

Teaching and Learning: relying on yesterday cannot create tomorrow

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Education is politics, contextualised and highly systemised, engaged with the longer-term development of learners in a fast-moving world.

The digital revolution is happening at an exponential speed. Our lives are increasingly impacted technological progress. Supported by mobile technologies, this revolution has turned into an accelerating and progressively ubiquitous global phenomenon. It is impossible to look at the world without looking at digitisation and its impact. Yet, the wider adoption of technology in education has not materialised, especially in institutional contexts. Today's education still relies on 19th century and *industrial* models, developed to fulfil the needs of the industrial revolution. The world today is a very different place.

Experts, media and industry are consistently asserting that today's youngsters won't know what job they'll be doing tomorrow. Careers already are no longer a one-stop destination and belong to a distancing past. Today's workforce already fully understands that a job is no longer for life. This trend, influenced by accelerated technology evolution and wider economic drivers, is only set to extrapolate exponentially.

According to a senior LinkedIn executive, the new work force is likely to change jobs 15 times in their career¹. Perhaps it is not all that outlandish to state that, as a consequence, jobs are likely to change us too. After all, we will increasingly work in a workplace susceptible to change. We will need to tackle increasing complexity and challenges concerned with sustainability, migration, environment and pollution, climate, technology dependency and automation. We will have to adapt, innovate and continue to develop creative skills and critical thinking not to be overrun by smart technologies. Such fundamental transformation does not come without questions about ethics, humanity and the planet we live on and *consume*.

Already we are forced to *learn to unlearn and re-learn*, and do this at speed. The shelf-life of expertise will decrease continuously, like a car losing its value leaving the showroom. Artificial Intelligence (AI), Virtual Reality (VR) and automation will not only put lower-skilled employees at the risk of unemployment, but equally the highly educated who don't develop an aptitude for learning and unlearning and nourishing of creativity. The traditional skill-set will see a demise, whilst the emergence of new skills and aptitudes becomes progressively important.

Creativity, collaboration, empathy and the ability to work in a multi-disciplinary context or *soft skills* will become fundamental. Stretching beyond one's silo of expertise and becoming more of a T-shaped person², a concept originated at McKinsey in the eighties, will be a prerequisite for success and to realise one's potential. Yet, education continues to rely on yesterday's models and curricula, ignoring these needs and appropriate digital adoption in teaching and learning. This not only turns education towards yesterday's world, but ill-equips today's learners for tomorrow's challenges.

Teaching learners to code or focus predominantly or solely on STEM³ subjects will not produce the skills and knowledge nor the aptitude for critical analysis of the world or the human condition. Not focussing on history, geography, social sciences, language, philosophy, arts and music, culture, environment and *soft skills* in the curriculum will only impede the skills to work multi-disciplined environments or drive innovation.

¹ <https://www.edsurge.com/news/2017-07-20-how-many-times-will-people-change-jobs-the-myth-of-the-endlessly-job-hopping-millennial>

² https://chiefexecutive.net/ideo-ceo-tim-brown-t-shaped-stars-the-backbone-of-ideoaes-collaborative-culture_trashed/

The letter 'T' points at the depth of skill or knowledge, as well as the aptitude to reach out to and work across disciplines.

³ STEM: Science, Technology, Engineering and Maths

Ignoring digital literacy, technology and the development of *cognitive insight* in teacher education, will not only stem their professional development and potential, but impact negatively on the learner as new approaches to pedagogy and innovation of teaching are ignored. It is this realisation that education should be increasingly concerned with, engaging and adopting the appropriate use of technology to augment teaching and learning.

Learners universally, must be able to gain access to learning to develop relevant knowledge and skills to thrive. Understanding context, having the ability to think critically, cultivating empathy and new ethics for a technology-driven world will be instrumental for learners to engage with their peers and lead successful lives in an automated 21st century world still grappling with 20th century-created challenges.

Looking solely at scalable technologies or unconsidered implementation of AI for Teaching and Learning will not deliver a solution for the future of education that takes place in a multitude of contexts. After all, the challenges for education are too diverse and complex to be shoehorned in a one-fits-all digitisation approach.

Yet, promising technology players and educationalists are increasingly engaging with education challenges and transformation. AI and VR can already support and augment teaching and learning better than ever. *Meta-cognition* and *learning about learning* propositions and Learning Science are gaining traction. However, despite such encouraging developments, it will need technologists, educators, stakeholders, learning experts and policy makers to have the will, intent and remit to collaborate to reform education to address the world's need or fully equipping learners for tomorrow's world will remain only accessible to the privileged. Vast numbers of youngsters or lower-skilled workers will be left behind. The ensuing attainment gap of such an approach will only impact negatively on tomorrow's world and the challenges faced by its citizens.