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What schools for tomorrow? Futures thinking and leading for uncertainty

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CSE CENTRE FOR STRATEGIC EDUCATION
Leading educational thinking and practice

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Introduction

Traditionally, the year 2020 has held great allure for future thinkers. One hundred years ago, at the turn of the 20th century, the 21st century and the symmetrical date of 2020 in particular, inspired many dramatic predictions – from flying cars to living on distant planets (though still apparently living in traditional nuclear families).

In real life, as we now know, the year 2020 was shocking for a completely different reason: the global COVID-19 pandemic and the accompanying economic, physical and social disruption. It was a painful and-all-too real reminder that comfortable assumptions about the future can change in an instant. In fact, there are always multiple versions of the future – some are assumptions, others hopes and fears. To prepare, we must consider not only the changes that appear most probable, but also the ones that we are not expecting.

This paper argues that futures thinking is an essential component to leading education systems in increasingly uncertain times. Building on the *Four OECD Scenarios for Schooling* (OECD, 2020), which I wrote with my co-author Marc Fuster, it connects foresight and futures thinking to work on complexity and systems-thinking in education. It argues that we need to build long-term strategic thinking in education, and reinforce futures thinking to help identify potential opportunities and challenges and stress-test against unexpected shocks. Using the ideas generated in active discussion with a broad set of stakeholders, it can help us to better prepare and act now.

Education for a changing world; education in a complex world

As we move fully into the 21st century, education must continue to evolve, along with the economic, social, political and technological changes of our societies. In a complex and quickly changing world, this might require the reorganisation of formal and informal learning environments, as well as reimagining education content and delivery. In an ageing world, these changes are likely to apply not just to basic education, but to lifelong learning as well. Our increasingly digital existence calls into question not only the nature of knowledge, but also the essential building blocks of geopolitics and power, and the future of the nation state (OECD, 2022).

Education has been tasked with providing the skills and competencies needed to operate in this modern world. Yet too often we hear the criticism that it is too traditional, too stuck in the past (Hannon and Mackay, 2021); and it is true that an old-fashioned system cannot support individuals to develop as persons, citizens and professionals as it should.

But often those arguments overlook the fact that education systems are changing in their own way. Parents in OECD countries have become more diverse, individualistic and highly educated. As evidence about school and student achievement has become more readily available, parents and other stakeholders have also become more demanding, pushing schools to cater for students' individual needs.

These intersecting trends have increased the complexity of the system. One of the most important responses to this increasing complexity has been decentralisation: allowing local authorities, school boards and schools a greater degree of freedom to respond to diverse and local demands.

In fact, decentralisation may be too limited a term for what has happened. In many countries tasks have not simply devolved to regional, local or school levels. Lump sum funding, strengthening of stakeholders, horizontal accountability and holding local authorities and schools accountable through performance indicators have changed the nature of the relationship between the central, regional and local levels, moving away from a hierarchical relationship to a division of labour and more mutual independence and self-regulation.

This increased complexity forces us to move away from traditional ideas of centralised planning and control. Rather, education systems are now characterised by multi-level governance where the links between multiple actors operating at different levels are more fluid and open to negotiation (Burns and Köster, 2016). Preparing such systems for the future requires building a common language and shared vision, joint imagination, reconciling different types of knowledge, and the trust and willingness to work together towards meeting these goals. Futures thinking can help achieve this.

Multiple Futures

In their *Five signposts for the future of educational leadership*, Valerie Hannon and Anthony Mackay (2021) highlight the importance of futures literacy and strategic foresight. As they contend,

> *… It is the absolute duty of educators to look forward in an informed and balanced way to a future very different from the past: one that, though they may not themselves experience it fully, their students undoubtedly will.*

Their fifth signpost is thus 'futures literacy', defined by UNESCO (2020) as follows.

> *Futures Literacy is a capability. It is the skill that allows people to better understand the role of the future in what they see and do. Being futures literate empowers the imagination, enhances our ability to prepare, recover and invent as changes occur ... The term Futures Literacy mimics the idea of reading and writing literacy because it is a skill that everyone can and should acquire. And it is a skill that is within everyone's reach.*

In our work, we make the same appeal, using the banner of anticipation, futures thinking and strategic foresight. Three main benefits of the process are highlighted as being

1) to reveal and test assumptions
2) to stress-test and future-proof plans, and
3) to generate shared visions of the future to support action in the present.

... we do not know in advance which trends will continue and which will change course, or in what context. Similarly, the trends that were important in the past, or seem so now, will not necessarily remain influential.

This last step is the key. In order to act and prepare now, we must have a structured and concrete way to think about the future; and, while we agree with UNESCO's contention that it is a skill within everyone's reach, much of our thinking of the future is linear, based on extending current trends. What we know, or can extrapolate from the past, is useful in informing how we think and what we can imagine for the future.

However, trends slow, accelerate, bend and break, and we do not know in advance which trends will continue and which will change course, or in what context. Similarly, the trends that were important in the past, or seem so now, will not necessarily remain influential.

Emerging trends, barely visible now, may become centrally important in the future. For example, when television was first emerging as a major technology, the head of one of the most influential Hollywood movie studios declared that

> *Television won't be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night.*
>
> (Daryl F Zanuck, Head of Twentieth Century Fox movie studio, 1946)

Highlighting that quote is not an attempt to mock or point fingers at Mr Zanuck, nor indeed any of the many, many other individuals who have made spectacularly bad predictions about the future. Rather, it is an illustration that no matter how expert we might be, no matter how informed, the future is inherently unknowable because it is always in the making.

Actively thinking about and preparing for the future

In the absence of concrete facts or evidence about the future, the only way to understand the future meaningfully is through dialogue. The future cannot be passively observed – rather, it must be actively discussed in order to learn from it and identify and agree upon actions for today. Strategic foresight uses many different methods, such as scanning the horizon for signals for future change;[1] building visions of desirable futures and working out what steps would be needed to realise them; and road mapping the development of technologies.

Whichever method is used, the goal is to provide a structured space to actively consider and discuss possible, plausible

and probable futures (Miller, 2019). Voros' seminal process framework on futures thinking (2003; 2017), elaborating on the work of Hancock and Bezold (1994), provides both a visual and a generic process that can be used to guide and elaborate discussion in all policy sectors, including education.

As part of futures thinking exercises, shocks and surprises are included to remind us that we must prepare for disruption. Standard examples of shocks and surprises in foresight exercises include pandemics, war, fires and floods. As the world – and our education systems - become increasingly reliant on digital connection, the disruption of digital access, either through cutting cables, blocking satellites, or direct cyber hacking, are all useful examples of potential shocks that could have a hugely disruptive impact.

Sharpe's exercise of three-horizon thinking (2013) is a concrete example of how to engage with the future on multiple timelines, especially during a crisis. The immediate needs of crisis recovery form the first horizon, which can last anywhere from 1–3 years. The second time horizon is a transitional mid-term phase, where recovery from the crisis continues (~ 2–5 years) and is accompanied by exploration and discovery of new ways of doing. The third horizon is the longer-term (eg, 5–12 years), where the new ways of functioning that surfaced in the previous two horizons can be realised. The power of this exercise is that it allows for necessary action in all timeframes, while continuously insisting on a strategic and systematic vision for improvement for the future.

This last point, the necessity of a strategic and systemic vision, is key. Education systems already face multiple pressures including international tensions, economic disruption, polarisation and declining trust, large-scale migration and ageing populations. The future will be no less challenging: inequality; climate-related crises; digitalisation of economies and societies; and new forms of political turbulence, are only expected to increase (OECD, 2022).

Preparing education for these challenges requires going beyond the scope of traditional policy silos to consider how multiple developments can intersect and interact in unexpected ways. Indeed, preparation is crucial to deliver on the promise of education in the context of ongoing social and technological change (Facer, 2011). Hannon and Mackay (2021) remind us that this preparation is not only 'nice to have'. It is also the duty of educational leaders to do this.

Making change happen in a complex world

How to make this happen? The immediacy of today's challenges often means that governments fail to take the time to step out of the here and now and engage with the future at all (Fuerth and Faber, 2012). In addition, our deliberative (and often lengthy) regulatory and policy processes are poorly suited to the increasingly faster speed of change. This is not radical news: Clay and Schaffer (1984) made this argument in relation to agricultural policy almost 40 years ago, and these comments have been broadened and deepened in almost all public sectors since.

It is not just the speed of change that has shifted. Across the OECD, education governance has in general moved away from hierarchical governance systems towards more complex environments, in which a multitude of actors collaborate through formal and informal channels, each with their own motivations and time horizons. This means being able to make change in a responsive and timely

manner, but slowly enough to make sure that there is broad support for the change. In such contexts, the successes and failures of students and schools depend on a multitude of interdependent actors, who all play a part in moving the system forward. This interdependence also poses several challenges for the traditional linear policy cycle, which struggles to adapt to the complex interplay and dynamic nature of modern governance (Blanchenay and Burns, 2016; Mason, 2016).

Preparing education systems for the future requires governance models that balance responsiveness to local diversity, with the ability to ensure system-wide objectives, in both the short and longer-term. This is a delicate equilibrium, one that is difficult to achieve given the complexity of the education system in many countries. Increasing expectations tend to rise faster than performance, and there is a temptation for elected officials to operate in the short term, even though the effects of a reform can take a significant amount of time to bear fruit (Borman et al, 2003; see also Burns and Köster, 2016, for a fuller discussion). Indeed, such short-termism can be a double-edged sword, in the sense that it also takes time to mobilise the knowledge and evidence necessary to legitimise any initiative and for the initiative to be meaningful to all.

> ... the traditional linear policy cycle ... struggles to adapt to the complex interplay and dynamic nature of modern governance

Preparing education for the future thus requires crossing policy silos, questioning governance models and, if necessary, challenging the political cycles themselves. It means engaging with all stakeholders and voices (not only the most vocal or technologically savvy) to design systems that meet the needs of all learners, especially those most vulnerable. It also requires reaching out to new actors and partners, including those on the frontier of digital innovation – and all this while keeping the strategic and systemic vision for the future of education as a common good.

A special note here is on digital innovation, which extends the discussion from the future of local and national education systems to a global scale. This is both urgent and important: digital content, platforms and services in education have expanded exponentially during the pandemic, often without the necessary oversight and attention to privacy and security of children's data (Nottingham, Stockman and Burke, 2022). At the same time, and despite significant investment, the promises of EdTech to transform education and improve learning have not been realised (Facer and Selwyn, 2021). New innovations in AI and augmented and virtual reality have only increased expectations – but it is time to ask hard questions about the kinds of blithe promises being made and what the real impact on teaching and learning is and will be (OECD, 2020).

This is not an anti-tech stance. Rather, it is precisely a belief in the power and opportunities of the digital world, which underline our insistence that the design of programs and platforms connect to educational and pedagogical goals and learning science research (Burns and Gottschalk, 2020). We join the call for further research to rigorously examine the effects and consequences of digital technologies in education around the world (Williamson, Enyon and Potter, 2020). As Facer and Selwyn (2021) remind us, education must take a seat at the 'digital transformation' table, and that seat must an informed one that engages critically with the real versus expected performance, continuously working toward 'developing forms of education technology use that can work for rather than against education as an empowering, equalising force for transformed and sustainable futures' (p 17).

Scenarios for the future of schooling

Scenarios are sets of alternative futures in the form of snapshots or stories giving an image of a future context. They are intentionally fictional and never contain predictions or recommendations. Scenarios do not consider what will happen, nor what should happen; only what might happen. Because they are fictional, they can help us go beyond our current experience. Scenarios themselves have no intrinsic value; they do not contain predictions or recommendations. It is the process of creating or using them in the context of strategic dialogue that makes them worthwhile.

Scenarios are particularly widespread in the practice of strategic foresight, and multiple schools of thought exist on how they should be developed and used. Three aspects help them stand out (OECD, 2020).

Exploration

Scenarios offer a safe space for experts to disagree and challenge each other's assumptions. It is not possible or desirable to be 'right' about the future in a scenario discussion, which is also partly why scenarios come in sets rather than just as one. Exploring the future allows us to let go of our deeply held assumptions, which may be harmful if left unchallenged.

Context

Scenarios encourage us to consider what the future will feel like holistically. While forecasting and predictions tend to focus on individual metrics or events, scenarios allow us to consider the big picture.

Narrative

Scenarios can become powerful tools for creating shared understanding on how to act. By creating a set of experiences about the future with their own characters, events and logic, good scenarios are memorable enough to become part of an organisation's way of thinking.

In 2001 the OECD/CERI program Schooling for Tomorrow published a set of six futures thinking scenarios. These scenarios brought together the 'big picture' of strategic goals for education, intertwined with the complex and long-term processes of change. At the time, the authors noted that

> *Perhaps surprisingly, forward thinking … has been relatively little developed in education compared with other policy sectors, despite education's fundamental characteristic of yielding benefits over very long time spans.*
>
> (OECD, 2001, p 77)

In the two decades since, future thinking in education has become more popular, but it has tended to coalesce around aspirational visions and roadmaps of desirable futures. These aspirational visions have been used to set agendas and spark dialogue among diverse groups of stakeholders – about the curriculum, pedagogy and system delivery that would be needed to make these visions a reality.

Although powerful, by focusing on the delivery of a desired future, those approaches do not prepare systems for unexpected shocks. They do not take into account that the future likes to surprise us.

Being future-fit in a challenging and uncertain context requires identifying different plausible future scenarios, exploring what impacts they could have and identifying potential implications for research, policy and practice. Using the 2001 Schooling for Tomorrow scenarios as a starting point, in 2020 the OECD published four updated scenarios for the future(s) of education. The scenarios have a time frame of approximately 15–20 years – long enough for significant change beyond immediate political cycles, but not too remote for anyone except futurists and visionaries.

The four OECD Scenarios for the Future of Schooling (2020)

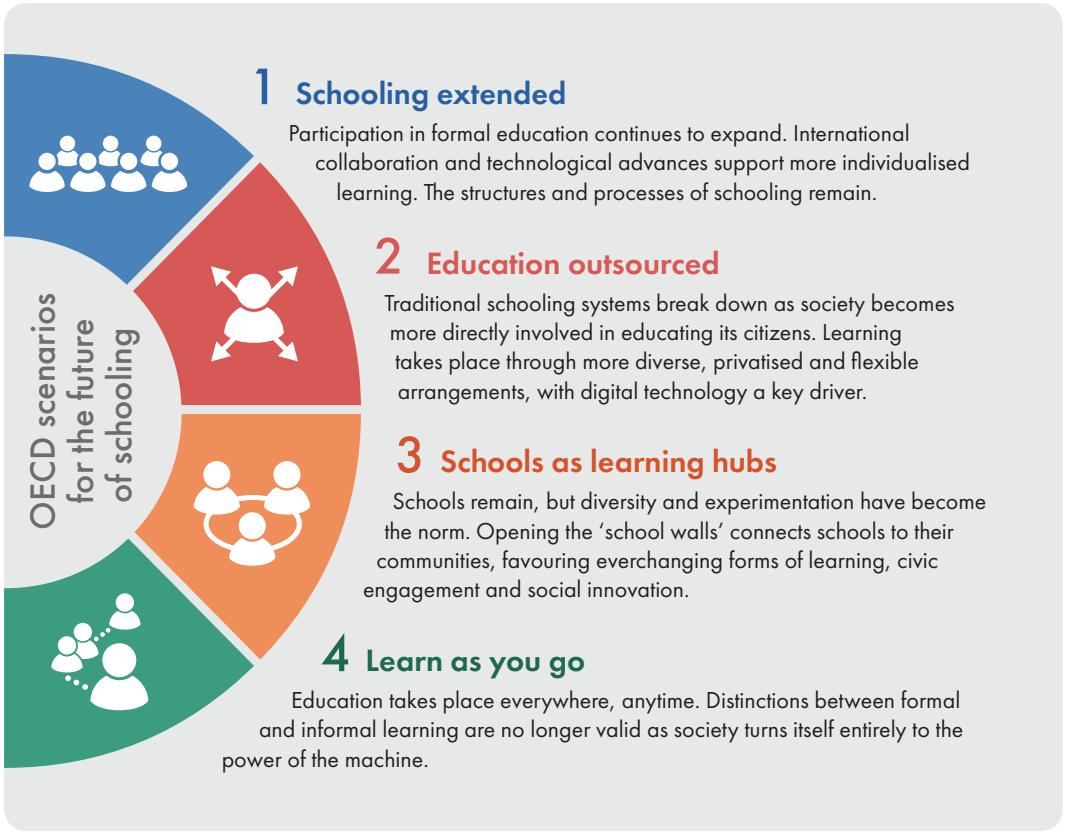
Despite the diversity of economic, technological and societal changes in the past decades, 'the place called school' is still the dominant model for educating young people, even if schools and schooling systems look different across the world.

Our schools are deeply rooted in our societies and in our current ways of living, seeing and thinking. Given the omnipresence of this model, imagining a future where massive schooling systems have radically transformed or, instead, have completely disappeared, can be difficult. Adding to the challenge, we must reflect not only on the future of the system as we know it, but also on what redistributing learning lifelong and life-wide could look like.

The following sections set out each of the scenarios in more detail, structured around the following four design principles (OECD, 2020).

1. The goals and functions of education
2. Education's organisation and structures
3. The teaching workforce
4. Governance and geopolitics

Figure 1. The four OECD Scenarios for the Future of Schooling



Source: OECD (2020) *Back to the Future of Education: Four OECD Scenarios for Schooling*, OECD, Paris.

Scenario 1. Schooling extended

Goals and functions

Qualification, care, credentialing, socialisation

- Participation in formal education continues to expand. Academic certificates continue to be the main passports to economic and social success.
- The curriculum rises to the fore, with countries operating a common curriculum and assessment tools.

Organisation and structures

Spaces, content, time, relationships

- International public-private partnership powers digital learning environments. Learning resources and data are shared across countries.
- The organisation of instruction and student-teacher interactions remains mostly unchanged, although there is room for innovation.

The teaching workforce

Professional status, tasks, certification

- More personalised learning alters the nature of teachers' work, with subsequent impact on teacher education and professional development.
- There is marked division of tasks and greater diversification of professional profiles in school networks, which now benefit from larger economies of scale.

Governance and geopolitics

Actors, power relations, participation

- Strong role for traditional public administrations.
- Increased emphasis on partnerships and international collaboration.

Scenario 2. Education outsourced

Goals and functions

Qualification, care, credentialing, socialisation

- Driven by greater parental involvement, diverse forms of private and community-based initiatives emerge as alternatives to schooling.
- Choice plays a key role: of those buying educational services and of those, such as employers, giving market value to different learning paths.

Organisation and structures

Spaces, content, time, relationships

- As education outsourcing expands, traditional bureaucratic governance and systemwide accountability shrinks.
- Greater choice in learning programs (length, scope, cost, etc) provides learners with flexibility to move at their own pace.

The teaching workforce

Professional status, tasks, certification

- There is greater variety of teaching profiles and working arrangements, with implications for professional and reputational status.
- Learning networks, such as massive digital learning platforms, bring different human resources together according to perceived need.

Governance and geopolitics

Actors, power relations, participation

- Greater reliance on societal self-organisation.
- Schooling systems as players in a wider (local, national, international) market.

Scenario 3. Schools as Learning Hubs

Goals and functions

Qualification, care, credentialing, socialisation

- Schools retain most of their functions, but new forms of competence recognition systems liberate them from pressures of credentialism.
- Move away from uniformity: Local actors develop their own initiatives to realise the values they consider important.

Organisation and structures

Spaces, content, time, relationships

- Experimentation and diversity of pedagogies are the norm. Personalised pathways are strengthened within a framework of collaborative work.
- Activities are planned in the context of broader learning ecosystems, mapping opportunities across an interconnected network of educational spaces.

The teaching workforce

Professional status, tasks, certification

- Knowledgeable, networked teachers coexist with diverse individual and institutional players offering a variety of skills and expertise.
- Strong partnerships leverage resources of external institutions, such as museums, libraries, residential centres, technological hubs and more.

Governance and geopolitics

Actors, power relations, participation

- Strong focus on decision making at the local level.
- Self-organising units in diverse partnerships.

Scenario 4. Learn as you go

Goals and functions

Qualification, care, credentialing, socialisation

- Digitalisation has made it possible to assess and certify knowledge, skills and attitudes in a deep and almost instantaneous manner.
- Learning opportunities are widely available for 'free', marking the decline of established curriculum structures and dismantling the school system.

Organisation and structures

Spaces, content, time, relationships

- Education builds on digital technology and artificial intelligence to leverage collective intelligence and solve real-life problems.
- Dismantling of schooling systems and repurposing of its infrastructure. Distinctions between education, work and leisure become blurred.

The teaching workforce

Professional status, tasks, certification

- Difficult to envision the role of governments vis-à-vis markets and civil society. Data ownership and its geopolitical implications are key.
- Traditional teaching professionals vanish as individuals become 'prosumers' (professional consumers) of their learning.

Governance and geopolitics

Actors, power relations, participation

- Deinstitutionalisation of public education, dismantling of schooling.
- (Global) governance of data and digital technologies potentially key.

Source: OECD (2020)

Some of the questions to be considered when working with scenarios include (from page 39 of OECD (2020); see also Chapter 2 in that volume for more, including links to additional resources):

- What new changes or signs of change do we need to watch out for?
- What is our strategic inventory (funding something, banning something, promoting a new practice, forming a partnership, etc)?
- How do existing practices perform in each scenario?
- What new options are there to combine existing strengths with new opportunities, or to avoid existing weaknesses combining with new threats?
- What new options for action make sense today considering the discussion?

Which scenario at which time for which system?

When we present the scenarios one of the questions we always get asked is: what is the 'right' one?, and which one will come to pass in the future? So to be clear, there is no 'correct' answer. The scenarios (and these are just one set; there are as many others as can be imagined) are a tool to spark discussion and reflection, not predict. If we scan the horizon for emerging signals, we see signs that all of the scenarios are potentially likely and, in fact, in any given system there might be combinations of different scenarios developing (hybrid versions, if you will). Not only does the relevance of each scenario change over systems and traditions, it also changes over time.

Despite the importance of context, some scenarios resonate across traditions and cultures.

For example, Scenario 2 (Education Outsourced) and its prominent role of school choice and markets in education have a very different interpretations in different systems. In systems like that of the Netherlands and the Flemish Community of Belgium, the constitutional principle of 'freedom of education,' has guaranteed parents, for over a century, the right to choose a school of their choice. It also allows any person the right to set up a school and determine its educational principles, as long as it fulfils the regulations set by the Government (although how this plays out in practice is not always so clear cut) (Rouw et al, 2016; van Twist et al, 2013). Contrast this to systems like Chile and Sweden, which built parental choice and markets into their governance as part of a move towards new public management in the 1980s and 1990s (Blanchenay et al, 2014; OECD, 2004).

Despite the importance of context, some scenarios resonate across traditions and cultures. Scenario 3 (Schools as Learning Hubs), is seen as a preferred future by many. Moving towards forms of local experimentation, opening school doors to wide expertise within the community, and strong partnerships that insist on excellence while allowing for flexibility are attractive propositions. Indeed, some of these elements are already present in many systems, particularly the process of opening up the school to the broader community. However, a few sticking points exist: what implications does large variation in local capacity have for equality system-wide (or even rich neighbourhoods vs poor neighbourhoods)? Also, this scenario assumes that systems have been transformed enough to let go of mechanisms such as vertical (Grade repetition) and horizontal (early tracking, ability grouping) stratification. Is this realistic in any given context?

Interestingly, timing is also a factor. Before large-scale school closures from the pandemic had set in, Scenario 1 (Schooling Extended) was perhaps the least appreciated scenario. It was perceived as too risk-averse – modernisation and continuation rather than transformation and rewiring. However by 2021, there was a renewed appreciation for traditional formal roles and goals of education, including socialisation and care. Once parents had children at home while they themselves were trying to work remotely, and once students got over their initial glee at school closures, it became obvious that school – both the insititution and the building itself – was central to the social fabric of our communities. This appreciation may not last – certainly there is renewed impatience for change – but this observation serves as a useful reminder that our appreciation of and aspirations for education change over time and contexts (see Meynhardt, 2009, for a related discussion).

Lastly, I turn to what is perhaps the most divisive scenario: Scenario 4 (Learn as you go). It is clearly the most radical, with school systems and infrastructure dismantled and embedded learning throughout the lifecourse supplanting formal education. To many, this is a dystopian version of the future, with algorithms driving increased inequity and fueling social fragmentation and isolation. To others, the rise of artificial intelligence and machine learning, and the appetite for embedding technologies in our lives (and our bodies) through digital personal assistants, smart toys and wearable devices, are all signals from the present that this scenario is already emerging.

Certainly, hastened by the pandemic, the shift from *'classrooms on platforms* rather than *platforms in classrooms'* (Selwyn et al, 2020) is well under way. Using this scenario allows us to broach essential questions about governance, regulation and accountability of this alternate future, as well as implications for teaching and learning.

The bottom line is that there is no magic potion that will guarantee us the future we want. We have to do the work of actively discussing and engaging with multiple versions of the future, including versions that we do not like, in order to stress-test and prepare. . This is more than an intellectual argument: decisions we make today (or even more importantly, decisions we avoid making today) generate lock-in effects that create the futures of tomorrow.

Insisting on education as a public good

Since the industrial revolution there has been a steady increase in participation in formal learning, which over the last few decades has increasingly extended to younger ages, including a focus on high-quality early education and care. In this time researchers, policymakers and practitioners across the world have also been working consistently to improve the educational offer, by adapting curricula to foster 21st century competencies, enhancing teacher training and attractiveness, improving assessment of learning outcomes, and investing in new technologies for teaching and learning (OECD, 2020).

However, despite all efforts, there are also some longstanding challenges that all systems struggle with (OECD, 2020):

- Making systems more inclusive
- Compensating for inequality
- Extending lifelong learning opportunities to all.

Any vision for the future of education must strive to address these challenges. Indeed, UNESCO's International Commission on the Futures of Education has called for a new social contract for education, based on the following two foundational principles (International Commission on the Futures of Education, 2021):

- Assuring the right to quality education throughout life
- Strengthening education as a public endeavour and a common good

In respecting student rights and agency, education supports the development of strong critical thinking and media literacy skills that empower students to be well-informed agents of change.

This insistence on addressing the long-standing equity challenges confronting education is welcome. The Commission's focus on education as a public good is important, not only because it signals a vision and commitment to shared wellbeing, but also because of its determination to include all voices in discussions about education.

I have, among many many other scholars, called for including the voices of children and youth in discussions of the futures of education. Children and youth tend to be early adopters of technology and they are among the most targeted markets by digital software and platform developers. In respecting student rights and agency, education supports the development of strong critical thinking and media literacy skills that empower students to be well-informed agents of change.

We have seen the impact of organised youth activism in terms of the global climate change protests. Student voices focus attention on the positive opportunities digital technologies afford (rather than risks, which is common in the current adult-centred research and policy discourse). These are just some of the ways in which empowered children and youth contribute to shaping the world they will inherit (Burns and Gottschalk, 2020).

Here let me take a moment to appreciate a futures thinking exercise that uses the lens of the student experience as a base. Macgilchrist, Allert and Bruch (2020) offer three 'histories' of education and technology in the 2020s, from the perspective of the future of 2040. They imagine students becoming variously *smooth users* (notably, not creators); *digital nomads* seeking freedom; and *participatory humans* committed to collective agency. Among their many attributes, I particularly appreciate the interconnection of the social-political, technological and educational from the perspective of the user, of the student. The students are variously empowered, or not; agents, or not; but it is this lens that makes it so interesting and useful.

'All voices' includes other actors too, of course. Parents, teachers, communities must all be included, especially the most hard to reach. Crossing policy silos to find solutions to shared challenges includes housing, justice, health and social affairs, to name just a few.

This connects to the earlier discussion in this paper about the importance of education being an active and constructive participant in discussions about digital technology for teaching and learning (Facer and Selwyn, 2021). Connecting to digital experts and actors, both private and public, is key; how to do this successfully in the day-to-day activity of a working partnership is less clear. Our work on child wellbeing in the digital environment suggests some examples of approaches taken by systems across the OECD (Burns and Gottschalk, 2019; 2020), there will be many other examples from other systems

available. It would be important to see more structured research on this, building on our understanding of factors for success as well as work that critically investigates common elements of failures – noting, of course, the challenge of doing research given the speed of digital change, where analysis of specific digital platforms and services risks being outdated almost as soon as it is published.

Old conversations about equity and inclusion take on new dimensions in a digital environment, becoming more, not less important. Selwyn et al (2020) warn of six potential challenges for the future, including new forms of digital in/exclusion; EdTech industry actors as an educational force; and divisions of learning across humans and machines.

Considering how these issues could play out in multiple versions of the future is essential to understanding both the possibilities and risks our education systems and societies are facing. Facer and Selwyn (2021), The International Commission on the Futures of Education (2021), and Selwyn et al (2020) join many other voices in connecting these discussions to call for environmental and social sustainability, challenging us to reimagine educational futures that reap the benefits of digital technology while avoiding excessive e-waste and unsustainable forms of energy consumption.

Moving to action

I started this short paper with a reminder of the purposes of long-term strategic thinking in education: to identify potential opportunities, challenges, stress-tests against unexpected shocks, to better prepare and act now.

Acting now is key. "Future thinking" is aimed at making a difference. It provides tools and impetus for reflection, as well as questions to help push the users. It can also usefully set out various preconditions or issues for consideration when implementing any futures thinking agenda.

When we wrote the Four OECD Scenarios for the Future of Schooling, we ended with a set of tensions and paradoxes that we considered essential for any system to address while preparing for an increasingly uncertain future. The tensions were not exhaustive, and they do not always go together coherently or, in fact, support each other. As we said:

> *Quite the contrary. Just as there is no 'one' future, there is no single path that can or must be taken towards the futures of education.*
>
> (OECD, 2020, p 61)

I will not go through all the tensions here (see Figure 2), but rather, refer the reader back to the original for the full discussion.

However, acknowledging and discussing the tensions is necessary for strategic thinking and planning. For example, it is easy to use the language of transformation when thinking of educational futures – rewiring, rethinking, re-doing – but is it always necessary? And does the policy/practice/platform/software do what it says on the label? Does everything that is called 'disruptive' actually disrupt? Knowing how, when and why disruption

Figure 2. Seven tensions and paradoxes

Source: OECD (2020) *Back to the Future of Education: Four OECD Scenarios for Schooling*

might be called for, and whether or not it is a problem if it is not there, is key to preparing a shared vision for the futures of education.

Crucially, successful futures thinking involves addressing the interconnected complexity of the whole system. If you make change to, for example, teacher evaluation, you have to do this in light of broader expectations for risk taking and the potential impacts on teacher creativity, innovation and, ultimately, student learning. Similarly, you need to consider whether existing structures are suited to the goals and aspirations for the future, and, if not, what is the required set of changes – and best sequencing of those changes – that will be needed.

The technology piece intersects with all of these issues and will require detailed and critical consideration. It has the power to impact all the four design principles of the scenarios: on the goals and objectives of education; its organisation and structures; the teaching workforce; and its geopolitics and governance. It can radically reframe how we think about formal education, about learning and the nature of knowledge and power itself. To a large extent, I am missing a nuanced and holistic discussion of these issues when digital education is discussed by policy, practice and politics. This needs to change. The active exploration and discussion futures thinking creates can help make this happen.

Concluding note

The OECD Scenarios on the Futures of Schooling (OECD, 2020) are part of a wave of renewed interest in futures thinking in education, with many scholars and practitioners contributing their own scenarios and tools to nourish the discussion. The UNESCO International Commission on the Futures of Education is the highest-profile political exercise in this domain, and it will be accompanied by a series of other initiatives in the coming years. It is my hope that this momentum will continue, and that rigorous work on anticipation and preparation for the future will become an essential element of serious strategic thinking in education.

The COVID-19 pandemic reminded us why we should care; it also reminded us of the costs of being unprepared for shocks and surprises. Our education systems – our schools, our teachers, our students, families and communities – have paid a price for this, with the biggest price being paid by those that could least afford it.

We must remain alert, ready for shocks and surprises, for the only real certainty we have is that they will surely come. A prepared system can provide the competencies needed to operate in the modern world and influence the life outcomes of the most disadvantaged. It can help combat the increasing fragmentation and polarisation of our societies. Access to learning and knowledge not only opens doors to individual and collective opportunities, it also has the potential to reshape the future of our global world.

Endnote

1. Horizon scanning itself can be done in an infinite number of ways, depending on what the user is looking for. This can include iterative reviews, automated text mining, expert surveys and 'web scraping'. The purpose is not to find the 'right' ideas about the future, but to identify instead the strong and weaker signals of change occurring in the present that could be surprising and significant in the future from the perspective of the user.

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About the author

Tracey Burns is Strategic Advisor and Distinguished Research Fellow for the National Center for Education and the Economy in Washington, DC. She is seconded to this position from the OECD's Directorate for Education and Skills, where she was Chief of Research for the Centre for Educational Research and Innovation. She is additionally a Commissioner in the UNESCO Broadband Commission, and was an expert for the UNESCO International Commission on the Future of Education.

Tracey has authored numerous articles, reports, books and book chapters, including most recently *Trends Shaping Education 2022; Back to the Future of Education: Four OECD Scenarios for Schooling; Education in the Digital Age: Happy and Healthy Children and Educating 21st Century Children: Emotional Well-Being in the Digital Age.*

Previous to her time at the OECD she conducted research on language acquisition in children and newborn infants and was an award-winning lecturer on child development. Tracey holds a BA from McGill University, Canada, and a PhD in experimental psychology from Northeastern University, United States.

About the paper

The author discusses how there are always multiple versions of the future – some assumptions, others hopes and fears – and argues that, to prepare, we must consider not only the changes that appear most probable, but also the ones that we are not expecting. Arguing the need to encourage informed dialogue on educational futures with analysis on complexity and systems-thinking, she focuses and comments on the four scenarios she co-authored via the OECD. She joins the international call for insisting on education as a public good and highlights a series of tensions inherent in strategic thinking and planning for the futures of schools and schooling that must be discussed to take action now.

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