

Education has to change and adapt to tomorrow's world

By [Ariellah Rosenberg](#)

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You wake up in the morning anticipating your bowl of cereal to fuel you for the rest of the day but find an empty carton of milk. It's a scenario that may be familiar to many of us. You reach for your phone and after a few clicks 10 minutes later you get a two-litre carton of milk delivered to your door by a flying robot.



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This is not the preface of a science fiction book – it is becoming a reality in many places in the world. In Finland, a special pilot project has been launched in Helsinki that intends to have drones deliver goods and packages of up to 1.5kg within a distance of up to 10km.

The pace of technology is fast

Thousands of years ago we would be approaching prophets and asking them to look into the future to help us paint the picture of the significance of all these changes. The technology pace is so fast that it is difficult to predict how the changes will impact our lives, but mostly how they will impact our livelihood and how best we need to be equipped for jobs that not only don't yet exist but that we perhaps cannot even imagine.

When ORT was established in 1880, in the midst of the second industrial revolution, the invention of electricity brought about many changes in the way people lived. When electric power expanded into mass production it also changed the work

environment. These changes have had implications for the workforce skills, and ORT's mission of teaching people skills was significant in helping them adapt to the world of work by providing artisanship and vocational skills training.

Now, 139 years later and with operations in more than 30 countries, ORT faces similar challenges.

In the light of the so-called fourth industrial revolution, there is the understanding that we have to continuously examine the curriculum, pedagogies and methodologies offered by schools, colleges and universities to adopt and prepare this generation for the future workplace.

In the 1990s the internet transformed all industries through communication, commerce and sharing of information. A few years later, artificial intelligence (AI), Internet of Things (IoT) and automation (robotics) is fast and furious and require us to adapt or be left behind.

The pros and cons to changes in tech

Technology is changing the world of work in the way we process information, the way we communicate and the way we share information. There are pros and cons to those changes, but unarguably, it makes our lives easier, cheaper and much more productive.

Digital technologies allow the encoding of analogue information into zeros and ones so that computers can store, process and transfer this information. According to *The Future of Professions* by Richard Susskind, in 2010 only 20% of the world's information was stored digitally. Today it is 98%! And with the shift from print-based information to internet-based information, it further facilitated the creation, access and spread of knowledge.

The ubiquitous access to professionals and professional guidance is increasing and provides ample opportunities for both businesses and professionals.

Automation generates anxiety and fear of the society of robots replacing human labour. According to *The changing nature of work*, a World Development report published by the World Bank Group in 2019, technological progress leads to the direct creation of jobs in the technology sector. Robots are and will be replacing workers, but it is far from clear to what extent. Interestingly, technological change that replaces routine work is estimated to have created more than 23 million jobs across Europe from 1999 to 2016, according to the report.

Technologies bring promise but also possess threats and we need to learn how to maximise the promises that the technologies bring – and minimise the perils of the changes to come.

Alec Ross, author of the *Industries of the Future* explains that the change driven by digitisation creates efficiencies but everything that we do digitally creates security problems. He calls it the “weaponisation of code”, the most significant development since the missile weaponisation and identifies cybersecurity know-how as a talent that needs to be developed.

The role of education needs to change

This is why education has to change and adapt to tomorrow's world. What should our current generation study for the future workplace?

McKinsey's May 2018 report *The Skill Shift Automation and the Future of Workforce* indicates skills that will be on the rise and skills that will be shrinking. Physical and manual skills, as well as basic cognitive skills, will be in less demand, whereas higher cognitive skills, social and emotional skills and technological skills will be high in demand for future jobs.

Therefore, in the same way, that any learning curriculum includes reading and writing, so too the basics of computer science have to be incorporated. Coding is becoming the alphabet of how the future will be written.

In a world of zeros and ones where software makes robots so powerful, it is important to ensure we also include emotional intelligence and humanitarianism in the curriculum to create more resilient people. Empowering our youth to not only compete in the world of tomorrow but to become the future leaders.

So here we are, back at home, waking up and ready for our breakfast cereal. But this time the drone delivers the milk before we even open our eyes. Because, hey, IoT (Internet of Things) and Artificial Intelligence already know you are out of milk!

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