

DESIGNING

THE FUTURE OF LEARNING

**Unthink school to
rethink learning**

"He who has not first laid his foundations may be able with great ability to lay them afterwards, but they will be laid with trouble to the architect and danger to the building."

– Niccolo Machiavelli, *The Prince*

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INTRODUCTION

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Whether you're an active parent, an educator, an elected official, an industry professional or a casual observer, we all recognize that the world is changing. Rapidly. And in ways that are having – and will continue to have – increasingly significant impacts on how we define and engage in the work of preparing our young people for the future that awaits them. The ground is shifting beneath our feet and it's **one of the most exciting and important transitions of our era.**

In the world of “education,” we are currently witnessing an epic collision of many trends, including among others:

- explosive growth in technology;
- shifting policy environments;
- major leaps in the learning sciences;
- the drive toward personalization;
- economic pressure on our traditional delivery model; and
- widespread dissatisfaction with the status quo.

In short, **we're all sitting on a fragile fault line and something's gotta give.** To reprise a classic cliché, this truly is a moment of great opportunity and great risk.

We now have a legitimate opportunity, not just to reform the education system as has been attempted for decades, but to **fundamentally transform it.** Rather than merely adding or removing a single policy or programmatic element at a time, we have an opportunity to remake the entire system. This effort can yield a robust, connected learning ecosystem that rethinks the structure and purpose of the factory model of schooling that we've perpetuated for more than a hundred years. The risk is that we might miss, or squander, this opportunity.

Because our existing system is crumbling under its own weight, we believe significant change is inevitable. How we respond to this moment – that is, the choices and decisions we make in the next few years within the broader transition that will play out over the coming 10 to 15 years – will shape the trajectory of the new system(s) that get developed. The tectonic plates are shifting. **We need the new, technologically-sophisticated approaches for future generations of students, but we must remember that they are being built on violently shifting terrain.**

Words like “innovate” and “transform” and “disrupt” have gained currency in recent years,



echoes our own ways of thinking and experiencing change. The shifting landmasses they need to cross to reach the newborns parallel our own striving toward the future of learning. We must move forward, improving the system we have while simultaneously working to invent a new system capable of better supporting and transporting our youth to the future. Throughout this journey of transformation, amid the chaos and tumult, there will be some who shout at the herd: “Come on, follow us. We know the way!” And they may, but we’re not always so sure. **Either way, there are many pathways, each of which is relevant to the mass migration that’s now underway.**

Over the past few years, 2Revolutions (2Rev) has developed a **Future of Learning Framework**, which we use to map and make sense of this transition from education to learning. One part philosophy and one part taxonomy, it is constantly evolving and comprised of our research and experiences and those of colleagues across the field, which we continually work to integrate into an organized whole. We try not to jump to familiar conclusions. We’re working to build a big tent, where each perspective and experience is welcome and viewed as potentially part of the solution we need. Throughout our work we define the terms we use, which we find increases our ability to engage partners in sustained dialogue without getting confused by language along the way.

The goal of this paper is not to assert one perspective, or to suggest that it is more or less right than other ways of looking at the problem. **Instead, we offer our Framework openly¹, with the hope that it can be helpful to those who also are seeking to navigate the rocky path toward the Future of Learning – and that it will increase our ability to collaborate more effectively with one another along the way.** Like the Future of Learning itself, it is very much a work in progress and we look forward to improving it as we go, based on dialogue and feedback, and informed by lessons from implementation.

but they often tend to oversimplify or romanticize the process. “Here” is old and tired and bad; “there” is new and shiny and better. There is lots of existing evidence-based practice that is currently working that needs to be continued. But **getting from here to there is the hard part.** Disruption is disruptive. Transformation often happens to people. And yet, we must strive in this direction. This tricky dynamic reminds us of a snippet of dialogue from the recent animated movie *Ice Age 3: Dawn of the Dinosaurs*, in which the main characters are navigating a dangerous path along colliding landmasses:

(Character A) “You got all that from the tracks?”

(Character B) No. Not really. I saw them come through here earlier. She’s headed for Lava Falls. That’s where they care for the newborns. To get there, you’ve got to go through the Jungle of Misery, across the Chasm of Death to the Plates of Woe.

(Character A) Okay! Good luck with the slow descent into madness.”

In many ways, the characters’ conversation

what is 2Rev?

2Revolutions is a design lab that designs, launches and supports Future of Learning models and helps catalyze the conditions within which they can thrive.

We apply a design-inspired, action-oriented approach to each of our projects. We are currently collaborating with a range of forward-thinking state and local governments, funders, not-for-profits and entrepreneurs to build or accelerate the Future of Learning.

In addition to our core work, our tagline “Do What You Love, For Good” captures the culture we’re building at 2Rev. We are passionate about helping to fix what’s broken with the way we educate kids in this country, but we also want to enjoy the work we do. After all, we believe that happy people are smarter, more creative and more productive.

2

MIRED IN THE STATUS QUO

photo
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Education remains among the most critical issues that will define America's future. We're making progress, but after decades of significant reform efforts, most would agree that incremental changes are not moving the system forward quickly enough – and in the nearly 30 years since *A Nation at Risk*, we have almost doubled education expenditures on the K-12 system for only marginally better outcomes. Furthermore, between the present fiscal environment within cities and states, and our quickly evolving global economic landscape, the correlation between U.S. economic competitiveness and innovation in PK-16 education has never been stronger. It is no longer possible to ignore that our knowledge economy will not wait for students who are not prepared to identify and capture the opportunities that are available

today, or who lack the transferable skills to compete for tomorrow's opportunities that have not yet been created.

Because our current standards-based curricula and the use of traditional teaching methods leave too many students bored and disengaged, we need more dynamic approaches to shift the century-old factory model of school. Some relevant themes in this crisis include:

- The **technology revolution has had only minimal impact on the classroom**, with computers used as an appendage to teacher-focused instruction, if at all. This approach fails to meet the needs of today's increasingly diverse and tech-savvy students – many of whom feel they have to “power down” when they come to school;
- By and large, **students are still treated like widgets**. Despite efforts aimed at *differentiation*, most education happens to students, where their ability to help drive their own learning based on interests, preferences and motivations is largely constrained by a one-size-fits-all approach to learning;

*"One day everything will be well, that is our hope.
Everything's fine today, that is our illusion."*

– Voltaire



"Interesting philosophy is rarely an examination of the pros and cons of a thesis. Usually it is, implicitly or explicitly, a contest between an entrenched vocabulary which has become a nuisance and a half-formed new vocabulary which vaguely promises great things."

– Richard Rorty, American Philosopher
from *Contingency, Irony and Solidarity*

- This **traditional model also fails adults** in the system. Teachers and administrators are hard-pressed to meet continually higher performance standards with less flexibility, while dealing with the challenges of increasingly high-need student populations and mounting fiscal pressures. Teaching is often a thankless job that is becoming more difficult each year. Meanwhile, new approaches and technology tools that might make practitioners' jobs more efficient and more enjoyable remain just out of reach for most;
- At the same time, the **definition and role of teacher has remained largely static** for the past century. The focus on teaching has been at the center of the school model, with other core parts of school arrayed around the teacher. This is neither sustainable, nor good for today's students or educators; and
- The **factory school model may (finally!) be reaching its breaking point**, making it possible to – we'd argue demanding that we – rethink how we define and structure the new system's assets and resources around students' learning.

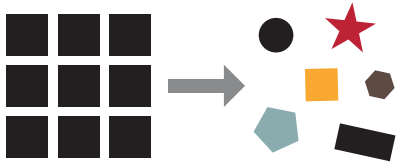
For at least a generation, a majority of diverse stakeholders – including students, parents, elected officials, educational leaders and others – have been ready to say “no” to our current education model, but we have not yet invented the new models to which we can all say “yes.” The pressure is mounting. In order to close the achievement gap and prepare all students for success in college, career and the 21st century challenges that await them, **a radically different approach is needed.**

This is where the Future of Learning comes in.

description

Perhaps the most important theme that emerges from this complexity is that, first and foremost, the Future of Learning puts learners at the center. It begins with this question: What is best for students, rather than for adults? More than a simple rehash of familiar learner-centered rhetoric, this idea encourages a fundamental redesign of the learning process and the learning structures that enable it. Student learning becomes the constant and all other variables shift to support and enable it. As more educators and policymakers continue to adopt this perspective, the current model of education is increasingly being turned on its head.

The federal government's call for district-level personalization strategies, Race to the Top- Districts (RTT-D), will accelerate this push, but important definitional questions remain. For example, will the field evolve toward a technology-enabled vision of personalization favored by many, or toward a focus on "deeper" learning as championed by others, or perhaps toward a more student-led, interest-driven approach? The reality is that each of these themes is central and will be integrated and reconciled over the coming years through the prototyping of new models.



1

Drive Toward Personalization

perspectives

Students will

- Have more learning experiences that are designed specifically for them, based on their unique learning needs and interests.
- Be empowered and encouraged to decide which learning approaches work best for them.

Educators will

- Manage the learning program for individual students.
- Shift from primarily delivering content to a broader and differentiated set of responsibilities.
- Need to partner with one another – as well as families, policymakers and entrepreneurs – to identify which approaches work best for learners.
- Send a clear signal to school, district and state leaders regarding what supports they need to be successful in this new paradigm.

Families will

- Need to become even more informed advocates on behalf of their children.
- Be the ultimate arbiters of success of these new approaches and how quickly the existing education system can adopt them.

Entrepreneurs will

- Need to partner closely with educators to develop approaches that better meet students' and educators' needs.
- Have the opportunity to dramatically reshape America's learning landscape with new learning tools and supports for both students and educators.

Policymakers will

- Need to evolve quickly to promote – or at least enable – the policy conditions that will allow personalization strategies to be pursued and, when successful, scaled to more locations.
- Rethink budgets so that dollars follow students to better meet their unique needs.

data points

- The U.S. Department of Education received the intent to submit RTT-D applications from 893 districts nationwide – many of whom will pursue their visions even if they do not win.
- Nationally, there are a growing number of efforts to experiment with learning models that are: personalized, game-inspired, deeper, competency-based, etc.

description

Recent years have seen increased acceptance of technology as part of student-facing and back-end solutions, with significant shifts in notions of what is possible. With that has come an exponential increase in technology adoption. “Blended” learning efforts – which strive to creatively marry the best of in-person, bricks-and-mortar learning with the best of online, technology-enabled learning – have both contributed to and benefitted from this wave. While not the sole solution we need, experimentation with these learning models has enabled a significant infusion of interest, energy and risk capital to the market. We still have important work to do, but new, more integrative solutions are now possible for the first time – a trend that we expect to accelerate significantly moving forward. As it does, we will become smarter about how to deploy technology in ways that reinforce and enrich student learning.

data points

- Number of students taking an online course grew from 80,000 in 2000 to more than 3 million in 2009.ⁱ
- Gartner reports that 1.2 billion tablets and smartphones will be sold worldwide in 2013.ⁱⁱ
- Proliferation of Massive Open Online Courses (MOOCs) in higher education, as evidenced by edX’s 370,000 students and Coursera’s 1.7 million students respectively registered in Fall 2012.ⁱⁱⁱ
- In 2011, transactions in K-12 education climbed to \$389 million, which is up from a low point of \$13 million in 2005 and more than three times the investment in the sector in 2010.^{iv}
- Emergence of ed tech incubators – like Silicon Valley-based **Imagine K12**, **Socratic Labs** and the **Center for Educational Technology**’s – point to increased interest in the space.



2

Explosive Growth in Technology

perspectives

Students will

- Have opportunities to learn via multiple learning modalities, including:
 - individually, in small groups or large groups
 - via lecture, project-based, game-based or other pedagogical approaches
 - synchronously or asynchronously
 - in person, online, or in blended/learning lab environments
 - via a broad array of mobile, tech-enabled devices that instantly generate usable data to inform student learning
- Have access to a broad array of content that supports knowledge acquisition through remediation, reinforcement or enrichment and adapts to their needs based on demonstrated performance.

Educators will

- Have efficient access to reliable data that isolates areas where individuals or groups of students are struggling and need more support.
- Leverage an array of other technology tools that enable them to be either faster and/or better at some aspects of their jobs.
- More seamlessly connect with other educators in their schools and around the country, in order to collaborate and improve their practice.

Families will

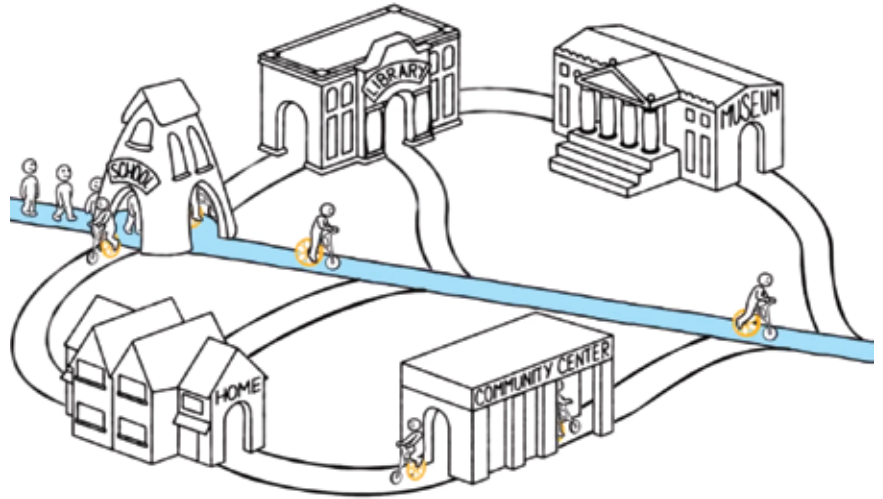
- Better understand each child’s relative strengths and growth areas, and what they can do to support them.
- Be able to communicate more seamlessly with educators.
- Have access to an array of content to help supplement their child’s learning experience.

Entrepreneurs will

- Work directly with educators to better understand what tools they need to be more effective with students.
- Better understand how their innovations can actually find their way into learning environments for use by students, educators and other key stakeholders.

description

It used to be that school was *the* place and 8 a.m. to 3 p.m. was *the* time for learning. This is changing, as an array of external entities create more high-quality learning opportunities. In the future, we will see increased permeability between formal and informal learning. Student interest will drive this transformation and it will be enabled by technology and an array of learning providers. These experiences will be assembled in different ways that constitute a student's unique learning plan, with a range of assessments and the ability to simultaneously push a student's learning and their educational progress forward.



data points

- Hive Learning Networks – which aggregate the learning assets and resources from non-school cultural institutions, such as museums and libraries – are established in New York City, Chicago and a growing number of communities nationwide.
- Badging efforts, which recognize student attainment of a range of academic and non-academic knowledge and skills, are quickly emerging in the market.
- **Strive** has built “cradle to career” civic infrastructure in seven communities, with a goal of 25 communities by 2015. Already focused on K-14/16 education as a core part of its strategy, these communities are well-positioned to pursue robust learning ecosystem approaches.

3

An Ecosystem of Learning

perspectives

Students will

- Not experience “school” as the only place where learning happens.
- Be supported by a range of adults in different roles, both in and out of formal and informal learning environments.
- Learn in an array of environments, including but not limited to schools, community centers, libraries, businesses, museums and at home.

Families will

- Have access to better tools and information about out-of-school learning experiences that may be available to their child.
- Be better able to foster and support their child’s interests as something core to his or her learning, rather than supplemental.

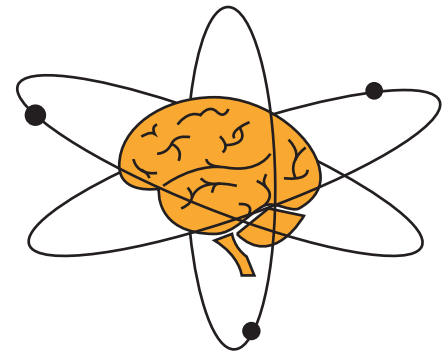
Policy makers will

- Need to keep pace to create policy conditions that enable increased experimentation with ecosystem-level approaches for marrying formal and informal learning, and how those learning opportunities translate into educational progress for students.

description

Every day, we discover more about how learning actually occurs. Rather than drawing only on traditional education research, the learning sciences focus on cognitive-psychological, social-psychological and cultural-psychological foundations of human learning, as well as on the design of learning environments. It also weaves in lessons from cognitive science, computer science, educational psychology, anthropology and applied linguistics. Over the past decade, researchers have deepened their knowledge of the learning sciences and expanded their focus to the design of curricula, informal learning environments, instructional methods and policy innovations – each of which opens new avenues for exploration with respect to supporting individuals or groups of learners, or the creation of new tools to help educators facilitate unique learning pathways for students.

The rise and deepening sophistication of artificial intelligence (AI) is another relevant factor to consider in our growing understanding of how we learn. This ranges from enhancements in adaptive software all the way to technological singularity, which explores the theoretical emergence of greater-than-human super-intelligence through technological means. This continuum will continue to inform and deepen how we understand and enhance student learning at all levels of our education system.



data points

- Neuroscience research has long suggested that each student has a unique profile of strengths and limitations, and a student's ability in one domain does not predict his or her ability in another^v, but new approaches underscore the need for multiple pathways to core knowledge.^{vi}
- A recent publication as part of OECD's Innovative Learning Environments project illustrates how the learning sciences can inform the design of 21st century learning environments. For example, in today's dominant socio-constructivist concept, learning is understood to be importantly shaped by the context in which it is situated, and is actively constructed through social negotiation with others. Similarly, we are gaining deeper understanding of the critical role of emotions and motivation as "gatekeepers of learning."^{vii}

4

Advances in the Science of Learning

perspectives

Students will

- Be the owner – and, increasingly the manager – of their own Individual Learning Plans, which are online portfolios of their interests, preferences, motivations, learning styles and measurable progress against clearly-articulated learning goals.

Educators will

- Be trained to better understand how children learn, resulting in mixed modalities and different support structures.
- Increasingly leverage AI and immersive learning experiences to deepen student learning.
- Shift to manage learning progressions and assemble learning pathways as a primary part of their teaching efforts.

Researchers will

- Develop models that help us better understand which learning pathways or interventions are most successful for which students under what circumstances.
- Help us to better understand which factors matter most when implementing new learning programs.

Policymakers will

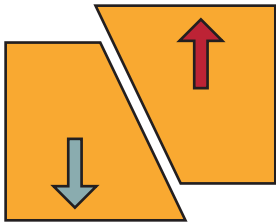
- Need to move as quickly as possible to keep pace with the development of these insights.
- Need to leverage an increasing body of research from the learning sciences to shift how and where students learn.

description

Nationally, efforts like Race to the Top (both state and district), i3 and the push toward Common Core State Standards strive to support increased experimentation with new approaches and accelerate the move toward reliance on research-based practices or more innovation-oriented policies. With these transitions, we now see policy environments that are shifting their orientation from compliance to support.

data points

- Individual states, including Colorado, Kentucky, Massachusetts and New Hampshire, have passed forward-thinking legislation to enable 21st century learning structures and practices.
- A growing number of districts are actively experimenting with strategies to test large-scale experimentation with learning structures, tools and/or practices.
- Thirty-seven states and the District of Columbia have applied for a waiver from No Child Left Behind.^{viii}
- Growth in departments of innovation within states and districts, the development of new procurement efforts that rethink traditional procurement practices and the development of new student-centered funding models are additional promising policy trends we all should keep an eye on.



5

Shifting Policy Environments

perspectives

Families will

- Enjoy increased choice in the educational options available to their child.

Educators will

- Enjoy a career ladder that is much more diversified, rewards them for their effectiveness and inspires them to continue to work creatively in support of student learning.

Policymakers will

- Adopt new policies that broaden (or re-think entirely):
 - The definition of “school”
 - How time is organized
 - What qualifies as evidence of learning of knowledge, skills and competencies
 - The definition of teachers’ roles
 - What learning activities are deserving of “credit”
- Promote and reward a culture of experimentation in schools and other learning environments.

description

Given the link between education and economic competitiveness, coupled with a widespread fiscal crisis, states and municipalities are increasingly being asked to do more with less. In our experience, we have not yet seen this pressure impact the design of learning models as fully as one would anticipate, though we expect this trend to accelerate. With more pressure on public resources, we believe there is an opportunity for private markets and different mechanisms to creatively support learning more broadly.

data points

- Many districts are struggling year in year out with rising benefit costs and static or fewer resources.
- Twenty-six states are providing less funding per student to local school districts in the new school year than they provided during the last school year. These funding cuts have been modest, but, in many states, they come on top of severe cuts made in previous years.^{ix}
- More than two-thirds of states — 35 of the 48 states surveyed — are providing less per-student funding for K-12 education in the 2013 fiscal year than they did in fiscal year 2008.^{ix}
- Should Congress fail to come to terms on a long-term deficit reduction plan by the end of the year, The White House is estimating that almost every program in the U.S. Department of Education would be cut by 8.2 percent.^x

6

Increased Economic Pressures



perspectives

Policymakers will

- Work with fewer resources, leveraging technology and different configurations of learning models.
- Rethink how learning is funded, particularly the distribution of dollars within districts.
- Dollars will follow students, calling question around heavy administrative and departmental structures.

Entrepreneurs will

- Have access to pools of risk capital that invest in the most promising tools and ideas.

Families will

- Need to become comfortable with their children participating in promising-but-unproven approaches for reorganizing the “delivery” of learning and supplementing their child’s experience through tools like Khan Academy, Udacity, Udemy and others.

In addition, when you string these trends together, it is clear to us that the Future of Learning will:

- Focus more on “learning” than on “education,” where resources are organized less around structures and more around supporting student’s interests and needs as learners;
- Be organized not as a single, monolithic structure, but as a connected learning ecosystem with multiple learning nodes on each student’s learning network; and
- Benefit from large-scale data infrastructure and embedded intelligence (i.e., “big data” systems) to identify and leverage actionable insights at multiple points in students’ learning pathways.

While the above description is only a caricature of a potential future and is intended to be more illustrative than comprehensive, we believe it captures an important set of ideas about where we and many others think education is headed. When contrasted against the reality of today’s education system, it’s easy to recognize just how much change is in store over the coming years—and we believe we’re still near the very beginning of the transition.

4

2Rev's FUTURE of LEARNING FRAMEWORK

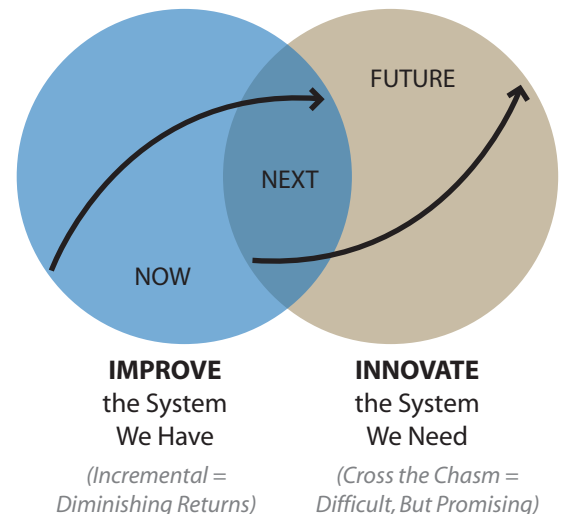
The challenges we face within the education system are large, complex and interconnected – and the pace of change is now moving very quickly. As a result, we've developed the Future of Learning Framework as a core thesis to support our own work, and to help our partners make sense of, and navigate, the messy transition that's underway. One part point of view and one part nested taxonomy, **the Future of Learning Framework presents an integrative logic that helps us know which parts of the problem or system we're working on** at any given moment.

First, despite its many well-documented flaws, none of us can escape the fact that we're all stuck living and working within the current education system we have. More important, today's students (and an array of other central stakeholders) are also stuck, so we must continue to do everything we can to improve our current system. Decades of incremental improvement have not yielded the wholesale change we need, but we have little choice but to apply our best efforts. At the same, we recognize that we must also do all we can to invent the new system that our students need.

This is our nation's future.

At the same time, we cannot allow our justified focus on improving the current system to become the reason we neglect invention of the new. This creates an interesting paradox. As depicted in Figure 2 below, we are currently living through the transition from "Now" to "Future," which leaves "Next" as the messy middle phase where we must find a way to transition from one curve to the other. This is where most innovation is occurring. This also provides a helpful way to capture the "both, and" tug-of-war dynamic that many of us experience in our work.

Figure 2:
Straddling the Improvement-to-Innovation Paradox



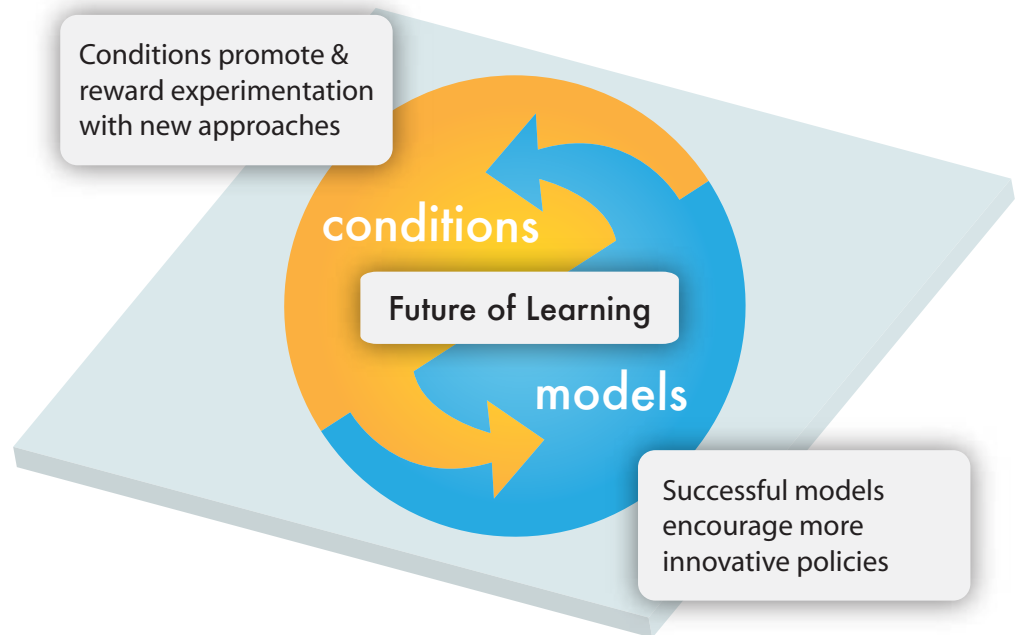


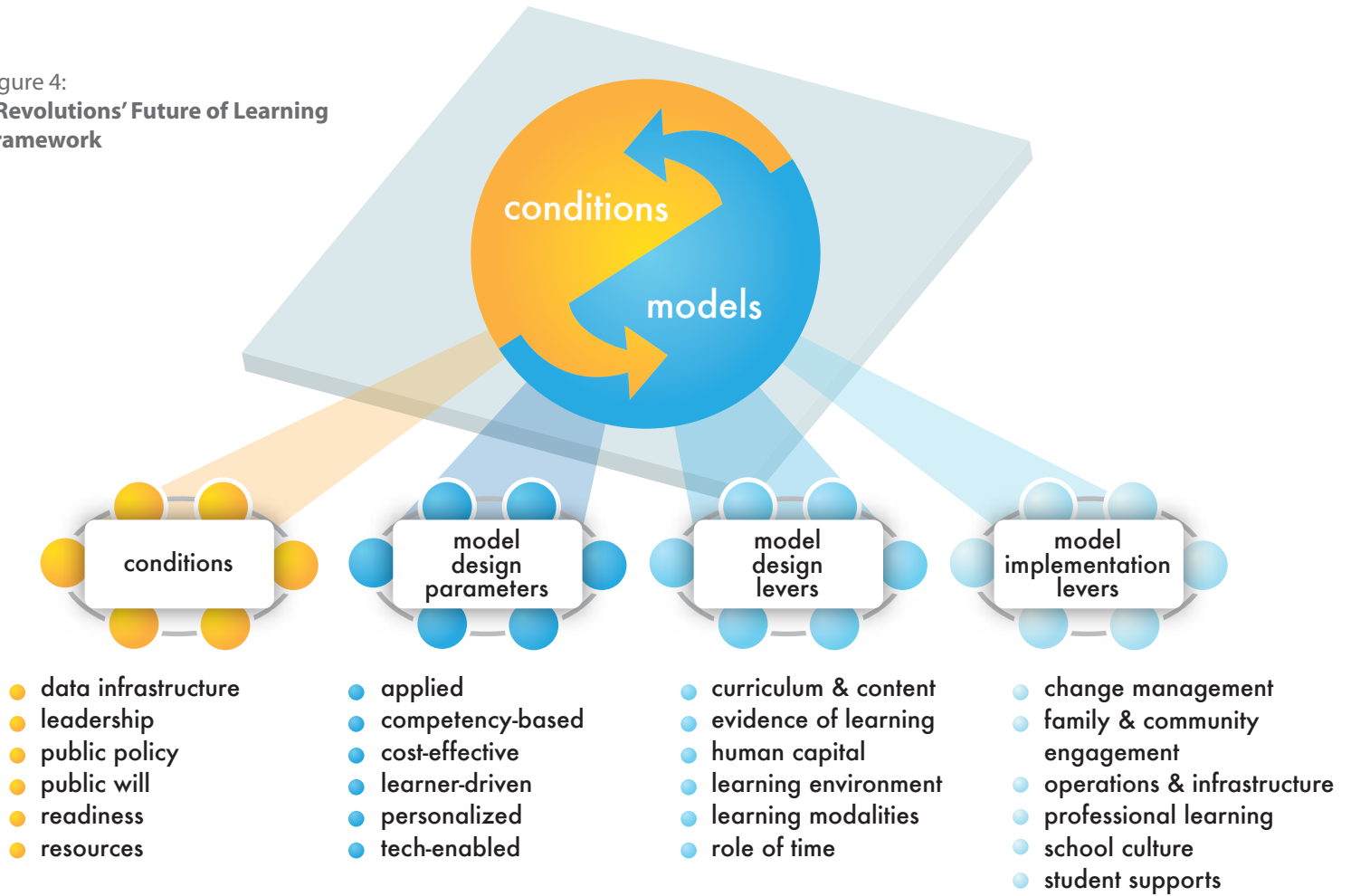
Figure 3:
The Virtuous Cycle of Models & Conditions

Second, in the midst of this “Next” transition phase, it is important to focus on the interdependence between models and conditions. For example, we need more and better examples of learning models as “proof points” that experiment with, and continually edge closer to, implementing the future we envision. But if these models exist in environments that lack appropriate conditions to thrive, then they may not succeed and likely will not reach scale even if they do. On the other hand, even the most progressive policy conditions in the country will have only limited impact if they fail to catalyze and sustain the growth of successful new learning models within a new ecosystem. The Future of Learning requires that we engage – and, as we’ll describe below, 2Rev prioritizes working – at both levels of the system simultaneously.

Building upon the above as context, and as illustrated in Figure 4, the Future of Learning Framework represents a nested taxonomy that includes:

- **Conditions**
This set of factors operates at the level of a system – district, state or network – that either enable or constrain the success of Future of Learning models.
- **Model Design Parameters**
Drawn from our own and others’ research, this is a synthesized list of the broad principles or characteristics around which Future of Learning models should be designed.
- **Model Design Levers**
These concepts define the structural core of any learning model. Together with their interplay with the Model Design Parameters, they represent the foundation for driving the development of Future of Learning models.
- **Model Implementation Levers**
With a learning model in place, these six Implementation Levers represent the next layer of development – and mark a transition from conceptual design toward models that can be implemented. Note that these are not less important than Model Design Levers, but rather deserve greater attention as part of deep planning for successful and sustainable implementation.

Figure 4:
2Revolutions' Future of Learning
Framework



Following are brief working definitions for each category within our nested Future of Learning taxonomy:

Conditions



This set of factors operates at the level of a system – district, state or network – that either enable or constrain the success of Future of Learning models.

● data infrastructure

This refers to extent to which a state or local system supports the robust data systems needed to support technology-rich Future of learning approaches. Examples may include the need for sophisticated, enterprise-level data systems and “last mile” high-speed Internet connectivity.

● leadership

This refers to both the breadth and depth of public and private vision and support for Future of Learning approaches, which we find are an essential to enabling successful experimentation and implementation.

● public policy

The set of state or local policy flexibilities that can either promote or prohibit Future of Learning structures, tools or practices. This might include policies regarding staffing, use of time, funding mechanisms, seat time requirements, support for online or blended delivery or investment in technology.

● public will

This refers to the level and extent of the public’s awareness of, and support for, Future of Learning approaches. When new initiatives are being “demanded” by parents and other stakeholders, it is possible to make faster progress.

● readiness

The least tangible of the conditions we track in our work (and the most difficult to measure), this attempts to capture a sense of awareness, risk profile, urgency and momentum with respect to adoption, as well as the change management acumen needed to scale Future of Learning approaches.

● resources

While many Future of Learning strategies can be implemented at low or no cost, the availability of dedicated resources to support initial investment can go a long way, especially when district and state leaders are forced to choose between supporting the current system we have and investing in designing the new one our students need.

Model Design Parameters



Drawn from our own and others' research, this is a synthesized list of the broad principles or characteristics around which Future of Learning models should be designed. Specifically, we believe they should be:

● **applied**

Building on the range of existing successful project-based and experiential models, this refers to the value of creating opportunities for students to learn by doing, preferably out in the real world. Applied learning allows students to use content and skills to deepen their understanding as they create.

● **competency-based**

This places a priority on shifting away from traditional Carnegie-unit, seat-time requirements toward defining and measuring each student's progress and mastery of specific knowledge, skills and habits of mind before advancing to the next level. Competency-based models can also enable structural flexibilities, such as deconstructing the notion of "course" as the only container for student learning or the only basis for assigning measurable progress toward students' educational attainment.

● **cost-effective**

It's surprising to us that this doesn't receive more attention than it does, but in light of significantly constrained fiscal environment and real questions about the sustainability of our public school funding and higher education models, it is essential that we design Future of Learning models with an eye toward greater efficiency.

● **learner-driven**

Related to, but distinct from, the goal of personalization, this refers to the extent to which an individual learner exerts some control over his or her learning pathway, based on interests, preferences and motivations. It also shifts the responsibility for learning from the teacher exclusively and shares it with the learner, thereby building learner capacity and meta-cognitive skills as part of the learning process.

● **personalized**

Creating a learning program that is customized to fit each student's learning style, goals and performance. Personalization is the opposite of the one-size fits all approach to education – instead it's a tailoring of curriculum, pedagogy and learning environments to meet the needs and aspirations of individual learners, often (though not exclusively) through the extensive use of technology.

● **tech-enabled**

While technology is not a panacea that will solve our educational problems, it is among the most powerful drivers of the Future of Learning, enabling both increased efficiency and effectiveness in processes that were either manual or impossible even a few years ago. Technology should never be the focus, but rather a tool to help enable the realization of the other parameters.

Model Design Levers



These concepts define the structural core of any learning model. Together with their interplay with the Model Design Parameters, they represent the foundation for driving the development of Future of Learning models. They include:

● **content & curriculum (“what”)**

Curriculum forms the backbone of a strategy to drive student learning, including learning objectives (what students should know and be able to do) and curriculum/content resources (what is taught; what types of content, tools, resources are deployed to support the learning process).

● **evidence of learning (“how much”)**

This addresses the need for learning models to have a range of evidence – formative, summative and performance-based assessments, portfolios, observations, reflections, etc. – to enable educators and other interested stakeholders to assess student progress. Evidence of learning should be integrated with core instruction rather than viewed as a distinct activity, and should directly influence the unique learning plan for each student.

● **human capital (“who”)**

This lever refers to the definitions, roles and uses of professional staff; the need for a leadership model; and a constant focus on professional learning to drive continuous improvement. This is often one of the most powerful drivers for thinking differently about how to organize “school.”

● **learning environment (“where”)**

Similar to the role of time, the definitions and uses of space – “where” student learning occurs – can also be expanded significantly to include learning opportunities at home or in the broader community. Likewise, it is important to rethink physical learning environments in school to promote and enable the learning experiences and interactions that students need.

● **learning modalities (“how”)**

Describing how a model delivers curriculum and content to students, this includes both instruction/pedagogy (how curricula are experienced) and modes of delivery (in what configurations learning experiences are delivered – e.g., direct instruction, online, experiential; individual, small or large group, synchronous or asynchronous, etc.).

● **role of time (“when”)**

How time is leveraged creatively – both inside and outside of traditional definitions of “school” – is an important lever for developing personalized learning models for students. As more technology-enabled learning strategies are adopted, the definition of “when” learning happens can be expanded for both students and teachers.

Model Implementation Levers



With a core learning model in place, these Implementation Levers represent the next layer of development – and mark a transition from conceptual design toward models that can be implemented. They include:

● **change management**

Change management is a structured approach to transitioning individuals, teams and organizations from a current state to a desired future state. When done well, it empowers team members to embrace and help shape changes in their current learning environment or grapple with wholesale change in the learning model for new starts.

● **family & community engagement**

Engaging with families and the broader community both to leverage their capacity to provide ongoing support and reinforcement of student learning. Meaningful and ongoing engagement enriches the school community immeasurably and deepens the pool of those responsible for students', and the school's, success.

● **operations & infrastructure**

The back office systems and supports needed to keep the institution running and ensure effective implementation, including but not limited to: finance, human resources management, facilities management, security, admissions/recruitment, marketing, fundraising, etc.

● **professional learning**

In a learning institution, everyone must be a learner. Rather than apply a monolithic, lock-step approach, there is the need for a personalized, competency-based, job embedded and ongoing approach to best meet the evolving needs of individuals, teams and a full faculty. Additionally, professional learning will be supported more and more through e-learning communities and social learning.

● **school culture**

These shared beliefs, customs and behaviors are the glue that holds a learning model together – they link adults to one another, adults to students and the institution to a broader community of stakeholders. They also form the foundation for building and maintaining an environment built on high expectations and mutual trust, respect and accountability.

● **student supports**

The reality is that many students arrive at school with a set of needs that prevent them from learning to their highest potential. Therefore, there is the demand for an array of formal and informal supports to increase the readiness of every student to be successful. These supports can include, but are not limited to, youth development, mental health, physical health or poverty alleviation services.

5

DESIGNING THE FUTURE

photo
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For more on the Future of Learning Framework please view this brief [animated video](#) that illustrates our vision of a connected learning ecosystem.

Armed with this Future of Learning Framework and philosophy, 2Rev identifies strong partners with whom we can design Future of Learning models and help enable the conditions within which they can thrive. We deliberately seek opportunities to develop “proof points” across the full birth-to-26 Human Capital Continuum, which spans early childhood, K-12, postsecondary and workforce development. By operating simultaneously at the level of both models and conditions, as well as across a broad range of contexts, we are actively prototyping and testing elements of the future we seek and learning quickly as we go.

Here at 2Rev, we believe that we’ll all make faster progress together toward the Future of Learning if we strive toward these broad principles:

- **Agnostic/open-minded** – we are not interested in prematurely or artificially anointing darlings in the field and we’re open to winning solutions from unexpected places. New is not better. Different is not better. Better is better. This approach helps to protect the field against a tyranny of the best-marketed approaches and, we believe, makes us better partners.
- **Design-inspired** – we approach the market, and our own portfolio, as a “kit of parts” that we use to better understand and construct learning models or strategies. Our design orientation is a core asset that helps to create and sustain the conditions for innovation.
- **Action-oriented** – 2Rev has deliberately staked its position as living at the intersection of theory and action, thinking and doing. We are serious about our learning agenda, but we also like to roll up our sleeves and build things, then test them in the real world. This makes it possible for us to credibly engage practitioners, entrepreneurs, funders, researchers and policymakers – and we also believe it gives us a unique perspective on the quickly-evolving field.
- **Taxonomy-driven** – language matters. Industry participants too often use the same words to mean different things, or different words to mean the same things. By investing heavily in our Future of Learning Framework, we hope to help promote a common language that makes it possible for us all to collaborate more effectively and to share what we’re learning about the Future of Learning.



"There is nothing more difficult to take in hand, more perilous to conduct, than to take a lead in the introduction of a new order of things, because the innovation has for enemies all those who have done well under the old conditions and lukewarm defenders in those who may do well under the new."

– Niccolo Machiavelli, *The Prince*

- **Results-focused** – in the end, Future of Learning models must work better—for students, families, educators and in the eyes of policymakers. But it’s important to note that we can be rigorous about results without limiting ourselves to practices that have already been shown to be effective. Otherwise, we’d never try anything new, which we can probably all agree will not spur the transformative innovations needed.
- **Context-specific** – the Future of Learning is not merely about replication. We must leverage best practices and lessons learned, but we must also adapt them to meet local conditions. Global innovation, local implementation. We are especially skeptical of strategies that seek to “scale up” models too quickly – a strategy that has demonstrated decidedly mixed results over the past decade or two.
- **Transparent** – a key benefit of a taxonomy-driven approach is that it makes it easier to identify and isolate the various “testable hypotheses” that exist within, and are emerging daily from, a vibrant marketplace. Test, learn, revise, repeat. We strive to build our partnerships around a clear learning agenda and a commitment to share what we’re learning as openly as possible.
- **Collaborative/Integrative** – the Future of Learning thesis deliberately represents a “big tent” that strives to enable all relevant parts of the solutions we need to feel welcome. It requires more effort – especially in continually working to reconcile and update our taxonomy to reflect others’ work – but we believe collaboration is more likely to be effective and sustainable if ecosystem actors see themselves represented in our Future of Learning Framework.

2Rev Assets & Approach

The Future of Learning taxonomy detailed in section four represents the central organizing principle for all of 2Rev's core firm assets when working with partners, which include:

Design Methodology

Leveraging our Future of Learning Framework and pulling from a growing library of design templates, we prioritize *action-oriented, problem-solving interactions* that enable teams of professionals to come together to solve felt needs. Applied over time and increasingly through collaboration among multiple actors, we believe we are more likely to produce superior solutions for learners. Applying a customer-focused design approach, we help partners reimagine new learning models, shape more supportive conditions, or determine how best to navigate the transition to the Future of Learning. Rather than “provide the answer,” we embrace the principles of design to unlock the development of testable hypotheses that can help drive innovation on the ground.

2Rev KnowledgeBase (2RKB)

To support our work with our partners, we have developed an *online information and social networking platform* – that currently profiles ~175 innovative and research-based learning models; ~500+ technology tools organized against a unique taxonomy; and ~400+ “future of learning” information resources – each of which is searchable against our taxonomy and explicitly aligned with our design processes. Expanding each week, 2RKB provides the fodder for our “kit of parts” approach and is quickly becoming an increasingly valuable resource to those seeking to think differently about how to design new learning models and promote the conditions within which they can thrive.

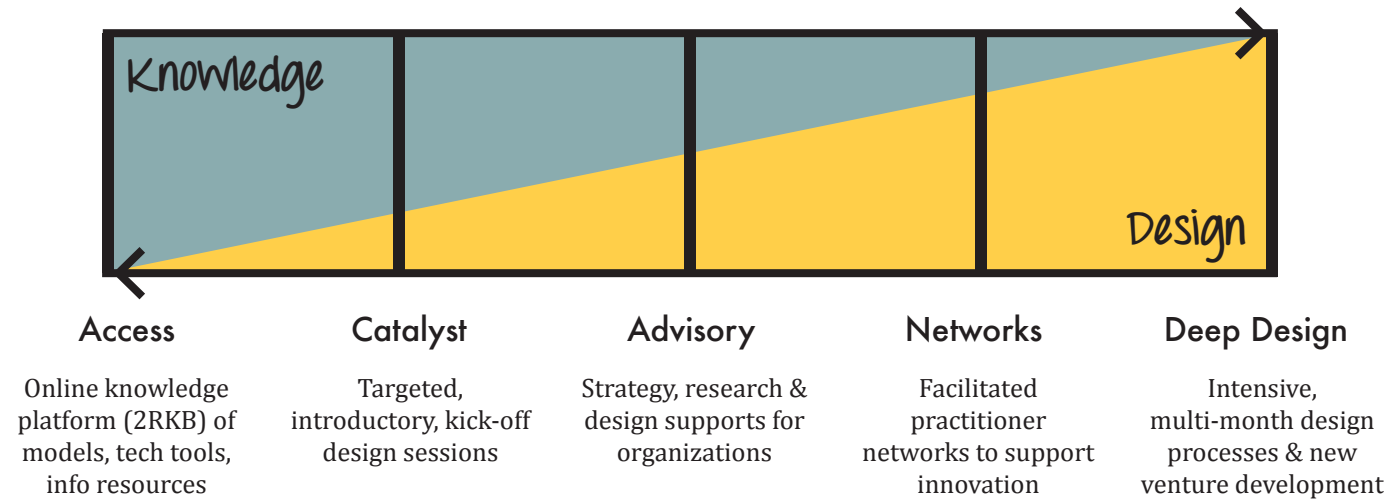
Talent Cloud™

In addition to leveraging our core team, 2Rev has assembled a flexible and robust network of experts and other professionals to support our work with partners. By relying on efficient access to this best-in-class talent – including content and functional expertise that is aligned with our Future of Learning taxonomy – we are able to “flash produce” solutions to targeted challenges, or develop answers to specific questions. The collective expertise within our Talent Cloud, now more than 100+ professionals and growing, covers a broad range of topics, including: instructional strategies; performance assessment; educational technology tools; blended learning; creative staffing/scheduling models; legal; financial; facilities; change management; learning sciences; emergent media; informal learning spaces and more than 25 other “Future of Learning” topics.

Design in Action

Leveraging these core assets and depending on each partner's unique needs and context, 2Rev's partnerships exist at various points across a continuum that balances access to knowledge with greater or lesser degrees of hands-on design supports. See Figure 5 below.

Figure 5:
Each 2Rev Project Integrates Knowledge & Design

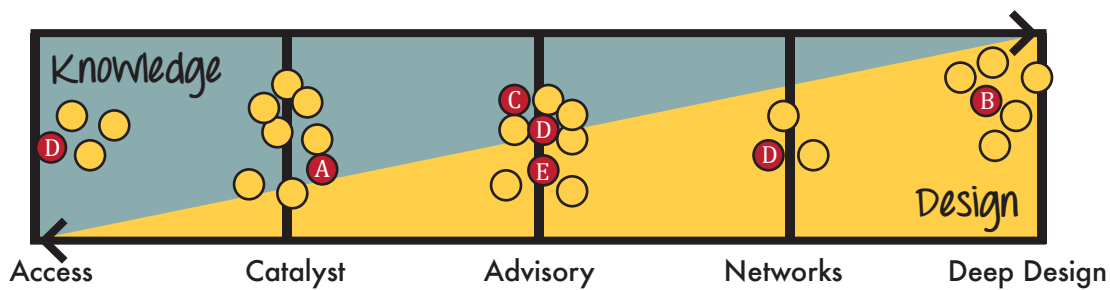


To help readers get a better sense of how we leverage the Future Learning Framework and our core assets in practice, on the next page we share several recent or current examples from our portfolio.

For those seeking more examples or additional detail, we encourage you to visit our website (www.2revolutions.net) or to contact us directly. Please also note that a separate paper specifically detailing the lessons learned from our Designing School 2.0 work over the past 18 months will be released shortly (www.2revolutions.net/knowledge.html).

"Design is a method of action."

– Charles Eames



Legend

- Select Current/Recent Projects
- Sample Projects Outlined Below

Overview of the Work

Project	Description	Type	Partners:			
			State	District	Entrepreneur	Funder
Future of Learning Design Sessions	An example of our "Catalyst" offering, these half-, full- or multi-day design sessions enable us to work with state, district or organizational teams to expose them to, and help them develop tangible strategies to navigate toward, the Future of Learning.	A	✓	✓	✓	✓
Designing School 2.0	Over the past ~18 months, 2Rev worked intensively in three locations: Boston, MA; Manchester, NH; and Franklin County, VT, to lead school-based design teams through a six month process. Passing through three phases of design – Explore-Investigate-Synthesize – teams were encouraged to completely rethink the structure, tools and practices within a model to dramatically improve student learning. Leveraging 2Rev’s online Knowledge-Base and Talent Cloud, teams researched multiple learning models. Rather than leading participants toward a predetermined outcome, each team arrived at a unique model designed to match their priorities and community context. Each team was required to present and defend their new models to a committee of stakeholders, which varied per case. The VT team recently won a Next Generation Learning Challenge. A separate whitepaper (to be published in early 2013) will detail the context, process, outcomes and lessons learned from each of the DS2.0 sites.	B	✓	✓	✓	✓
LearNYC Swarm	Funded by the MacArthur Foundation, and representing a collaboration with the Hive Learning Network NYC, LearNYC Swarm represents a bold collaboration to design and launch new models that leverage NYC as a “learning game board,” where students move freely between and among formal and informal settings – both in and out of school – in ways that simultaneously accelerate their learning and their educational advancement. Our goal is to test new models that assert a belief that student learning should be constant, while also testing our assumptions of time, space and how content is delivered within the ecosystem of New York City education. Over the next few years, targeted pilots are likely to vary in terms of location (a mix of formal and informal learning settings), time of the year (summer, vacation, school year in-school and out-of-school) and intensity (one weekend, one week, term, semester).	C			✓	✓
NHDOE Networked Support Strategy	After working successfully with a school-/district-based design team earlier this year to help transform the Manchester School of Technology from a 2-year Career and Technical Education (CTE) program to a 4-year, fully competency-based high school model, 2Rev is now working as the design partner to the New Hampshire Department of Education. Eager to transition the state from “a compliance to a support orientation” NH’s forward-thinking state leadership has launched a statewide Networked Support Strategy. The new approach invites practitioners throughout the state to participate in a range of networks that span the Improvement-to-Innovation Continuum depicted on Page 13, including networks focused on Technical Assistance, Knowledge Sharing and Innovation. Built upon 2Rev’s online KnowledgeBase/social learning platform, we are hopeful and confident that this approach can help usher in new ways of working together to accelerate a transition to the Future of Learning.	D	✓	✓	✓	
The Community Group	This large community-based organization in Lawrence, MA – which serves thousands of families through the provision of early childhood education, an exemplary charter model (Community Day) and a significant economic footprint –sought to update their strategic vision to broaden/deepen impact and take advantage of a shifting policy environment. Working closely with entrepreneurial organizational leadership, 2Rev conducted primary and secondary research to inform a strategy that included replicating Community Day in multiple sites and pursuing a full, place-based change strategy. They have been successful on both elements, having expanded their charter model in Lawrence and Boston, and successfully winning a \$500k Promise Neighborhood planning grant to advance the community’s efforts.	E			✓	✓

6

A CHALLENGE TO THE INDUSTRY

photo
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As we look out across this quickly-evolving landscape, we recognize that we – both 2Rev as a firm and all of us collectively as a field – are still very early in this work. As we strive toward the Future of Learning we seek, here are just a few of the open questions that motivate us each day:

- Why do so many proposed solutions still focus so much on adults instead of kids?
- Why are policymakers so slow to recognize that measuring seat-time is not well-aligned with developing the competencies we say kids will need to be successful?
- Why are we losing so many kids' attention in school, but video games can hold them forever?
- What are the most effective ways to leverage technology in the learning process?
- What exactly do we mean by "personalization" – is it *blended*, *deeper*, *interest-driven* or perhaps all of the above?
- If students' learning experiences become more personalized, will they also be more able to choose their own

(learning) adventures?

- What kinds of adult learning is needed to accelerate the Future of Learning – reimagining pre-service and in-service, and thereby, the profession?
- How do we build the innovators we need to seed and grow the Future of Learning?
- In light of the long-term fiscal realities our states and municipalities face, why are more people not talking about how to make "school" more cost-effective?
- What will a new learning ecosystem look like for students and adults – as well as the range of market actors that revolve around it – and how will it work?

So, here we all sit, in this moment filled with incredible promise and opportunity to remake the entire system. **The key question is: How will we collectively respond to this opportunity?**

Unfortunately, if the past is any guide, we should expect we likely will fall into the same traps that have repeatedly bested us over the past decades of reform efforts. For example, we might allow our incredible



But there is another way. If we are to make the most of this opportunity to build an entirely new learning ecosystem for our current and future students, it's up to us to create new patterns of working together. Design matters. Language matters. Collaboration is hard, messy and time-consuming; but it's also essential. We must adopt an active learner's perspective. And best solutions should win, even when they emerge from places we do not anticipate. We should strive to be clear when we are using different language to test same or similar ideas, versus testing fundamentally different strategies or beliefs about students or the learning process. Rather than waste so much energy on fighting ideological border wars, we must find new and more efficient mechanisms for participating in the same discussion over time. This is how we will learn what we need to build the system our kids need.

sense of urgency to unintentionally become the rationale for perpetuating the silos that cause our work to unravel, or to oversimplify an incredibly complex dynamic. Or perhaps, out of a justified desire to reach the millions of kids who need help today, we will prematurely anoint and scale a few "solutions" before we have real evidence of effectiveness – before we understand for which students these solutions work under which circumstances. Or most likely, we'll just keep talking past one another, without pausing long enough to understand what our colleagues are saying and, more importantly, what they mean and why it's important to them. These are the individual instincts and small challenges that occur on the margins of our work, but when multiplied across an entire industry, they add up to the collective action problem that continually holds us all back.

As one firm operating in the field, 2Rev will continue to be involved in a series of specific efforts where we believe we, working collaboratively with partners, can make a difference and contribute to the collective learning. We pledge to share transparently lessons learned from our work. We hope our Future of Learning Framework can be helpful to others who share our desire to create a mechanism that will enable us all to work and learn together more quickly.

Most importantly, we look forward to partnering with you in ways that can **advance our shared goal of designing a new learning ecosystem that is capable of more fully preparing our young people for the future** challenges and opportunities that await them.

"A candle loses nothing by lighting another candle."

– James Keller



ENDNOTES

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