

COMMENTARY **Commentary**

Commentary: Confidence to face an AI-dominated future requires preparing Singaporeans for jobs not yet created

Filling jobs of the future requires a fundamental paradigm shift in education, training and reskilling, says one observer.



Nanyang Technological University's class of 2016. (Photo: NTU)



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SINGAPORE: Meet John. He's a Machine Risk Officer and part of his company's leadership. His team consists mainly of intelligent machines and he works with them more often than he does with his human colleagues.

If any of the machines fail, all the potential risks are managed by John. He's also passionate about establishing human-machine trust, championing machine ethics, and setting the rules for how to handle machine-caused wrongdoing.

John's job doesn't exist yet, but in the next five to ten years, his role and others such as Head of Business Behaviour or Cyber Calamity Forecaster may become a reality.

The Ministry of Education has made sweeping changes in recent years to reduce the emphasis on academic results for primary and secondary education in order to develop 21st century competencies in students at an early age.

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But we're behind when it comes to addressing the last-mile skilling problem within private businesses and higher education institutions.

According to Cognizant's Relearning How We Learn From the Campus to the Workplace report, globally, most businesses and higher education institutions agree it's extremely important to prepare workers and students to work alongside emerging digital technologies.

Yet, neither can agree on who is responsible for making that a reality, despite both acknowledging that our workforce is woefully unprepared under the status quo.



People crossing a street in Singapore's central business district. (File photo: Reuters)

In Singapore, both parties expect to fail: Businesses and educators estimate that only 60 per cent of staff and 55 per cent of students are prepared to handle new types of work in the next five years.

Higher education institutions seem to be pointing the finger at businesses when the topic of soft business skills is broached, while businesses push back when they find themselves needing to retrain fresh graduates.

The problem arises because educators view their role as knowledge providers, while businesses see themselves as job providers, expecting educational institutes to overhaul their curriculum to align with changing work and workforce needs.

One way to encourage higher education institutions and businesses to work together is by complementing traditional degrees with certifications from employers.

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For example, California's community colleges are running employer-verified programmes that offer digital badges to students for human skills such as adaptability, problem-solving, and resilience.



A job seeker talks with a corporate recruiter as he peruses the man's resume at a job fair in Washington, June 11, 2013. (Photo: REUTERS/Jonathan Ernst/File Photo) A job seeker (L) talks with a corporate recruiter (R) as he peruses the man's resume at a Hire Our Heroes job fair targeting unemployed military veterans and sponsored by the Cable Show, a cable television industry trade show in Washington, June 11, 2013. REUTERS/Jonathan Ernst/File Photo

TRAINING AND LEARNING APPROACHES OF THE FUTURE

While there is clearly no one-size-fits-all approach for preparing the future workforce, companies and education institutions agree they must identify skills of the future and overhaul existing curriculum and associated learning and teaching approaches.

In my view, there are four key actions that businesses and higher education institutions can take:

1. ZOOM IN ON SKILLS THAT MAKE HUMANS MORE HUMAN

require a combination of human instincts and technological capabilities.

For instance, big data and data science jobs are increasingly less focused only on statistics skills and more on the ability to make sense of data and apply insights to solve complex business cases.

Tech giant Google have detailed “solving difficult, non-routine analysis problems” and “interacting cross-functionally with a wide variety of people and teams” in their data science job listings.



Google CEO Sundar Pichai speaks on stage during the annual Google I/O developers conference in Mountain View, California, May 8, 2018. (Photo: Reuters/Stephen Lam)

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To adequately prepare students, higher education institutions can take a page from the playbook of SkillsFuture and incentivise students to pick up new skills beyond what is currently core course curriculum.

Higher education institutions should create separate programmes that will help students upskill throughout their education journey by encouraging interdisciplinary studies and consider incorporating these as degree requirements.

For instance, engineering students could enhance their communication or presentation skills by joining courses conducted by humanities faculty to supplement their core course curriculum.

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2. FOCUS ON SKILLS TO COLLABORATE WITH, NOT CREATE, ROBOTS AND AI

with these robot creations to fully exploit automation's full value.



An automated check-in kiosk at Changi Airport Terminal 4. (Photo: Kenneth Lim)

An example of this can be seen at Singapore Changi Airport Terminal 4 where airport staff now oversee and troubleshoot problems passenger might face in using the automated self-check-in machines.

Deployed as Changi Experience Agents, Changi now has roving customer service officers walking the grounds – serving passengers with high-quality, face-to-face interactions and allowing airlines to better optimise their resources through human-machine collaboration.

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3. STOP CREATING, START CURATING TRAINING AND TEACHING CONTENT

Businesses and educators will need to see themselves as curators rather than creators of content. In fact, 62 per cent of business leaders agree that they will need to move from creating to curating learning materials when it comes to training or teaching programmes.

Leveraging high-quality content from other learning providers can give business trainers and educators greater agility and responsiveness to design timely these modules.

International organisations recognise this major re-skilling gap and are responding to this demand for engaging, up-to-date and industry-relevant training. A great example is the World Economic Forum's partnership with IT industry partners, streamlining training content on one platform called SkillSET in its tech re-skilling drive.

While AI can bring about significant business benefits when applied in business operations, it can also be leveraged to change the way students and employees learn.

AI can personalise learning experiences, with students or employees learning faster or slower according to what machine learning algorithms observe from how quickly they pick up on a topic.

Augmented reality and virtual reality (VR) can expose learners to experiences required to do their jobs that might have taken much longer to gain.



A man trying out Virtual Reality goggles at the Seniors for Smart Nation launch at Kolam Ayer Community Centre. (Photo: People's Association) Mr Tay Meng Huat, 66, trying out Virtual Reality goggles at the "Seniors for Smart Nation Launch" at Kolam Ayer CC on Wednesday (Mar 30). (Photo: People's Association)

For example, the University of Newcastle in Australia offers a VR-based delivery room training for midwifery students to learn key anatomy and birthing techniques.

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NO TIME TO LOSE

Skilling and reskilling the workforce for future job will remain a perennial challenge and a hot topic of discussion among academia, industry and our society.

Where all stakeholders agree that the education and training practices need an overhaul, yet no one wants to take the lead in driving this agenda, perhaps we need a mindset shift that embraces collective responsibility in moving the

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Source: CNA/nr(sl)

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