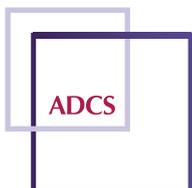




Schooling for the future: **Meeting the digital challenge**

A **THINK PIECE** BY **ANTON FLOREK**

FOR



**THE
STAFF
COLLEGE**

PUBLIC SECTOR LEADERSHIP FOR CHILDREN'S SERVICES

Foreword

The Covid-19 global pandemic has undermined the relevance of much work set in train before it changed the world and our lives. But, as this important think piece from Anton Florek at the Staff College shows, other ideas can become even more important. Anton's focus is on the need to *reimagine the future of schooling*. After this crisis – the-long term ramifications of which are still unknown – will schools ever be the same again?

At the RSA, we have argued that, broadly, there are three conditions that determine whether a crisis like this one leads to long term intentional change:

- Did significant demand and capacity for change pre-exist the crisis?
- Does that demand increase during the crisis, and in the response to crisis do we see different futures being prefigured?
- When societies and institutions emerge from crisis, are there political coalitions and practical policies and innovations ready to take advantage of a greater openness to change and adjustment?

For the first condition, as Anton shows, in some quarters questions about the shape of schooling were already being voiced. On the one hand, there were long running concerns about the limited impact of the education system on social inequality and immobility and, particularly in England, criticisms of the narrowness of the curriculum and systems of accreditation. On the other hand, the pace and scale of technological change leads us to ask more deeply what skills, competencies and attitudes tomorrows' citizens will need.

The experience of the crisis has amplified these questions and added others. We have become more aware of the inequalities in pupils' home lives. This isn't just about access to technology - although this is important. The time and confidence parents have to read with their children varies greatly and can be one of the reasons home-schooling exacerbates inequality. Many home-schooling parents have seen the limitations in the digital offer from schools and have drawn on physical exercise, crafts and arts to keep children motivated and engaged. Might this more holistic, socially-embedded understanding of childhood prefigure change after the crisis?

What of the concrete prospects of change? As I write, schools are having to think imaginatively and openly not just about transition as pupils start to return but also the longer-term challenges posed and highlighted by the pandemic. As this think piece suggests, there is a latent alliance between parents (and children) who want a wider more balanced offer from schools, and employers who crave a workforce that is resilient, creative and adaptive. A survey conducted by the RSA and Populus found three quarters of parents wanted to see stronger links between schools and employers and greater emphasis on vocational learning. Perhaps the crisis will educate Governments too in the importance of citizens who are informed, generous and resourceful.

History tells us it is often the case that it takes two major upheavals, one on top of the other, to lead to fundamental change. Writing before the crisis Anton Florek identified technology as a major force posing big questions to our model of schooling. Covid19 is a second and sudden disrupter. Schools may never be the quite the same again. We should see that as an opportunity not a threat.



MATTHEW TAYLOR
Chief Executive, RSA

“We are on the brink of the Fourth Industrial Revolution. And this one will be unlike any other in human history.”

Klaus Schwab¹

Background

Whilst most, if not all of us, are learning to come to terms with the rapidly changing world of work, communication, travel, science, technology, engineering etc. it is becoming very clear that once you start thinking about what is often called the digital challenge, it soon becomes obvious that what we are facing is a quantum leap in the speed of change compared to what has gone before.

However, our challenge isn't just the speed of change but also the nature of change which Schwab (ibid) suggests will be “Characterized by new technologies fusing the physical, digital and biological worlds..”. Thus, “..the Fourth Industrial Revolution will impact all disciplines, economies and industries - and it will do so at an unprecedented rate. World Economic Forum data predicts that by 2025 we will see: commercial use of nanomaterials 200 times stronger than steel and a million times thinner than human hair; the first transplant of a 3D-printed liver; 10% of all cars on US roads being driverless; and much more besides.”

This think piece has been prompted by some desk-based research on the educational response to the 4th Industrial revolution commissioned by The Staff College and my involvement in international dialogue with a number of colleagues with a particular interest in future schooling. This dialogue culminated in a double symposium contribution to the 2020 International Congress for School Improvement and Effectiveness in Morocco entitled “Connecting worlds, connecting systems: A global discussion for future schooling.”

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(to 16) or 2038 (to 18)

Whilst undertaking the research for The Staff College and in preparing for the symposium at ICSEI 2020, I was struck by the paucity of published material on future schooling written from within the education field in general and in the UK in particular. Whilst there are regular publications of materials on systems innovation, school improvement, teaching approaches etc, other than key thinking published by the [Innovation Unit](#), most of the thinking and concern about education for the future that I have been able to find has come from industry or the business sector rather than the schooling community of practice.

So, given that 5 year olds starting school today will be graduating in July 2036 (to 16) or 2038 (to 18), my question is: why are those engaged in the planning and delivery of learning and teaching in the UK not regularly asking themselves: **what is the purpose of schooling in 2020?** and then, having considered it, **what sort of schooling arrangements are now required to meet that purpose?**

In response therefore, this short think piece is an attempt by The Staff College to start a detailed and authoritative conversation across the UK schooling system so that all of us engaged in the education and training of our children and young people might consider better the two questions posed above and create new and lasting opportunities for thinking, discussion and the exchange of ideas and practice.

1 Schwab, K. (2018) The Fourth Industrial Revolution. World Economic Forum.

Introduction

Most countries have a mandatory school system, or an aspiration to develop one, based on the premise that all children should have the opportunity to grow into active learners. In most contexts, this opportunity happens in a place called school.

However, as popular “experts” as well as scholars increasingly suggest, the focus in schools is too often on teaching rather than learning. The challenge would appear to be: **how can we create meaningful learning experiences; experiences which create opportunities for children and young people to make sense of the world around them; experiences which help them to prepare themselves to become confident, resilient and contributing local, national and global citizens?**

Furthermore, this “preparation for life” is increasingly fraught with social, economic and political challenges which stem from an increasing volatile, uncertain, complex and ambiguous world; a world in which turbulence and unpredictable events are no longer exceptional.

While we may be inspired by student activists - whether in the Arab Spring, the post-Parkland High School shooting in the USA or the Climate Change school strikes in Europe - it seems clear that national and local schooling systems will need to equip our young people with the skills and attributes to build stronger networks, new alliances and an increasing diverse “tool box” of principles, ideas and strategies if they are to successfully navigate the transition from childhood to adulthood.

“We also need to think about what we value and what we want to take forward into the future.”

So, do we still need schools?

When questioning the purpose of schooling in 2019, we are, perhaps inevitably, drawn to Ken Robinson’s² challenging thinking regarding schools as social institutions of learning. He argues schools still fundamentally look and function like the 19th century institutions which pre-dated our schools of today.

This point is strongly made by the School Design Lab³ which suggests that “The world as we know it is changing. Big shifts in politics, the economy and technology are shaping our lives in ways that we mostly can’t predict or control. The very nature of work, family and community are beginning to look and feel very different, as are the challenges and opportunities that we face. The world has changed, but most schools haven’t.”

This raises issues about the extended context of how and when “schooling” occurs, and on the relationship between how children experience school-life and achieve purposeful educational outcomes.

A forward-thinking article written in 2014 by Prof Kate Myers⁴ sets out to address this by asking the question: **Do we still need schools?** In this article she eloquently questions the very premise of schools arguing “If we agree that the core purpose of schooling is learning and if learning is about making sense of new information, we need to consider how that process is best supported by schools. What is – or could be – the advantage of schooling? What is its unique selling point? We also need to think about what we value and what we want to take forward into the future.”

Myers (*ibid*) concludes by suggesting that we look towards a more flexible and pupil-led model of schooling which embraces the new possibilities offered by technology and digitalisation and occurs beyond individual

2 https://www.ted.com/talks/ken_robinson_changing_education_paradigms

3 <https://www.innovationunit.org/projects/school-design-lab/>

4 <https://professionallearning.education.gov.scot/media/1347/do-we-still-need-schools.pdf>

institutional boundaries, suggesting that “One future scenario that appeals to me is that, as pupils get older, more of their learning could take place in other venues.”

She goes further by giving examples of what she means by other learning opportunities which she suggests “facilitated and guided by the school – could happen from home and other non-school venues such as museums. Some learning would be through other schools, colleges and organisations, nationally and internationally. There would be a mix of virtual contact and face-to-face. Some learning would be individual and some with groups of varying sizes depending on the needs of the situation. Decisions will be affected by the age of the pupils, their experience of learning and available opportunities.

Central to these decisions will be what young people *themselves* feel they need and want. This scenario means that pupils will no longer be limited by being associated with only one school. Their local school will offer a sense of belonging and community but will be a starting not a finishing point.”

This raises questions not only about the institution of schooling itself but also the relationship of schools (in whatever form) to their communities.

“Their local school will offer a sense of belonging and community but will be a starting not a finishing point.”

It also raises the equity dilemma; how, for example in more diverse learning arrangements, do those who are more vulnerable, marginalised, require mediated learning opportunities, or arrive to schooling already tuned in to new technologies, have their needs met?

In an international context of change and uncertainty I am therefore prompted to ask: *What kinds of places do our schools need to be to help prepare our children and people to step into the future?* As educators and educational systems struggle to meet the challenges of social dislocation, changing technologies, instructional demands and ever-increasing expectations about the role of schools in preparing children and youth for uncertain challenges: **what needs to change?**

“Every school’s ultimate goal is to prepare its students for their future...however, educational institutions must adapt and prepare students with the necessary 21st century skills. The source of learning is no longer the teacher exclusively and the student’s main goal is no longer to memorize concepts without understanding their use. **Learning how to learn independently using technology is today’s new norm.”**

Samir Benmakhlouf Ph.D.

Founder and CEO of the London Academy, Casablanca, Morocco.

The 4th industrial revolution: challenging us, not what we do?

“We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another. In its scale, scope, and complexity, the transformation will be unlike anything humankind has experienced before. We do not yet know just how it will unfold, but one thing is clear: the response to it must be integrated and comprehensive, involving all stakeholders of the global polity, from the public and private sectors to academia and civil society.” Klaus Schwab⁵

“The First Industrial Revolution used water and steam power to mechanize production. The Second used electric power to create mass production. The Third used electronics and information technology to automate production. Now a Fourth Industrial Revolution is building on the Third, the digital revolution that has been occurring since the middle of the last century. It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres.” (ibid)

Schwab’s comment not only serves to introduce the construct of the 4th industrial revolution, it also provides a call to arms for those involved in public services provision. It makes clear that all those involved in contributing to society are implicated in creating a holistic and integrated response to what lies ahead. In particular, Schwab highlights the moral and ethical challenges which the 4th industrial revolution poses for future generations which they will have to meet and indeed need to be prepared for.

Placing this in the “rapidly changing technology” or, “it’s all about creating the workforce of the future” boxes misses the point. As Schwab⁶ says in an illuminating and really helpful video which provides a very compelling and graphic

“We stand on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another.”

introduction to the 4th industrial revolution, “This does not change what we do but it changes us”.

Schwab (ibid) goes on say, “There are three reasons why today’s transformations represent not merely a prolongation of the Third Industrial Revolution but rather the arrival of a Fourth and distinct one: velocity, scope, and systems impact. The speed of current breakthroughs has no historical precedent. When compared with previous industrial revolutions, the Fourth is evolving at an exponential rather than a linear pace. Moreover, it is disrupting almost every industry in every country. And the breadth and depth of these changes herald the transformation of entire systems of production, management, and governance.”

5 <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>

6 <https://www.youtube.com/watch?v=Ko2esJeGsrI&t=3s>

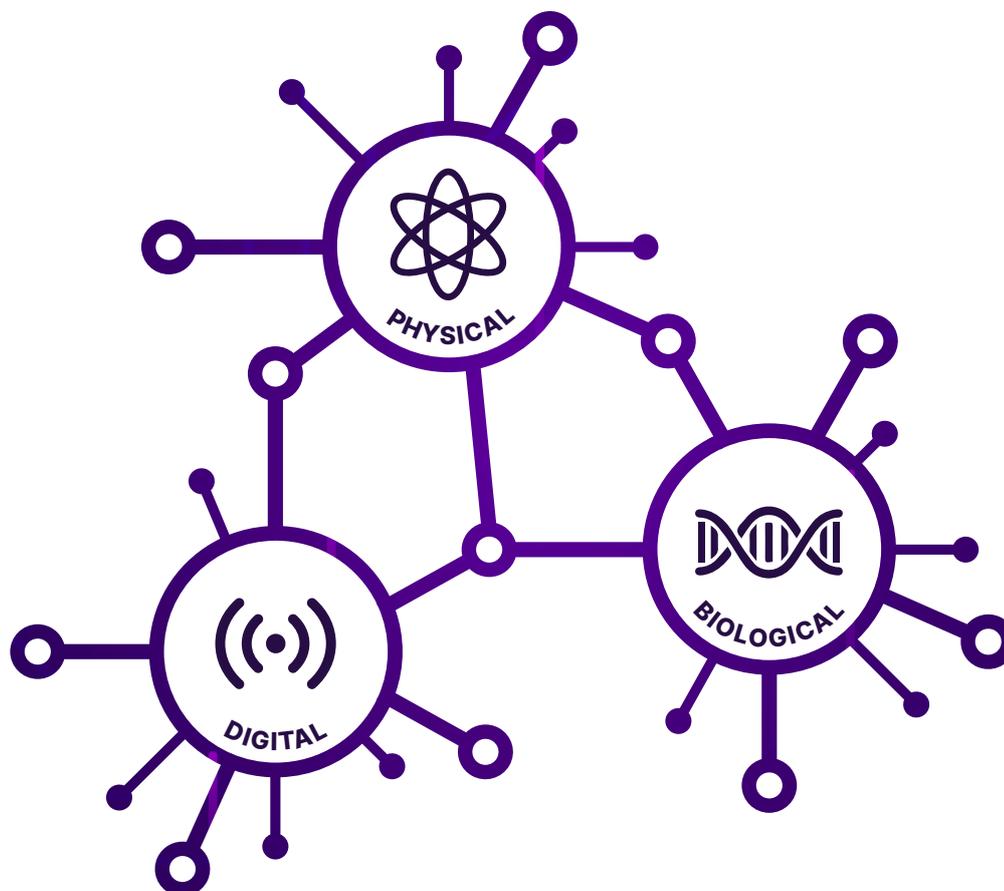
In the same vein, Graham Brown-Martin⁷ suggests that “This revolution brings with it exciting possibilities, new solutions to global challenges, and employment opportunities for jobs that have yet to be invented. At the same time, it comes with the potential for technological unemployment that drives downward pressure on income security and social agency while society adapts to the new normal. Combined with climate change and rapid global population growth this century is the most challenging that our species has ever faced. Governments, educators and parents alike must ask the question about how they can prepare present and future generations to thrive in this transforming world.”

This challenge to those engaged in education raised by Brown-Martin is echoed at the

“We have to find a way to lay the foundations for the innovations of tomorrow.”

conclusion of the video (*ibid*), when Mariette DiChristina from the Scientific American magazine leaves us with the following thought: “Even though we have everyday problems we have to solve, we have to find a way to lay the foundations for the innovations of tomorrow.”

‘Surely, isn’t this the role of today’s and tomorrow’s schooling systems?’



Future schooling: from here to where?

“People both want more education and yet discontent with how education works is rife and widespread. That is because there is a growing gap between:

- **The kind of education systems we have;**
- **The kind of learning we need;**
- **The technology available to enable new ways to learning and how it is used.**

The opening up of this triangular space between what we have, what we need and what is possible, is why we need innovation in learning.”

*Charles Leadbeater*⁸

This analysis by Charles Leadbeater is both helpful and instructional. As he states “Learning is a highly collaborative activity. Much of that collaboration will take place face-to-face. Education systems will need to create new settings in which children can learn, at school and away from it, with one another and with other people. A wide range of organisational innovations will be needed to create a diversity of settings in which children can learn, different skills in different ways. This might include new kinds of school, introducing learning into settings where it has not traditionally been available and creating entirely new settings. However, for the foreseeable future the main places where children will learn, formally, will be schools or very like them.”

So, whilst it seems highly unlikely that the social construct of a school as we know it will substantially change in the next decade or two, the rapidity of change triggered by the 4th industrial revolution demands that both what happens in our schools and how it happens changes rapidly in response.

“Education systems will need to create new settings in which children can learn, at school and away from it, with one another and with other people.”

Otherwise, our young people will emerge into the global market at a severe disadvantage compared to those who have experienced a 21st rather than a 19th century curriculum.

As Leadbeater (*ibid*) concludes, “...an innovative education system will need a way to innovate new forms of schools that are more effective in pursuing the kind of learning outlined at the outset. Understanding the conditions for that will be vital, both internal conditions, including leadership and governance, and external conditions, for example in terms of policy affecting new entry into the system.”

Towards new schooling systems

Graham Brown-Martin⁹, in a really useful interactive article on the [Learning Reimagined](https://medium.com/learning-re-imagined/education-and-the-fourth-industrial-revolution-cd6bcd7256a3) website, suggests that “This won’t be easy given the perverse financial incentives of an education model rooted in the late 19th century, driven by an antiquated text book and measurement industry that regards teaching as delivery

⁸ <https://www.scribd.com/document/259312565/Leadbeater-Rethinking-Innovation-in-Education>

⁹ <https://medium.com/learning-re-imagined/education-and-the-fourth-industrial-revolution-cd6bcd7256a3>

rather than design. For decades this industry imagined that teaching as delivery, in the form of instruction, would mean that human teachers could eventually be replaced by computers. But this has misunderstood the nature of teaching and learning which is a uniquely personal and social activity between people that caters to every learner's changing needs, unique talents, passions, and interests. In the very things that set them aside from the machines that are now emerging as part of this next industrial revolution."

Clearly, Brown-Martin isn't suggesting that reading and writing will become unimportant. He is simply emphasising that in times of rapid change in an uncertain future the most valuable skill will be learning how to learn rather than simply reciting a set of facts and procedures. Put another way, we need to think again about the content of our curricula, not just the way they are delivered.

As Alvin Toffler¹⁰ writing in 1970 warns, "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn". This is a salutatory call to arms for all of those involved in the learning endeavour and serves as a reminder that we need to take curriculum redesign seriously if we are to create learning systems that genuinely equip our young people to successfully face the future.

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn."

What kind of learning do we need?

If we accept that we need to radically rethink our curricula for the reasons outlined above, then we also surely need to reconsider how we plan and deliver schooling.

This point is well made by Valarie Hannon and Amelia Peterson¹¹ who suggest, "Schools need to be reinvented as a key part of learning ecosystems; webs of civil society institutions powerful enough to enable humanity to address the problems which both threaten it and offer spectacular opportunities. Schools in diverse settings and conditions are already innovating their foci and their methods to help their learners - not just pass tests, or even get a job - but to thrive."

This notion of thriving is interesting as it takes us in to the wellbeing rather than academic learning space. It suggests a more humanistic curriculum aimed at developing and indeed nurturing the unique characteristics of humankind which make us distinct. This point is made very forcefully by Charles Leadbeater¹² who argues, "We must facilitate the global learning movement towards more dynamic education systems. In this way we will allow more students to become problem solvers, and to develop the basic human capacities..... to care, about what happens in the world, to empathise with other people, and to create new artefacts and solutions...." These he suggests "will be more important even than the new knowledge we muster."

In continuing his analysis of what formal education systems should be focussed on, Leadbeater goes on to say, "Following instructions has been at the core, and has driven the success of mass education. Yet in a more volatile, uncertain world, characterised by innovation and entrepreneurship, we now need to equip young people to solve problems of all shapes and sizes.

¹⁰ Toffler, A. (1970). *Future shock*. New York: Random House.

¹¹ Hannon, V., and Peterson, A. (2017) *Thrive: Schools reinvented for the real challenges we face*. Innovation Unit Press.

¹² Leadbeater, C. (2016). *The Problem Solvers: The teachers, the students and the radically disruptive nuns who are leading a global learning movement*. London: Pearson.

Problems that will not come with instructions. To make that shift, education systems need to provide dynamic experiences for young people through which they can learn in practice how to deploy knowledge in action, to work with others and to develop critical personal strengths such as persistence and resilience, to learn from feedback and overcome setbacks.”

This view is interestingly also supported by Jack Ma, founder of the Alibaba Group in a fascinating video clip from the World Economic Forum in 2018¹³ in which he states, “If we do not change the way we teach, 30 years from now we’ll be in trouble. The things we teach our children are things from the past 200 years - it’s knowledge-based. And we cannot teach our kids to compete with machines, they are smarter.”

“We should be teaching our young people the values and skills that no machine can possess.”

In the same vein, Brown-Martin¹⁴ goes on to say that, instead, “We should be teaching our young people the values and skills that no machine can possess. Qualities like independent thinking, teamwork, and care for others will not just set students apart, they will ensure students can be valuable contributors to society in ways that make them irreplaceable.”

How does Jack Ma think we can impart that kind of knowledge? When asked, he replies, “I think we should teach our kids sports, music, painting - the arts - to make sure that they are different. Everything we teach should make them different from machines.”¹⁵

“We are not robots. We must excel at being human.”

New learning through new thinking

The challenge for us involved in the schooling endeavour isn’t simply a digital one. It is also a moral one which requires us to accept that there seems little point in trying to preserve a schooling system which is predicated on knowledge transfer and retrieval.

As Leadbeater¹⁶ concludes, “Reproducing knowledge will be increasingly automated by digital technologies. So being able to do that will not in itself be a critical skill. Instead what will be valuable is applying knowledge in inventive ways in novel contexts. Whereas in the past we have seen education as providing people with access to a fixed stock of knowledge; now it is much more about getting people to find their way into flows of knowledge that are constantly changing. Collaboration will be critical to all of that.”

Accepting that education or the process of learning through the social institution of schooling sits at the heart of preparing present and future generations to thrive, the challenge surely is: *How can we create opportunities for children and young people to make sense of the world around them and prepare themselves for becoming confident, resilient and contributing local, national and global citizens?*

Graham Brown-Martin’s¹⁷ helpful response is, “It’s beyond doubt that education is at the heart of preparing present and future generations to thrive. As a result, it’s vital that we have an education that develops human potential rather

13 <https://www.youtube.com/watch?v=rHt-5-RyrJK>

14 (ibid)

15 (ibid)

16 https://kupdf.net/download/leadbeater-rethinking-innovation-in-education_5a093d10e2b6f5a118c0ba07_pdf

17 (ibid)

than pits it against machines. An education system designed for an industrial economy that is now being automated requires transformation, from a system based on facts and procedures to one that actively applies that knowledge to collaborative problem solving.”

This clearly poses a significant and profound challenge to all those engaged in the learning business from policy makers to practitioners. What is required is a fundamental re-think of the purpose of schooling and an acceptance that continued adherence to the singular value of knowledge-based pedagogy will not serve our children and young people well in the long run.

I think that this is a humanistic/moral question which will undoubtedly challenge our values, thinking and practice. It requires us to accept that the past (whilst providing experiential insights) may no longer serve as a useful predictor of the future. So, looking back doesn't help. Clearly, we need to be aware of and respect where we have come from but, increasingly, as global citizens, we will be required to balance our local and national identities with the collective greater good in a global world which is shrinking through technology whilst at the same time facing its biggest existential challenge.

To draw on Charlie Leadbeater¹⁸ one last time, “What is at stake in the debate over the future of learning is not whether school systems rise or fall in the PISA rankings. It is about how well education prepares young people to flourish in a society awash with intelligent technology, facing an uncertain future, with endless opportunities

“We need to shape a future that works for all of us by putting people first and empowering them.”

for collaboration but also deep-seated and urgent challenges that need addressing.

We need to learn to be more human as society becomes more technological, to become more creative as work becomes more programmed, to be more empathetic as systems become more pervasive, to take the initiative rather than meekly follow instructions, to work together rather than go it alone. We are not robots. We must excel at being human.”

Or, put another way, “In the end, it all comes down to people and values. We need to shape a future that works for all of us by putting people first and empowering them. In its most pessimistic, dehumanized form, the Fourth Industrial Revolution may indeed have the potential to “robotize” humanity and thus to deprive us of our heart and soul. But as a complement to the best parts of human nature - creativity, empathy, stewardship - it can also lift humanity into a new collective and moral consciousness based on a shared sense of destiny. It is incumbent on us all to make sure the latter prevails.” Klaus Schwab¹⁹

Isn't this what our schooling systems should be preparing our young people to do?

18 (ibid)

19 Schwab (Ibid)

Additional resources



Dynamic Learning - Charles Leadbeater

<https://www.youtube.com/watch?v=XB0u53mARNQ&t=12s>



Schools of the Future: BBC News

<https://www.youtube.com/watch?v=ICkuhcvtvJs>



Why schools should teach the curriculum of the future not the past

<https://www.weforum.org/agenda/2018/09/why-schools-should-teach-the-curriculum-of-the-future-not-the-past/>



What kind of education do we need in the future?

<https://www.weforum.org/agenda/2016/01/amplifying-our-human-potential-a-new-context-for-the-fourth-industrial-revolution>



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