

Embracing Industry 4.0

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“HIGHER Education 4.0: Knowledge, Industry and Humanity” was the theme of the 2018 mandate from Higher Education Minister Datuk Seri Idris Jusoh as he called for a revamp of the higher education ecosystem in Putrajaya on Thursday.

A continuation of last year's focus on redesigning higher education, the mandate looked at how higher education institutions in Malaysia are to remain relevant and competitive in the Fourth Industrial Revolution (Industry 4.0).

“Last year, the ministry embarked on a year-long effort to better understand Industry 4.0 and its impact on higher education. What we found is that Industry 4.0 is the continuation of a journey achieved through advances in science and technology, and that each industrial revolution changes the way we live, work and interact with each other.



Noor Azlan Ghazali



Mohamed Mustafa Ishak

“With Industry 4.0, there is rapid change; volatility, uncertainty, complexity and ambiguity; and evolving jobs where the manual ones are being taken over by robots. But humans, with the advantage of flexibility, creativity and brain elasticity, will emerge as champions. Thus, education is key to facing these challenges,” Idris said during his presentation.

To address the challenges of Industry 4.0, he said the process of teaching and learning at higher education institutions must be changed.

He said different kinds of learning spaces and pedagogies were needed, such as heutagogy (self-determined learning), paragogy (peer-oriented learning) and cybergogy (virtual-based learning). Curriculum had to be fluid and organic, incorporating the latest learning and teaching technologies.

“The ministry will introduce a policy whereby all higher education institutions are allowed programmes with 70 per cent set subjects, while the remaining 30 per cent is open to content that is relevant to current trends.

“The implementation of 21st century pedagogy means classes need not be conducted through lectures (learning without lectures) and assessments need not be based solely on exams.”

This year, the ministry will implement the Professional Development Programme 4.0 for lecturers with the aim of having 30 per cent of all teaching and learning at public higher education institutions be aligned to Industry 4.0 by 2020. The Rethinking and Redesigning Higher Education Awards will be continued in 2018.

Idris said another move to address the challenges of Industry 4.0 was to have the industry and the academia act as one to fulfil industry and graduate needs.

“We don't have to fear not having jobs as there will be new types of jobs created. The TVET 4.0 framework will be completed next month, and it will look at new industries and



Datuk Seri Idris Jusoh delivering his mandate at the Putrajaya International Convention Centre. PIC BY SADDAM YUSOFF



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DATUK SERI IDRIS JUSOH
Higher Education Minister

how we adapt education to requirements of such industries. The role of higher education institutions is to prepare students for the changes brought by Industry 4.0.

“Merging industry and academia is for humanity and not industry. Universities must ensure that they offer programmes relevant to Industry 4.0. We need to hasten the changes or universities will become irrelevant.”

Another initiative mentioned in the mandate is having at least 40 per cent of programmes in public universities implement the Integrated Cumulative Grade Point Average (iCGPA). All public universities are to establish the e-Portfolio system and integrate it with the iCGPA system.

Idris also proposed that the Malaysia English Assessment (MEA) be integrated in the communication component of the iCGPA.

He also called for the 2 Years in University and 2 Years in Industry (2u2i) programme be intensified among public universities and invited private universities to implement it.

As for the CEO@Faculty programme, the number of corporate heads will increase by 10 to 83. The ministry will continue with its CEO@Faculty 2.0 programme to involve 60 young lecturers, who will be mentored by the CEOs. The CEO@Faculty programme will be expanded to polytechnics and community colleges this year.

Each public university is required to increase the usage of Massive Open Online Courses (MOOC) to at least 20 per cent of all courses offered. Two subjects must be taken and completed by students via MOOC.

For polytechnics, the ministry targets having 40 per cent of students use MOOC through the offering of 70 courses starting this year.

To transform public universities into smart campuses, the ministry targets all public universities to start implementing Smart Campus by June.

In line with the Entrepreneurship Action Plan of Higher Education Institutions (2016-

2020), the ministry targets 80 per cent of students to have entrepreneurial exposure while studying, nine per cent to register a business during studies and 3.5 per cent of graduates to choose entrepreneurship as a career.

Translational Research continues to be emphasised in the form of Translational Research 2.0, as do the emphasis on internationalisation to make Malaysia an international education hub.

“We must be brave in order to change. We have been brave in redesigning our higher education system. And now, we will once again show that we are brave and innovative enough to change for Industry 4.0 and beyond,” said Idris.

Universiti Kebangsaan Malaysia vice-chancellor Professor Tan Sri Dr Noor Azlan Ghazali said what was required in the higher education sector was change and higher education institutions must be able to offer strong value to society in the context of Industry 4.0 — particularly in the process of learning and teaching.

“It is time universities take this seriously. In UKM, we have made this call for the last three years: you must change or become irrelevant. People can bypass university unless universities change. Universities must offer something that is valuable.”

Universiti Utara Malaysia vice-chancellor Professor Datuk Seri Dr Mohamed Mustafa Ishak commended the emphasis on having the industry and academia work as one.

“Universities must partner closely with industry and move as one because it would enable the universities to understand the changes that are taking place.”

Universiti Malaysia Terengganu vice-chancellor Professor Datuk Dr Nor Aieni Mokhtar said the human factor must be considered when designing the curriculum for Education 4.0.

“The human element must go along with the technical tools brought about by industry 4.0.”



Nor Aieni Mokhtar