

**The Shape of the River:
Understanding and Using Foresight in Education
Summary of Findings
December 2024**

“Education is still the main institutional framework that keeps societies together.”

- Andreas Schleicher, OECD (2023)

“We are living through one of the most revolutionary ages in history.”

- Fareed Zakaria, Age of Revolutions (2024)

Introduction

1. **This paper is about “foresight” in education.**¹ Over the last year, EducationCounsel, in partnership with the Mott Foundation, led a process to identify the biggest drivers of change over the next decade and their implications for education and youth development – in terms *risks*, *opportunities*, and (perhaps most importantly) *needs* for our education systems. What we found is that the next decade is likely to be one of profound volatility and change, and that education is likely to be at the center of it all. For those of us who work to advance long-term, transformational change in our education systems – to best meet the needs and potential of each and every child and our society– it is critical that we include “foresight” as a key part of our strategic planning and action.

Background

2. **Imagine you are rafting a river.** Sometimes the river is flat, wide, straight, serene. The current carries you at a safe but steady pace; you can see well the path ahead; and it takes relatively little effort to exert control and steer at least directionally toward where you want to go. Other times, the river is narrow and fast; the current beneath you is strong and unpredictable; twists and turns ahead make it hard to see where you’re going; big rocks and other obstacles lie in your path; and the raft and course are more difficult to control. Perhaps not surprisingly, as explained below, the latter is the river we are likely in today – and even more so over the next decade. And this will likely have profound implications for our society, including and particularly for education. Yet even in the most severe, “Class-six” rapid, there are things that can be done to chart our course. And even big challenges and crises can also present critical opportunities (as raft

¹ We use here the term “education” broadly to include not only efforts in our “formal” education systems but equally efforts in our youth development systems, which together comprise our broader education “ecosystem.”

guides will sometimes use the rocks to get down the river). In our research, we asked one rafting guide how you would best run a river in these most treacherous circumstances, and she said, “You would scout it first!” That, simply put, is foresight.

3. **“Foresight” is about understanding the river ahead.** If we’re seeking to drive big change over any period of time, then we need to understand not just our goal, the problem, key evidence, current context, etc.; we also need to know what lies before us. What forces, obstacles, accelerants, turns, etc., are most likely to drive, prevent, or define the path ahead, and what does that mean for how we best guide our raft today. The goal of foresight is not to predict the future. Rather it is to provide a framework and information to help make better decisions – to see far off signals getting closer; plan for what’s ahead; and leverage, accelerate, prevent, or avoid key drivers to best achieve our goals.
4. **Over the last year,** we have had the opportunity to review a wide array of research and writings; interview an incredible, diverse group of thought leaders (from education and more broadly); and engage with organizational leaders from more than 100 Mott Foundation grantees. We also examined and sought to build on the work of the relatively few groups that focus deeply on “foresight,” such as the Center for Strategic and International Studies (CSIS) (which the Mott Foundation has supported and which gave us a valuable jumping off point), the World Economic Forum (WEF), and the Institute for the Future (ITF). We particularly want to acknowledge the work of KnowledgeWorks and the Organization for Economic Cooperation and Development (OECD), which are among the very few organizations that enter the world of foresight through an education lens, as well as the Bridgespan Group, with its framework for adaptive strategic planning.

Big Themes

5. **At the highest level, several key themes emerged from our work regarding foresight and its role in education:**
 - a. **There are *many*, powerful, potentially existential drivers of change that will likely have *dramatic* impact over the next decade,** including in education (as defined more fully below). These include substantial changes in technology, demographics, economic inequality, culture, the

EXAMPLES OF HOW LEADING THINKERS DESCRIBE THE PROFOUND NATURE AND PACE OF CHANGE IN THE DECADE AHEAD

- The Age of Revolutions
- A Fourth Industrial Revolution (or the Age of AI)
- A 1939 Moment (or Perhaps 1945 and a New Cold War)
- The Rise of the Anthropocene Epoch
- Homo Deus (or the Rise of the Superhuman)
- Political Repolarization
- The Fourth Turning (or the End of the Saeculum)

environment, and more. Many opinions and indicators point to a period of great volatility ahead, with risks seeming to outweigh opportunities (though both are present and interrelated). Several experts point to a “polycrisis,” characterized by simultaneous challenges across multiple domains. The good news, perhaps, is that all of the organizations, experts, and resources we found tend to point to the same big drivers (though it’s a long list). The added challenge is that these drivers are all overlapping and interconnected (e.g., changes in technology push changes in economy that impact shifts in culture that fuel changes in our national and world order, etc.), and this can create complex, exponential, accelerating forces of change. Finally, a too-frequent wondering we heard is whether our systems (political, governmental, education, and more) are up to the task.

b. Education is likely to be a key “node” with regard to all other, interconnected drivers of change, and education is likely a key driver in itself.

In many of our discussions, leaders would say things like: Sure, big shifts in technology and its impact on the economy this decade will result in huge dislocation of workers, so we’ll just need to build new career pathways and a life-long learning system; or, sure, big shifts in culture and the rise of authoritarianism will put great pressures on our democracy, so we’ll just need to strengthen civic education.

(As if these things are easy to do.) Even key drivers that we originally thought may be tangential to education turn out to present big risks, opportunities, or needs. Take, for example, our changing environment, where we learned that in some parts of the world children are more at risk of missing school because of climate change than they were during the COVID pandemic (and now think about the impact of recent hurricanes, wildfires, and more on our US education systems and students). Finally, it’s important

to note that our US education system is itself at a critical tipping point. We have not had a clear national education agenda since the rise of standards-based reform (for all its positives and negatives) approximately 30 years ago. Today, we know a lot more, including from the science of learning and development, about what we need to and can do to create systems that could dramatically improve opportunity and outcomes in education, but we lack a coherent, unifying agenda. This creates both significant risk and opportunity.

**EXAMPLES OF HOW
LEADING THINKERS ARE
ORGANIZING THE BIG
DRIVERS OF CHANGE**

- CSIS’s Seven Revolutions: Population; Resources; Technology; Information; Economics; Security; Governance
- IFTF’s STEEP Framework: Social; Technological; Economic; Environmental; Political
- Zakaria’s Four Drivers: Economics; Technology; Identity; Geopolitics

- c. **Big change is not linear.** The river (and its navigation) will include constant twists and turns, and sometimes profound “tipping points” that will significantly affect the course we’re on and how we best move forward. *The recent election of Donald Trump as President (along with a Republican-controlled Congress) and the rise of a new “MAGA” agenda that is far more potent than the first Trump Administration, is likely one of those tipping points that requires further exposition.* At the same time, research and experience show that one of the biggest future drivers of change is the backlash and counterforce to current actions and drivers (i.e., every action ultimately unleashes to varying degrees an opposite pendulum swing, rarely back toward “equilibrium”).

The Drivers

- 6. **The future drivers of change are many and powerful.** All of them overlap. Each is composed of multiple elements that may emerge in significant ways over the next decade, and many of these forces are already visible. Most if not all have profound implications for education, including risks, opportunities, and needs. And education must be understood as a key “driver” in itself. Based on our work – and looking through an education lens – these forces include (but likely are not limited to) the following “**top ten**” drivers:

- a. **Economics** -> Growth vs Inequality; Globalization vs Protectionism; Workforce Dislocation; Shrinking Labor Force; Public Debt and Spending

The economic landscape continues to be one of growing tension between growth and inequality, including between the forces for globalization versus protectionism. Over the next decade, workforce disruption, accelerated by technological change, is likely to impact traditional employment patterns while potentially creating new productivity and opportunities. And the next economic recession, already overdue, is likely to accelerate these shifts. This has many likely implications for education, including with regard to the roles of secondary and higher education and workforce training, and the need for more significant systems of life-long learning.

- b. **Technology** -> AI; Biotechnology; Robotics; Materials Sciences; Data Processing

As has been true several times throughout history, technology may drive the greatest *disruptive* change over the next decade. The rise of AI will likely have profound implications for how we live, work, and learn, but so too may interrelated advancements in biotechnology and robotics – all of which could

greatly alter what it means and takes to succeed as humans. In terms of education, at the most basic level, these forces require us to rethink how we prepare each and every child to thrive in an AI world; to mitigate risks related to privacy, bias, inequity, cognitive offloading, etc.; and to imagine how technology could help transform education systems, such as through greater personalization to maximize student potential.

c. **Governance** -> Low Trust in System; Rise of Populism; Democracy vs Authoritarianism; Conservative Courts

Growing forces regarding low trust in systems along with the rise of populism and authoritarianism create potentially existential threats to our democracy and profound implications for education. This includes whether we maintain commitment to a public education system, which has been central to equity. But it may also create opportunities to broaden our lens to construct a wider education ecosystem.

d. **Demographics** -> Generational Change; Diversity; Immigration; Aging Population; Urbanization

Research and experience show that generational change may be one of the most significant, latent drivers of change – as a new generation deeply impacted by technology, political conflict, the COVID pandemic, and more distinguishes itself from prior generations. As our nation becomes more diverse, battles over identity, social hierarchy, and particularly immigration will likely grow. All of this may have profound implications for who we educate, what we teach, and what they demand.

e. **Order and Conflict** -> Civil Conflict; New Cold War; Threat of War; Rise of Global South, WMDs, Terrorism; Cyberattack

Many indicators point to rising conflict in the decade ahead. This includes continuing political divides and risk of civil disorder at home, and particularly the emergence of a New Cold War with Russia, China, and other nations globally. This growing instability compounds ongoing risks regarding terrorism and weapons of mass destruction. Perhaps most significant for our nation and our young people is new risk of hot wars. How can we best prepare young people to understand and lead in this complex world?

f. **Climate and Energy** -> Global Warming; Extreme Weather; Loss of Biodiversity; Resource Shortages; Fossil Fuel/Electricity Demand; Rise of Renewables; Fission

Some experts with whom we spoke believe that climate change presents the most likely and impactful challenge in the decade ahead, including for education, where extreme weather or resource shortages (e.g., access to water) could create great dislocation and disruptions in education. The next decade is also likely to be one of significant challenges and opportunities in energy. Greater demand for energy and an antiquated infrastructure could create additional challenge for education access (see, e.g., recent power outages in Puerto Rico). At the same time, new advancements such as fusion technology could offer more reliable, clean, cost-effective options – and a boon for other priorities.

g. **Culture** -> Political Division; “Woke” vs “Anti-Woke”; Religious Nationalism; Mis/Disinformation; Loneliness; Gender Roles

Cultural issues related to race, gender, religion, and more continue to rise as drivers of change, mostly in ways that divide us. The rise of a new civil rights movement last decade has been overtaken by a backlash to equity and diversity, particularly in the education context, which may continue and/or result in a countermovement. The rise of religious nationalism, too, has significant potential implications for our politics and our education system, including a growing movement toward privatization.

h. **Health** -> Pandemics; Mental Health and Addiction; Breakthroughs; Longevity

If we learn anything from the last decade it is the risks associated with global health, including the possibility of future pandemics like COVID. COVID also shined a light on an epidemic in mental health. All of these pose significant risks to education. At the same time, innovations in health, including through AI, hold the promise of significant breakthroughs that could improve quality of life and life expectancy.

i. **Exploration** -> Moon; Sun; New Worlds; Kepler Syndrome; the Seas

The next decade may see the rise of a new age of exploration, including new journeys to the moon and to distant moons that may hold proof that there was once other life in the universe. And the seas may hold even greater promise for exploration and innovation than space – potentially becoming the next rainforests. There are risks as well, but mainly this movement toward exploration presents hope for inspiration and unity, including for a next generation of STEM education.

j. **Education** -> Role of Equity; Privatization vs Public System; Science of Learning and Development; Goal of Thriving; Shift toward Personalization; Shift toward

Ecosystems; Childcare; Higher Ed Reform; Lifelong Learning Systems; Diminished Federal Role

In the decade ahead, education is emerging as both a critical “node” or connector of all other drivers and a key driver of change itself. Continuing shifts in Culture, Technology, Economics, Governance, and more are manifesting in education – from the impact of AI to the backlash to equity and diversity. And education is also a driving force, such as in backlash to systems and shifts toward privatization. There are reasons to be hopeful about emerging trends, such as in the rise of the science of learning and development, shift toward youth thriving as a shared goal, bipartisan interest in things like childcare and workforce pathways, and movement toward wider education ecosystems across school and youth development. Yet there are reasons to be deeply concerned, such as in chilling effects on advancing equity and diversity and potential threats to our public education systems overall.

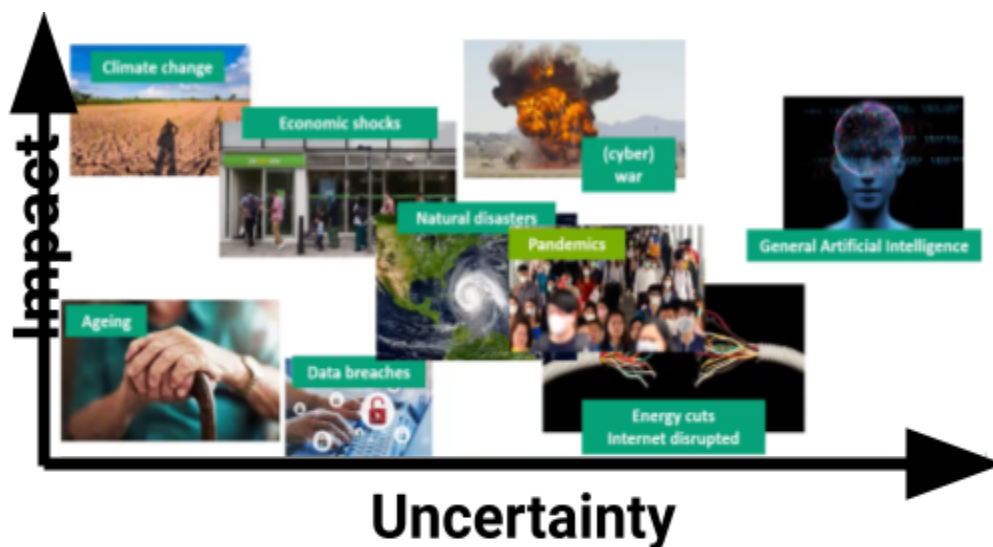
7. **What does this all mean for future drivers *in the education context*?** A clear consensus that emerged from our research and discussions – including from sources far outside the education context – is that education is likely to be a key sector of and for change in the next decade, with significant risks, opportunities, and needs. Every driver above has potentially significant implications, particularly (though not exclusively) shifts in Technology, Economics, Culture, Climate, and more. In our next phase of work, our hope is to go deeper on these and other key drivers (as well as Education as driver) to identify even more concretely the likely futures within the “cone of possibility” and what that means for Foundation grantees and other key actors in education and philanthropy.

Key Frameworks

8. While foresight is crucial, and the list of future drivers is useful, the sheer volume and complexity of the drivers – particularly in the decade ahead – can make it difficult to apply these insights in practice, but there are **different approaches** that can help. For example:
 - a. **Estimated Value Analysis:** One simple framework is to consider both what drivers (or their elements) are most **LIKELY** to happen and what drivers may have the greatest **IMPACT** if they do happen, including in the education context. For example, Andreas Schleicher of OECD referenced this lens to help prioritize what drivers to most consider in different contexts. (See figure below.)
 - b. **Intersectional Analysis:** It is also important to think intentionally about how different drivers intersect to create compound and even exponential effects. For example, the continuing backlash to equity and rise of religious nationalism in Culture along with the decreasing trust in systems in Governance and finally the

rise of hybrid learning in Technology could pose real threats to public education systems and fuel privatization efforts this decade.

- c. **Pre-Mortem Analysis:** Another helpful frame is to look back from ten years from now and imagine two different scenarios: First, imagine that conditions surrounding a given driver have improved greatly. What does that look like, including its impact on education? Why did it likely happen and what did we do? Now, imagine the opposite conditions, where things have moved in a negative direction, and ask the same questions. One thing that makes this a powerful frame is that it may illuminate actions that could be taken now that are valuable and/or easy under *either* scenario, and those may be actions worth taking. For example, whether AI ends up fueling great human innovation and advancements and/or causes great displacement and upheaval, it is likely useful and important to advance AI literacy/readiness through education at this time.



9. Finally, it is helpful to think about using foresight in **two different scenarios**, which we describe as **deductive and inductive**. The *deductive* use looks at the future drivers and strives to determine what they tell us about what we need to do, in education and other areas. The *inductive* use begins with an education goal we are trying to achieve, such as building more coherent education ecosystems to best meet students' needs and potential, and then asks what drivers of change present opportunities to leverage or risks to address.

The Path Forward

10. As we look ahead to the next decade, it seems like **we are at the “top” of a fast-moving, turbulent river** – one that carries significant challenges and risks but also potential opportunities. We don't know which drivers will have the greatest impact, but we know

several will – and that impact will likely be significant. The moment demands action, particularly in education, and foresight can help chart the course and continuously improve our pathways – as far off signals move closer.