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Preparing for an Uncertain Future

by Laura Lefkowitz & Kirsten Miller

In 1898, Charles H. Duell, Commissioner of the U.S. Patents Office, said, “Everything that can be invented, has been invented.” In 1943, Thomas J. Watson, Chairman of IBM, predicted that there was a world market for “about five computers.” And, in 1977, Ken Olsen, President of Digital Equipment Corp., authoritatively stated that “there is no reason for any individual to have a computer in their home.” These men, all experts in their respective fields, based their statements on their past experiences and the realities of the time. Had they stopped to consider the myriad of factors that could be expected to impact the pace and scope of change in the future, they would likely have made very different predictions.

But what are the global, demographic, economic, technological, political, and generational trends that will shape the world in which we will live and work a decade, or two, from now? What are the chances that all or some combination of these trends will converge in ways that create a future fundamentally different from our past experiences and current realities? What might be the effect of these trends on America’s education system? And how should leaders anticipate and prepare their organizations for a future shaped by the potential convergence of these trends?

*“We are called to be architects of the future,
not its victims.”*

— R. Buckminster Fuller

As policymakers, district and school administrators, and other educators look to the future of education in their states and across the nation, these are just a few of the questions they need to consider. But simply considering these questions is not enough. Policymakers and educators also must develop action plans that prepare them to respond to likely future scenarios.

A frank evaluation of our current system of schooling readily reveals its weaknesses when faced with the goal of bringing *all* students to proficiency on challenging standards. As states struggle with implementing the No Child Left Behind Act (NCLB), questions about the very nature of schooling have emerged. Is the length of the school day adequate for all children? Should public schooling begin at age three or younger for some or all children? Are the systems for preparing and developing our teachers

and principals sufficient to provide the numbers of high-quality school professionals we will need? And what is the most essential set of knowledge and skills students need to achieve in order to thrive in the future?

We will not be able to know with certainty the answers to any of the preceding questions, but by asking, “What if?” in a disciplined way, we might better imagine the possibilities of tomorrow — and take action *today* that will position us for success in the future.

This policy brief provides an overview of McREL’s own application of the scenario planning process, and offers information on ways in which policymakers and educators might begin thinking about the future of education in their states as well as nationally. This brief is based on a more comprehensive report on McREL’s scenario-planning work, *The Future of Schooling: Educating America in 2014*, which is available online at www.mcrel.org.

McREL’s Journey Toward the Future

In 2003, McREL rarely considered the implications of an aging American workforce and the associated stresses it could place on public and private resources for education research and development. The same was true of our understanding of the impact of rapid advancements in information and digital technology, and of the inherent challenges to the goal of leaving no child behind in our increasingly competitive global economy. Yet, one thing was clear — the world is changing rapidly, and the ten years from 2004 to 2014 just might be unlike any experienced in recent history.

So, we began collecting data on workforce and student demographics, costs of entitlement programs and health care for seniors, emerging technologies and their likely impact on schooling and learning, generational characteristics, economics, globalization, energy consumption, school choice, and the implementation of the No Child Left Behind Act. The more data we collected, analyzed, and synthesized, the more apparent it became that we must begin to plan *now* for an uncertain future.

Thus, we embarked on a deliberate journey into the future. McREL’s senior management and program staff (nearly one-third of our more than 100-member organization) engaged in a rigorous process of learning about and archiving key insights about the implications of various trends for government and politics, work and the workplace, home and lifestyles, and schooling and learning. Our board of directors, comprised of state and national education, policy, and business leaders, joined our deliberations and critiqued the staff’s work. We developed expertise in the process of writing and using scenarios and, ultimately envisioned not one possible future, but a total of 16 possible futures, written as scenarios for education in the year 2014. Each of these will provide us guidance as we chart our organizational course in the years ahead.

What are Scenarios?

Scenarios are stories that take into account key drivers of change, or trends that are likely to influence the future, and how those drivers might interact with one another to create alternative futures. These stories are not predictions of the future but, rather, *plausible* future realities that can guide organizational strategic decision-making in the present.

For many years now, business leaders the world over have benefited from engaging in the process of writing scenarios. They use them to develop responses to potential future conditions in order to gain a competitive edge in an uncertain market. Education leaders, we believe, can benefit from this process as well as they seek to maintain their organizations' relevance and sustained contribution to helping all students succeed in a changing world.

Exploration

Writing scenarios about the future of education requires “re-perceiving” the future and imagining *all* aspects of the way the world might be, not just those factors that relate specifically to education. Indeed, the political environment, the economy, globalization, technological innovations, and social values will all impact and contribute to the way the future of education unfolds.

Thus, at McREL we began our exploration of the future by inviting six nationally-known experts in a wide array of disciplines to share with us their knowledge about the key drivers of change and their anticipated impacts on major social institutions. The data gathered from these experts was documented and is continually incorporated into our discussions about what the world might be like 10, 20, or 50 years from now.

“To operate in an uncertain world, people needed to be able to re-perceive, to question their assumptions about the way the world works, so that they could see the world more clearly. The purpose of scenarios is to help you change your view of reality — to match it up more closely with reality as it is, and reality as it is going to be.”

— Peter Schwartz, *The Art of the Long View*

Glen Hiemstra, founder of Futurist.com, launched our exploration into the future by talking about the potential for radical anti-aging techniques, genetic therapies, nano-technology, and changes in the nature of work and retirement. Chris Dede, Chair, Learning and Teaching at the Harvard Graduate School of Education, exposed us to the concept of “ubiquitous learning” made possible by a variety of breakthrough technologies. Noted educational demographer, Harold (Bud) Hodgkinson discussed

with us his view of the impact of major demographic changes (aging, racial diversity, immigration) on our future lifestyles, workplaces, schools, and other public institutions.

Neil Howe, historian, economist, demographer, and co-founder of LifeCourse Associates, discussed the characteristics and historical impact of different generations — and the different leadership styles we might expect as baby boomers retire, leaving high level positions to be filled by members of Generation X and the Millennials. Jack Jennings, president and CEO of the Center on Education Policy in Washington, D.C. and a former subcommittee staff director and general counsel for the U.S. House of Representatives' Committee on Education and Labor, provided a glimpse into the future of education policy and the No Child Left Behind Act in particular. Finally, we learned about the economic impacts of consumer behavior and the “Great Winter” forecasted by the Harry S. Dent Foundation from its president, Rodney Johnson.

These speakers provided the inspiration for us to begin a disciplined approach to discovering trends of the future in many different areas. Now, we routinely identify articles in the daily press and in professional journals and categorize them based on what they tell us about how different “drivers of change,” are likely to impact our homes, work, government or schools. This set of data provided ideas to enrich and enhance the plausibility of the scenarios we wrote. As we continue to build our knowledge base, we draw inferences from this information and incorporate those insights into our ongoing strategic planning process. In addition, we are constantly reminded of the many ways in which forces that are beyond our control, or are easily overlooked, may have an impact on the future of education.

Critical Uncertainties and Predetermined Elements

Although uncertainty about the future abounds — from the price of oil to the rise of China as an industrial power — only some uncertainties are *critical* to consider when developing scenarios focused on a particular issue. For example, a manufacturing company, considering whether or not to invest capital in Asian markets, is likely to be quite concerned about China's position in the international economy; a state government faced with rising costs of home heating subsidies for low-income renters may be more concerned about the price of oil.

So, although local and state education agencies may be equally concerned about the future of education, the factors that most influence the futures of each agency may be very different. That is, a state agency may be concerned with the future role of the federal government in education while a school district may be more concerned about the changing nature of its student population and how best to serve a diverse enrollment. Good scenarios depend upon the scenario builder's ability to sort through the myriad driving forces of change to select the *most critical* forces for the question at hand.

In addition, there are some forces, events, or conditions that we can “predict” will exist with a fair degree of certainty. We define those conditions as “predetermined” and, for the purposes of writing scenarios, assume that they are highly likely to occur. Inclusion of these predetermined elements helps to ground the scenarios in reality and increase their plausibility. For example, the demographic data we collected led us to conclude that lengthening lifespans, aging baby boomers, and increasing ethnic diversity are predetermined elements. Because we can reasonably expect these elements to be present in the future, they should appear in each of our scenarios. On the other hand, the impact of aging boomers on the economy, and attitudes toward rising immigrant populations in our schools, for example, are uncertain and may play out in varying ways across different scenarios.

Developing the Framework

Identifying critical uncertainties is the “hard work” of the scenario building process. Ultimately, to create a scenario framework, scenario builders must narrow their selection to just two critical uncertainties. These form the “x” and “y” axes of a Cartesian plane, with the resulting four quadrants of the graph representing four possible scenarios for the future (see Fig. 1).

In addition to identifying the two most critical uncertainties, scenario-builders must define the end points of each on the axis. For example, an important factor influencing the future of education might be the extent to which resources (both human and financial) are available for education. Although it is uncertain as to whether educational resources will be abundant or scarce, undoubtedly, this issue is critical to the future of schools. And thus, for a variety of reasons, in some scenarios we can imagine a future world in which resources grow; in others, we can imagine a world in which resources shrink. “Resources for education,” with the characteristics at each end of the axis being labeled “abundant” or “scarce,” provides a reasonable axis for the framework.

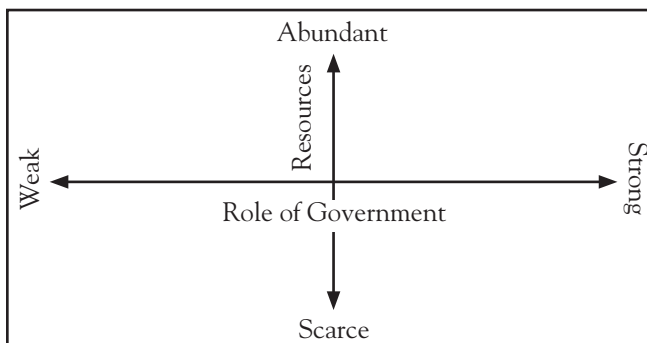


Figure 1: Four potential scenarios

There are a wide range of additional factors which could be selected and combined with one another to form a scenario framework. For example:

1. **Role of Government** — In the future, will government play a big role in determining what, where, when, and how students learn, or not? Will there be more regulation of education by governmental authorities, or will the free market prevail? Clearly, the way in which government controls, supports, or ignores education will make a difference in the ways in which the education system functions. Thus, for this axis, we could imagine two extremes of governmental influence over education, e.g., “strong government regulation” or “weak government regulation.”
2. **Technology Development** — Will technology advance exponentially, offering a wide array of learning options for students and teachers, or will developments in technology slow down or even stagnate? The ends of this axis might be labeled “accelerating” and “stagnating.”
3. **Social Values** — The question of what the public will value most a decade from now will certainly influence the future of schooling. There are many dimensions of social values that could have an impact on the future and identifying the ends of this axis can be difficult. Some suggestions include: “conservative/liberal;” “supportive of public education/not supportive;” or “community-focused/individually-focused.”
4. **Choice of Schools** — The extent to which parents or students can choose how, where and when to receive education as well as the amount and variety of choices available has changed dramatically even within the last decade. But there is significant controversy about this trend and various forces are extant which either promote or hinder the notion of “choice” in public education. Thus, “schooling choices,” whether “many/few;” “public/private;” or “customized/mass-produced,” presents another possible axis for the framework.
5. **Control of Learning** — Who decides the curriculum, the instructional delivery method, the time and place of learning? Today, in general, we have an institutionally-controlled system in which states and local districts determine standards and the structures for ensuring that children have an opportunity to gain proficiency on them. But, in an era of mass customization provided by technological advances, along with increasing diversity in the student population, will such a uniform system continue to prevail or will there be more pressure to individualize and customize learning to meet the unique needs and talents of students? Thus, an axis in which “control of learning” is defined as “institutionally-controlled” or “learner-controlled” is a possible critical uncertainty.

Once developed, the scenario framework yields four quadrants, each of which defines a particular world of the future. Figure 1 provides an example: The upper left quadrant will become a scenario in which the government has little or no control over the provision of education and resources for education are abundant. The scenario writers must consider how such a world could have developed. What caused the government to lose control over education? Did the so-called “revolt” against the No Child Left Behind Act, begun with a variety of state legislative actions and lawsuits against the federal department of education in 2005, result in a wholesale rejection of government involvement in public education? Or did the private sector simply provide more effective or desirable alternatives to the public system, causing a massive exodus of students from the public schools? Similarly, this is a world in which resources for education are abundant. How did that happen? What is the relationship between a reduction in government control and an increase in funding? Where did the money come from? The scenario must answer these and many other questions in order to paint a full picture of the world a decade from now.

Implications and Options

Scenarios are written not only to engage and challenge; they are also intended to provide organizations with strategic guidance for addressing key issues ahead. Considering the implications of each scenario, and the options states, schools, and districts have for responding to each future world, is a critical part of the process. Thus, once an organization has created these future worlds, it must reflect on the meaning of these future worlds for itself. What are the implications for a local school district of, for example, a world in which parents have access to publicly-funded tuition vouchers and a plethora of high quality, non-public educational choices? How should the district respond (some would say, compete) to such a scenario? What actions could the district take today to be ready to meet the challenges posed by that future? The answers to these and other questions will provide the foundation for a strategic plan focused on preparing the district for the future.

Taking the Next Steps

How are you preparing yourself and your school district, state agency, or other educational institution for the future? Would scenario planning be a useful strategy for you to use?

The Global Business Network, which has codified the scenario planning method and teaches it to organizational leaders around the world, recommends that you use the method only to address a challenging problem surrounded by a high degree of uncertainty and then only if your organization is open to dialogue, to change, and to considering futures other than the “official future” that has guided the organization in

the past. In addition, the organization's leaders must support and actively participate in the initiative and adequate resources must be allocated to support the effort over the long term. For organizations prepared to begin this process, McREL is available to help.

But, even without developing and writing your own scenarios, there are a number of ways in which you can move your organization into the future in a thoughtful, creative, and deliberate manner. Some ideas include:

- Create your own “drivers of change” framework. Identify an archivist and routinely collect information about indicators of change. Periodically review the table and discuss its implications.
- Establish a book group, starting with books from the list provided.
- Create an opportunity for others in your state to “brainstorm” about drivers of change and discuss critical uncertainties from their point of view.
- Include discussions of critical uncertainties and possible scenarios on the agendas of regularly established gatherings of key stakeholder groups.
- Expand your views by exchanging ideas with “remarkable people” outside of education.

In general, preparing for the future requires the discipline to constantly ask the question, what if? What if the structures that form the foundation of American schools today — like neighborhood schools governed by local school districts and state education agencies — change? What if NCLB and other accountability measures succeed in bringing all children to proficiency by 2014? What if these efforts fail? What if technological advances in virtual learning make the practice of bringing students together in one physical space unnecessary? What if a terrorist attack on a public school leads to a dramatic increase in home schooling because fearful parents do not want to risk sending their children to less-safe school buildings? What if the growing elderly population, faced with ever-increasing costs for health care, decline to support funding for public schools? What if the system is unable to attract and retain a sufficient supply of highly qualified teachers and administrators?

Conclusion

Throughout history, people have used stories to record the past and to shape the future. In sharing our story, as well as the stories we have written about the future (at www.mcrel.org), we hope to challenge, inspire, and motivate the education industry to prepare for a changing world. Indeed, we are convinced that if we, as an education

community, don't act now to respond to the anticipated changes, the legacy we leave for future learners will be insufficient to greet the future with confidence.

At McREL, we believe that we must obtain the best possible outcome from our current educational system, for the benefit of every student. The world has seen dramatic change in recent years, in education and elsewhere, and we as educators must prepare for the inevitable changes in the system of schooling to come. Scenario building has provided us with a platform for contemplating and preparing for the new systems of schooling to come. We hope the process can do the same for you.

“The narratives of the world are without number ... the narrative is present at all times, in all places, in all societies; the history of narrative begins with the history of mankind; there does not exist, and never has existed, a people without narratives.”

— Roland Barthes

The future will come. The only question is whether we will be prepared to face it and survive and thrive, or whether we will be unprepared and become obsolete and irrelevant in the new world. We choose to be prepared, and hope you will join us.

Future Trends and Scenario Planning

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