Scant AI and green technology standards in Malaysian TVET

By Dr Ramlee Mustapha - March 8, 2022

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Research has shown that Artificial Intelligence (AI) technology can increase gross domestic product by up to 26 per cent in the next decade.

In Malaysia, advanced AI knowledge and skills are still considered black swan competencies. Malaysia faces a lack of talent in these skills sets.

That's why, few National Occupational Skills Standards (NOSS) listed AI competencies.

However, AI is growing rapidly. It is expected that the children entering primary schools today might end up working in jobs that do not yet exist.

Therefore, we must ensure technical and vocational education and training (TVET) graduates are equipped with relevant skills to meet the demands of Industry 4.0. In a few years, green technology and AI are expected to transform TVET.

The Higher Education Minister Datuk Seri Noraini Ahmad, in her annual speech, highlighted the importance of digitalisation of education, which could cost RM4.4 billion.

However, green technology and AI competency standards are still scanty in Malaysian TVET institutions, as evident in the NOSS documents. More than 90 per cent of NOSS are still on conventional skills.

Besides digitalisation, green technology is seen as a feasible solution to most of the environmental issues affecting society. Green technology will undoubtedly change the labour market.

Green technology and AI can solve complex problems such as climate change or environmental degradation. However, the relevant question to ask: Do our TVET curricula contain AI and green knowledge? If the answer is "no" then we need to assess our curricula and make the changes.

Green technology and AI-based training are game-changers of the future, and countries that lag in these two sectors would be left behind.

One of the challenges of TVET in Malaysia is the oversupply of vocational training institutions, with 11 ministries overseeing 1,295 institutions (640 public, 633 private and 22 state government-owned).

Every year, Malaysian public TVET institutions (including vocational colleges, polytechnics, community colleges, industrial training institutes, Giat MARA, and technical universities) produce an estimated 200,000 graduates.

Another pressing problem of TVET graduates is the relatively low salaries. This could impede the nation's efforts to become a high-income nation.

Nevertheless, the good news is that this year, the TVET sector obtained more than RM6 billion in funding from the government.

TVET in Malaysia needs to advance technologically and digitally with green technology and AI. Hence, the 12th Malaysia Plan reiterates several key points including to leverage new technologies.

Our digital highway should be driven and powered by 5G, cloud computing and AI. The overarching system should be built on high-speed connectivity, AI and digital platforms to enable vertical industries to realise their digital transformation, personal devices and wide-coverage digital infrastructure.

It is critical for telecommunications companies to support the country in its digital journey with a robust 5G deployment.

The new trend for cloud computing will see most organisations to accelerate their migration to the cloud by 2025, with 100 per cent of enterprises on the cloud, and 86 per cent of enterprises using AI.

Malaysia needs the right policies and regulations to promote green technology and AI adoption.

In making Malaysia an AI hub, it is interesting to see how TVET institutions will produce adequate green technology and AI technicians and professionals.

The new TVET leadership model will be based on digital mindset and competence.

Digital leadership is poised to nurture home-grown AI talents in TVET sectors to meet global standards. TVET institutions need to forge strategic partnerships with key AI companies.

Besides that, TVET institutions should also collaborate with various reputable international TVET institutes and universities. The ministries are also undertaking initiatives to widen opportunities for TVET graduates' green technology and AI articulation locally and globally.

I suggest a Centre of Excellence for AI status be given to any TVET institution that has the capability and potential to conduct research and invent AI products.

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