that support personalized learning
- Decreased reliance on high stakes, summative testing by states

3. Identify possible disruptive events

This step will help you consider disruptive events that might occur in your context. Your output will be a list of possible disruptive events.

a. Select one STEEPEd category.

b. Consider possible events that could take place in that category beyond the simple continuation or acceleration of trends. Ask yourself:

   i. What sudden shifts might happen in this category? Write each event as a news headline.

   ii. How might this trend collide with another one to cause a disruption? What might happen if those trends began to interact more closely or to reinforce each other?

   iii. What types of events have been very disruptive in the past? What analogous future events might occur?

c. Consolidate your thinking into a list of possible disruptive events.

d. Repeat with additional STEEPEd categories as useful.

4. Consider impacts

This step will help you think through the possible consequences of one or more of the disruptions that you identified. Your output will be a list of possible impacts.

a. Select one tipping point or disruptive event from steps two and three.

b. Consider what consequences and effects it might have on daily life, operations and plans. Ask yourself:

   i. How might this disruption affect day-to-day life for learners, leaders, community members and educators?

   ii. How might this disruption affect staffing?

   iii. How might this disruption affect physical and digital infrastructure?

   iv. How might this disruption affect approaches to teaching and learning?

   v. How might this disruption affect approaches to assessment?

   vi. What other aspects of the learning community might this disruption impact?

c. Consolidate your thinking into a list of relevant impacts of that disruption.

d. Repeat with additional tipping points or disruptive events as useful.

Exercise 2: Preparing Before Disruption

Even when leaders and education systems anticipate disruption, no learning community can prepare for every possible disruption. This exercise will help you narrow down the lists of possible disruptions and their impacts you generated in the "Anticipating" exercise, prioritizing a few toward which to devote attention and resources today. You will select disruptions on which to focus, prototype strategies for preparing for them, screen those strategies against the principles for navigating disruption and adjust plans and implement new ideas accordingly.

1. Select disruptions

This step will help you prioritize the disruptions that you identified. Your output will be a short list of disruptions or possible impacts that need attention or resources today.

a. Review the tipping points, disruptive events and possible impacts that you generated in the last exercise. Ask yourself:
   i. Which disruptions or possible impacts could we prepare for simultaneously?
   ii. Which disruptions or possible impacts would be most deeply felt by members of our community?
   iii. Which disruptions or possible impacts do we have some resources to address but might benefit from additional resources or partnership?
   iv. Which disruptions or possible impacts would get in the way of our ability to achieve our vision?
   v. Which disruptions or possible impacts might open opportunities or possibilities?

b. Consolidate your thinking into a list of a few disruptions or possible impacts that seem to need relatively great attention and preparation.

2. Prototype strategies

This step will help you design strategies to begin preparing for the disruptions that you selected. Your output will be one or more prototypes of strategies that you might put in place.

a. After narrowing down your list of disruptions and possible impacts, choose one to focus on for now. Generate many possible ideas for how you might respond to that disruption or address a specific impact of it. To develop those ideas, ask yourself:
   i. What strategies could enable us to keep working toward our vision even if this disruption or impact occurred?
   ii. What strategies might enable us to continue to serve our community if multiple disruptions or impacts occurred at once?
   iii. What strategies might enable us to build authentic relationships with partners who have complementary strengths and assets?
   iv. What strategies might enable us to increase our understanding of our community's needs related to this possible disruption or impact?

b. Select the strategies that seem most compelling.

c. Create prototypes of those strategies to refine the ideas.

d. Repeat for more possible disruptions as useful.

3. Screen strategies

This step will help you recognize whether your prototyped strategies align with the "Principles for Navigating Disruption." *Your output will be a refined set of strategy prototypes.*

a. Review your strategies from the "Prototype Strategies" step alongside the principles for navigating disruption listed below.

b. Ask yourself:

   i. How are the principles appearing in our proposed strategies?

   ii. Could any of the strategies be adjusted to reflect the principles more fully?

   iii. What additional strategies do the principles suggest?

c. Refine your prototypes as necessary or create a new prototype for any additional strategies that you generated.

4. Adjust plans or implement ideas

This step will help you consider how you might adjust existing plans or implement new ideas as a result of completing these exercises. Your output will be a list of ways to adjust your existing strategic or operational plans or ideas to test.

a. Select one or two strategies that you prototyped and screened. Ask yourself:

   i. What aspect of this solution could we do now? What should we do now?

   ii. What aspect of this solution could we do soon? What should we plan to do soon?

   iii. What might we start in a small way to test and learn?

b. Select actions from among your responses to those questions, based on feasibility and shared belief in the action's ability to address the chosen disruption.

c. Adjust your existing strategic or operational plans or begin to test the strategies.

Principles for Navigating Disruption

Respond with intention
instead of
reacting from fear

Nurture authentic relationships and networks
instead of
accumulating transactional connections

Plan for place
instead of
applying generic best practices

Address multiple, interconnected needs
instead of
solving isolated problems

Codesign alongside lived experts
instead of
controlling through hierarchy

Protect necessary safeguards
instead of
prioritizing short-term efficiency above all

Exercise 3: Reacting After Disruption

Every disruption will bring unexpected impacts, even to communities with robust anticipation and preparation practices. This exercise will help you in the immediate aftermath of disruption. It involves a single step: keeping the "Principles for Navigating Disruption" in mind as you make decisions in a rapidly evolving environment.

1. Keep the "Principles for Navigating Disruption" in mind

This step will help you use the "Principles for Navigating Disruption*," even in urgent situations. Your output will be adjustments to your immediate reactions to disruption.*

a. Revisit the "Principles for Navigating Disruption" whenever you can, ideally with others who are helping make immediate decisions.

b. Ask yourself:
   i. How are the principles appearing in our proposed actions?
   ii. Can any actions be adjusted to more fully reflect those principles?
   iii. What additional actions do the principles suggest?

Principles for Navigating Disruption

Respond with intention
instead of
reacting from fear

Nurture authentic relationships and networks
instead of
accumulating transactional connections

Plan for place
instead of
applying generic best practices

Address multiple, interconnected needs
instead of
solving isolated problems

Codesign alongside lived experts
instead of
controlling through hierarchy

Protect necessary safeguards
instead of
prioritizing short-term efficiency above all

Exercise 4: Reflecting After Disruption

Since disruptions inevitably bring surprise, learning from experience is a key skill in navigating them. This exercise will help you take stock of a disruption after it occurs and incorporate learning into preparing for the next one. You will reflect on what happened before and when the disruption occurred; take stock of its ongoing effects; and once again prototype, screen and adjust plans to manage those ongoing effects.

1. Reflect on the lead-up and response to the disruption

This step will help you revisit whether and how a disruption might have been anticipated, not for accountability but for learning. Your output will be lessons to consider as you anticipate the next disruption.

a. Reflect on what leaders considered, knew and prepared for before the disruption occurred. Involve as many different perspectives from people at every level of the system as possible.

b. Consider what signals of change – or early indicators of the future – might have existed and how future signals of change might be incorporated into anticipation and planning.

c. Consider the disruption response. Ask yourself:

   i. What worked well? What didn't work as well?

   ii. How equitably were people's immediate needs met? Was anyone left out of the response? If so, why?

   iii. In what ways did the principles for navigating disruption show up (or not) in the response?

d. Consolidate your thinking into lessons to consider and incorporate into future plans.

2. Take stock of the disruption's ongoing effects

This step will help you identify what effects beyond the immediate ones might emerge from a disruption. Your output will be a list of ongoing or still-emerging effects of a past disruption.

a. Consider what else is happening or might happen as a result of the disruption. Ask yourself:

   i. How might this disruption affect our ability to achieve our vision in the long term?

   ii. What new opportunities, challenges or issues might this disruption bring about, beyond its immediate impact?

   iii. Who else is addressing this disruption and how? In what ways might we work together?

   iv. What might help people recover and rebound long term?

b. Consolidate your thinking into a list of ongoing or possible effects that need attention.

3. Revisit prototyping

This step will help you design strategies to address or prepare for one effect of the disruption that you experienced. Your output will be one or more prototypes of strategies that you might put in place.

a. After considering the ongoing or possible effects of the disruption, choose one to focus on for now. Generate many possible ideas for how you might respond. To develop those ideas, ask yourself:
   i. What strategies could enable us to keep working toward our vision, even in light of this effect?
   ii. What strategies might enable us to address this effect of the disruption and meet other needs simultaneously?
   iii. What strategies might enable us to build authentic relationships with partners who have complementary strengths and assets?
   iv. What strategies might enable us to better understand our community's needs related to this effect of the disruption?

b. Select the strategies that seem most compelling.

c. Create prototypes of those strategies to refine the ideas.

d. Repeat for more possible effects as useful.

4. Revisit screening

This step will help you recognize whether your prototyped strategies align with the "Principles for Navigating Disruption." *Your output will be a refined set of strategy prototypes.*

a. Review your strategies from the "Revisit prototyping" step alongside the principles for navigating disruption.

b. Ask yourself:
   i. How are the principles appearing in our proposed strategies?
   ii. Can any strategies be adjusted to reflect those principles more fully?
   iii. What additional strategies do the principles suggest?

c. Refine your prototypes as necessary or create a new prototype for any additional strategies that you generated.

Principles for Navigating Disruption

Respond with intention
instead of
reacting from fear

Nurture authentic relationships and networks
instead of
accumulating transactional connections

Plan for place
instead of
applying generic best practices

Address multiple, interconnected needs
instead of
solving isolated problems

Codesign alongside lived experts
instead of
controlling through hierarchy

Protect necessary safeguards
instead of
prioritizing short-term efficiency above all

5. Revisit adjusting plans

This step will help you consider how you might adjust existing plans or implement new ideas as a result of completing these exercises. Your output will be a list of ways to adjust your existing strategic or operational plans or ideas to test.

a. Select one or two strategies that you prototyped and screened. Ask yourself:
   i. What aspect of this strategy could we do now? What should we do now?
   ii. What aspect of this strategy could we do soon? What should we plan to do soon?
   iii. What might we start in a small way to test and learn?

b. Select actions from among your responses to those questions, based on feasibility and shared belief in the action's ability to address the chosen disruption.

c. Adjust your existing strategic or operational plans or begin to test the strategies.

Iterating with the Disruption Toolbox

Navigating disruption is an iterative, cyclical practice, not a set of steps to take once. Establishing collective habits of anticipation, preparation and reflection will enable leaders and communities to exert agency in situations where much remains outside any individual's control.

Further Reading

A growing body of research, frameworks and professional disciplines can help leaders better understand, anticipate and respond to disruption. These resources offer useful perspectives for building resilience, improving decision-making in the face of uncertainty and preparing for a range of possible futures.

Actuarial Science

Actuarial science uses mathematics, statistics and data analysis to assess risk and uncertainty. While often associated with insurance and finance, actuarial approaches are increasingly being applied to climate risk, infrastructure planning, demographic change and long-term scenario modeling.

Antifragility

Popularized by Nassim Nicholas Taleb, the concept of antifragility encourages leaders to design organizations and systems that learn, adapt and become stronger through uncertainty. It suggests that, while resilient systems withstand shocks, antifragile systems improve because of volatility, stress and disruption.

BANI (Brittle, Anxious, Nonlinear, Incomprehensible)

Developed by futurist Jamais Cascio, the BANI framework offers a lens for understanding a world in which systems can fail suddenly, uncertainty creates anxiety, cause-and-effect relationships can become non-linear and events can feel difficult to comprehend. This framework emphasizes resilience, empathy, adaptability and sense-making.

Emergency Preparedness and Crisis Management

Emergency preparedness and crisis management focus on planning for disasters, crises and unexpected disruptions before they occur and recovering from them after they happen. These disciplines help organizations and communities develop response, recovery and continuity strategies that reduce vulnerability during periods of disruption.

Risk Management

Risk management provides structured approaches for identifying, assessing, prioritizing and mitigating potential threats. It is widely used across business, government, healthcare and education to improve preparedness and organizational resilience.

Sustainability and Resilience Planning

Sustainability planning helps communities and organizations balance environmental, social and economic considerations over the long term, while resilience planning helps communities and organizations prepare for, withstand and quickly recover from disasters and other sudden shocks. Sustainability planning is increasingly being integrated with resilience planning to help communities withstand and recover from climate, economic and social disruptions.

Transition Design

Developed at Carnegie Mellon University and inspired by the Transition Town movement, transition design helps communities and organizations navigate complex challenges by envisioning desirable long-term futures and creating coordinated interventions that support systemic change. This approach emphasizes systems thinking, participation, adaptability and intentional transitions toward more resilient and regenerative futures.

VUCA (Volatility, Uncertainty, Complexity, Ambiguity)

Originally developed by the U.S. Army War College, VUCA describes environments characterized by rapid change, immense uncertainty, interconnected challenges and ambiguous conditions. This framework encourages adaptive leadership, strategic awareness and flexible decision-making.

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