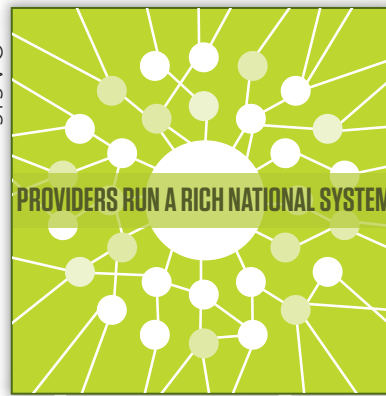




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A NATIONAL SYSTEM FOR GLOBAL COMPETITIVENESS

This is a world in which central government and state departments of education have agreed to a standardized national learning system in order to ensure global competitiveness. The experimentation that characterized the early part of the century has given way to a narrower field of learning providers working to highly specified standards and systems of oversight.

The diversity of approaches and content that thrived during the prior era of experimentation has been richly harvested and organized by a group of dominant providers. Ways of standardizing best practices and personalizing delivery have yielded true mass customization. In addition, ways of working with learners' natural talents and interests, and also of fortifying weaknesses, have enabled the development of a learning experience in which all learners gain fluency in a second language, engage in critical thinking, and are literate in English, Math and Science.

As the funding crisis deepened between 2010 and 2016, specific providers took advantage of corporate concerns

about developing an internationally competitive workforce and brokered a consortium of government, philanthropies, and charter movements. This consortium put forward specific plans, with twenty-year funding commitments from corporations and philanthropies, to educate an entire generation to the top of world tables in every subject area.

Initially the providers that they funded were very different from one another: some had traditional curriculum development backgrounds; some were publishers; some were media companies; some were technology companies; and some were school districts. As the educational mission of the nation became clearer, some providers dropped out, and those remaining gradually evolved into a small, core group of a new kind of provider – globally connected, technologically advanced, and entrepreneurial. Now, this core group collectively maintains visualizations of large data sets that describe learner demographics and performance, the impacts of interventions, and methods of practice. These data dashboards enable rapid high-level decision-making regarding funding allocations across regions and local learning zones. Combined with learner smart cards and urban service grids, they enable learners to be tracked as they access learning services across communities.

When this system was put in place, the commitments from government and the explicit goal of addressing global competitiveness galvanized the whole business community. Since then, the national learning system, run by five regional consortia, has been aggressive in attracting more funding from corporations, as well as in-kind donations. Every child in a public learning center or college receives an up-to-date digital learning tablet every three years. Every child also has access to sports and fitness equipment and has a personalized learning fitness and nutrition program. Lastly, every child in a public learning center or college spends time in a country in which their chosen second language (Spanish or Mandarin) is spoken. The regional consortia also regulate the use of neuro-enhancements for learning in order to shore up lagging learner performance, with the goal of meeting national performance targets.

The case has been made for the social and economic return on investment that a successful national learning system brings. Businesses see that the money they invest up front has a relatively quick return in the form of more efficient communities and the mobility of learners across learning zones and providers. They also see a longer-term return in the form of a workforce that can solve problems and adapt to a dynamic, globalized work environment.

Like their public counterparts, private and faith-based learning centers are required to follow the nationally agreed curricula and are also required to demonstrate their value added. Learning centers that are not affiliated with the five regional consortia can offer added enrichment, extra support for learning difficulties, or particular spiritual curricula, but they are required to commit to an explicit mission statement for which they are held accountable.

Opponents argue that this highly regulated system is un-American and restricts freedom of choice. Others criticize it for being rigid and unable to adapt to systemic shocks such as technological disruptions, global economic shifts, or climate destabilization. Some people have dropped out of the learning system altogether, largely for ideological or faith-based reasons, but for most people the existence of a well-funded, transparent, and accountable public education system is a significant benefit.

Nonetheless, deeper questions are being raised about how the core group of official providers finds innovative partners and implements learning experiences that help keep the system fresh. After the early years of galvanizing the country behind the idea of beating all other nations on every possible measure, it has become harder to determine the right direction. Certain problems remain intransigent, and there are multiple ways to address others. Despite being efficiently run, the system has not forged deep community partnerships, but rather has aligned with corporate goals and global workforce trends.

Learners, exposed to new ideas, experiences, and an international perspective, are also beginning to question the focus on “topping global tables” and “beating other countries” as being too narrow and out of step with quality of life and global cooperation.

Given such concerns, promoters of the national system are concerned that, despite its being halfway through the twenty-year experiment, others may try to derail the system, especially as the impacts of intense climate crisis cause greater competition for resources. There have been some early wins due to the combination of transparent accountability, ambitious goals, and sustained corporate investment, but everyone is watching. While national system has managed to hold its own through three administrations, the core group of providers has become an oligarchy and people complain that the regional consortia are increasingly out of touch with the needs of mid-century learners.





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A VIBRANT LEARNING GRID

Learners act as prosumers (proactive consumers who co-produce what they consume) who shape their learning experiences by drawing upon a rich learning geography to identify resources that meet their needs.

Flexible innovation now marks the economy and culture and has permeated learning. This is an era of smart government, in which government helps stimulate new ideas and innovation but quickly gets out of the way. An entrepreneurial culture dominates. As learners and their families have increasingly claimed their rights as learners, government has let go of the idea that all children must learn the same standards in favor of personalized learning outcomes.

Indeed, it would have been nearly impossible to stem the tide toward personalization: in the last ten years, learning resources have proliferated in neighborhoods and cities around the world, turning communities into the world's classrooms and blurring the boundaries between learning experiences and learners' authentic contributions to their communities and economies. Learning has become a lifestyle influencing product and service design, communities' civic priorities, and the ways in which families spend their time and money. Furthermore, the learning ecosystem has become more global as communities and learners have increasingly sought digital connections with others based

on common values, history, interests, or other points of affinity.

Neurological advances have also contributed to the personalization of learning experiences. Now that more is known about the impacts of specific physical and virtual environments on cognition and brain health, learners no longer accept average learning styles and levels of performance as the benchmark. Instead, learning fitness instructors abound, offering customized, cognitive assessments and neuro-enhancement regimens for learners of all types and ages.

Amid all the possibilities for personalizing learning experiences, yesterday's formal K-12 school system no longer dominates the world of learning. Those schools and districts that remain have re-defined their focus and have become one part of a complex and vibrant set of options that together form a loose learning ecosystem. Additional institutions, such as museums, libraries, art centers, community gardens and markets, fabrication hubs, scientific labs, and hospitals, offer community-based learning experiences, as do some workplaces. Together, re-invented "schools" and other institutions and community organizations form a lightweight, modular network of learning options.

With the help of diverse personal education advisors, learners assemble their own personal learning ecologies to support their individual learning pathways. Some personal education advisors are hired directly by families, while others work through libraries, research centers, learning centers, or loosely affiliated learning grids. A key concern is to maintain equitable access to learning experiences and to the tools and know-how for navigating the learning grid. As the work of managing education shifts more to parents and caregivers, those without social capital and good networking and coordination skills can miss out on learning opportunities.

In addition, a burgeoning field of assessment designers has provided new methods for assessing and credentialing informal, immersive, and non-classroom based learning, easing mobility across many types of learning experiences. Many kinds of learning agents are now a part of the "learning economy," making learning a fast-growing field. With learning no longer measured by seat time and with flexible assessments reflecting customized goals over prescribed standards, learning is available 24/7 and year-round across many learning platforms and beyond geographic boundaries.

Some place-based brick-and-mortar schools still exist and maintain an important civic purpose as centers of the community that help manage and maintain access to a quality learning commons. Those that establish themselves as portals to the broader learning grid and tied to local community needs are the most likely to attract learners.

As with other learning providers, there is an expectation that place-based schools be open, with cooperative resource

creation and sharing, and that they make use of open assessments where people can see evidence of a learner's contributions. Even when learners primarily arrange their learning through one provider, it is customary for them to join peer-based learning communities to collaborate on projects, explore topics together, and support each other through learning challenges and quests. Game-based learning is popular with young and older learners as a way to master diverse skills and applied content. As learners accumulate points for completing learning quests and gaining skills, they can convert their points into credit toward other learning, entertainment, or community activities.

Just as with learning providers, educators have re-imagined their roles and value in the learning ecosystem. Gone are the days when their primary roles were teacher, administrator, and tutor. Now there is a whole host of learning agents. Some focus directly on learners' experiences. For example, learning journey mentors facilitate learning inquiries in particular disciplinary areas, and learning fitness instructors work with learners to get their brains and bodies fit for learning. Assessment designers specialize in developing creative methods of assessing and communicating what learners achieve in various settings. Some learning agents focus more on the community or system levels of learning. For example, community intelligence cartographers develop data visualizations of learning ecosystems that become critical for tracking systemic resource needs and bottlenecks. In turn, educators help develop and manage collaborative innovation in learning.

With so many options for supporting learning, a diverse system of professional branding and validation has emerged as the best means for ensuring learning agent quality. People looking ahead fifteen years ago probably would have found today's system quite chaotic and might have feared that it would contribute to society's fraying. But so many resources are a part of the grid connecting learners with learning agents and learning experiences that a new civic narrative has emerged: learning is a shared community asset, and everyone can play a role in creating, preserving, and protecting these critical resources. In fact, new forms of crowd-sourced funding and collaborative resource development have become important forms of support for learning ecosystems.

This rich learning ecosystem has required learners and learning agents to develop new core skills, including visual literacy, collaboration, networking, and flexibility. For those learners with less access to support in navigating it, the opportunity is mixed. With resources no longer exclusively tied to geographic place, learners have the potential to be less restricted by their immediate surroundings than they were fifteen years ago. This has opened up learning opportunities to many. But community will is still required to help ensure that everyone has access to the full range of learning experiences.



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LEARNERS FORAGE FOR RESOURCES

This is a world in which virtually all resources have been withdrawn from public education. Content is provided by learners and learning agents in a vast unconnected marketplace. The quantity of the material is not matched by its quality. Content tends to be shallow, and much of it is repetitious. Without a strong set of guidelines or standards that material has to meet, most of it has tended to devolve to the simplest possible expression. As resources have been withdrawn, fewer adults have been attracted to work in the public education sector. Home and peer learning have become the norm.

In fact, some of the most robust opportunities in learning now come from improvisational learning centers at fabrication hubs and from pop-up learning groups at science, technology, and art centers. These learning opportunities emerge as groups of learners gather with learning journey mentors, who improvise learning pathways and facilitate ad hoc learning communities. In some communities, educational squatters have taken over abandoned schools and have started holding learning sessions on their own. Depending on the social capital and network savvy of these squatters, learning sessions can be simple group reading and discussions sessions or more involved inquiries or

group projects. Peer support and self-organization are key factors shaping learning opportunities.

In the early part of the century, technology enabled people to connect with each other from anywhere in the globe and to distribute materials more easily than ever before. Open education resources began to distribute and democratize learning. While this was happening, an overheated global economy moved into a serious and prolonged meltdown. One result of this meltdown was less money for public services, including education. What began as a democratizing process that liberated information and allowed people both to create and share knowledge ended up as an inconsistent, patchy, low-cost, and unregulated knowledge exchange. Less money meant that fewer learning resources got created, vetted, and shared by viable learning communities. Only those learning communities with good information filtering and network navigation skills were successful in finding usable resources and connecting with other learning agents.

As public education faltered, each subsequent generation of graduates became smaller. By 2017 there was a palpable sense that parents, caregivers, and the wider community were giving up hope for, and commitment to, education. In a time of climate crises, extreme weather, food insecurity, and public health disasters, many other urgent issues competed with education for attention and resources.

Now that learning experiences have become so provisional and ad hoc and efforts to manage and track learning outcomes have faltered, it is difficult even to see the status of the learning system. The rise in individually generated experiences has been accompanied by an increasing difficulty in assessing them. Data systems are not up to date, and there are only patchy ways to track and communicate learners' achievements and needs.

The primary critics of today's loosely networked open learning system are traditionalists who advocate a return to twentieth century academic values. Despite a patchwork of successful ad hoc learning communities and improvisational learning centers where social and network capital are abundant, the general feeling is that today's flexible, networked learning is not effective enough. Indeed, most people do not even see it as being a coherent system, but rather as a learning wilderness in which people make the most out of scarce resources.

The arguments of such critics hold a certain appeal for parents, legislators, and business people who are unhappy with the current situation and who are impatient with the attempt to find proven alternatives. Businesses are increasingly frustrated at the range of skills and capabilities with which new hires arrive. More businesses are starting to develop intensive orientation courses to bring people up to speed on key areas and to create a more level starting point. However, this trend is an increasing source of frustration because it is so limited in scope and raises the cost of doing business.

Despite the disparate nature of today's learning system, groups are banding together to form hubs of excellence. These hubs of excellence tend to be driven by adults born in the 1980s and 1990s who experienced the last of the universal education systems of the late twentieth century and who began their working careers during the do-it-yourself maker movement of the early twenty-first century. As this group has become parents of school-aged children, they have woken up to the fact that the education they took for granted is no longer available but that new kinds of learning opportunities are possible.

Most hubs of excellence—or “learning hot spots” as they are called—are located in small, community-based neighborhood workshops, urban fabrication hubs, libraries, community kitchens, art galleries, and parks. Their approach is hands-on, apprenticeship-based, and service oriented. Finding out about these opportunities is possible through social networks and existing community affiliations. Many learning hot spots have been quite innovative in addressing local, or sometimes micro-level, community learning needs.

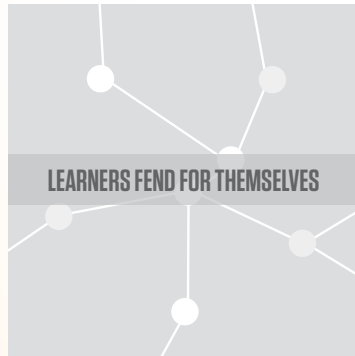
Despite such beacons of hope, the past decade has wrought damage on an entire generation who has essentially been self-taught from a wide but inconsistent range of resources. Difficult as it is, the national conversation is now addressing the so-called “lost decade” of 2015-2025. Internationally, this “lost decade” has had a marked impact on politics and foreign policy as a result of the country's having turned inward and having become less globally aware.



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SCHOOLS AS CENTERS OF RESILIENCE

Scarce learning resources are carefully managed by providers, who do their best to offer an equitable education to all learners while administering scarce resources. With the economy still struggling, schools and other learning centers have become critical focal points for building community resilience and identity.

Ongoing struggles with finding jobs have caused the general climate to feel pretty competitive, with a growing disparity between the haves and the have-nots. Some communities have emptied out as more people have followed jobs in order to survive. There have been some positive changes too: with federal and state governments unable to find solutions to all of society's unmet needs, communities have increasingly collaborated to identify local solutions instead of waiting for them to come from the top down.

That trend toward smart localism is slowly making its way into the world of learning. Governments have attempted to hang onto their regulatory authority even though they have lacked the resources to support all of the requirements that they would like to impose. But a system can only crack down so hard and hold on so tight when people simply are not getting their needs met.

The most successful programs are the practical ones that try to help both young people and displaced workers tool up for the green jobs that many people are still hoping will turn around the economy. Learning centers, fabrication hubs, and local business have partnered to stimulate local economies by aligning learning experiences to local entrepreneurship and innovation. It is not uncommon to see learners conducting energy audits, installing green appliances, or collecting local data for community health, food, and energy projects.

Between 2010 and 2016, there was a lot of conflict over who controlled education, but inevitably new groups of learning agents — professionals and practitioners in areas such as cognitive fitness, innovation, assessment, immersive gaming, and data visualization — stepped forward to take control over the unraveling and overburdened public education system. Today, government-run schools serve many learners as best they can, but many roles and functions associated with learning have become unbundled from schools and are provided by independent learning agents. These learning agents play a strong role in driving education policy, and unions have evolved to embrace them as partners in setting direction for the learning system.

There are still rigorous standards that have moved from the state to the national level in an attempt to streamline educational outcomes and resource allocation. Alternative learning experiences are subject to the same accountability measures as traditional schools. In some cases, learning agents, such as learning fitness instructors, learning journey mentors, eduvators, and assessment designers, have partnered with local learning centers in creative outsourcing relationships. Given rigorous accountability, learning agents have helped traditional schools extend the reach of the learning system and give learners some customization based on factors such as learning style, cognitive diversity, and anticipated career paths. But that does not mean that traditionally certified teachers and the new breed of learning agents always cooperate.

With government funding for education having unraveled, standardized testing is less prevalent than it was fifteen years ago. Many providers have joined forces to leverage resources and new technologies to support a deeper understanding of learner achievement and more evidence-based assessment. Collectively they decide what data are important and how to use them to inform teaching and learning, rather than trying to do it provider by provider.

The scope of performance evaluation has shifted to include health and community metrics as daily stressors affect many learners. More learners are living at or near the poverty line, and population densities have increased around centers of employment and social support. Children

are more likely to be exposed to toxic materials, as the government has loosened regulations to keep the economy moving. Despite rhetoric of green jobs, there has not been the political will to limit pollution and take steps to help mitigate the impacts of climate change.

The plus side is that learning centers -- whether run by the government or by alternative providers -- have emerged as critical sites for promoting health, well-being, academic growth, environmental vitality, and connections across their communities. In that way, they have become centers for resilience. The best of them focus not only on developing learners who are collaborative, skilled, and adaptable in the face of uncertainty, but also on helping their communities promote resilience. As more communities have found creative ways of developing micro-economies or niche enterprises in response to economic crisis, schools and other learning centers have come to play an important role in fostering design-based, practical problem-solving that can help empower such resilience. They also have become facilitators of neighborhood "goods" and appliance sharing and other forms of crowd-sourced community development. Some local brick-and-mortar schools have become solar power recharging hubs, community food pantries, and water filtering stations.

Just as some learning providers have chosen to band together to access newer technologies, communities have gotten better at networking -- both within and beyond their boundaries -- to find creative ways of meeting their needs and providing a strong education for their children. Interactive media have helped people form groups, exchange resources, and catalyze action. Distributed innovation is now common, with people working together to find solutions. Learning agent eduvators and their learner teams have contributed significantly to this distributed innovation by building prototypes, experimenting with new tools, and evaluating new practices as efficiently as possible.

Doing more with less has meant that most learning providers are now comfortable with the idea of open leadership -- exchanging information, at least within their own networks, so that colleagues who have solutions to particular problems have the space and encouragement to step forward. Many embrace the idea of growing collective learning resources, as long as those resources are created by professional providers and are indexed against standards.

Even so, some people cannot help feeling that education takes a "big brother" approach. As a result, individual learners and their families, as well as communities, have become more outspoken about insisting upon dialogue with learning providers and making sure that they have a say in difficult choices.

