

HIGHER ED

Mission ahead: Future-proofing education

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WHILE the year 2019 saw significant strides made in higher education — with an emphasis on giving wider access, and inclusion into learning institutions — the sector nevertheless also faced challenges.

Among others, it continued to grapple with issues such as graduate employability, funding for research and operations, obsolescence of course content, as well as the struggle to stay relevant in the face of changes brought by Industrial Revolution 4.0 (IR4.0) — issues that are expected to persist into 2020.

According to Professor Emeritus Tan Sri Dr Zakri Abdul Hamid, senior fellow at the Academy of Sciences Malaysia and the recipient of the National Academic Laureate Award 2019, the situation is not unique to Malaysia; it applies to other countries as well.

"It is widely acknowledged that we are facing unprecedented challenges driven by accelerating globalisation and a faster rate of technological developments. Yet in facing these challenges, I would also like to think that they also provide us with opportunities for human advancement.

The future has become more uncertain and we cannot predict it, but we must be open and ready for it," he said.

He remarked that the dawning of the new year presents an opportunity to address these challenges.

"Today's students will be the future workforce. The education system needs to prepare them for jobs that have not yet been created, for technologies that have yet to be invented, and find solutions to problems that have yet to be encountered. It will be the shared responsibility of the government, academia and industry to seize opportunities and find solutions."

Zakri noted that efforts are being made

by the relevant parties to ensure the future readiness of students.

"However, the focus should be on the preparedness of the education institutions to embrace these challenges, not only in student preparation but the institution themselves in making use of the digital and IR4.0 technologies in their day-to-day operations. Higher education institutions (HEIs) themselves must have their own internal digital strategy."

Zakri believes there is a need for broader education goals which should include individual and collective advancement of knowledge.

"This idea has also been raised amongst developed nations in the OECD. The challenge is trying to create the right balance in providing students with the right knowledge, skills, attitude and values. We want to be able to produce future generations that have these attributes in abundance so that they will be able to face the future with confidence."

In preparing for the future, Zakri said

stakeholders in higher education need to answer the following questions:

What knowledge, skills, attitudes and values will the students now need to prepare them for the future?;

How can the education system develop these knowledge, skills, attitudes and values effectively?; and,

What is the best delivery mechanism available to ensure effective knowledge, skills, attitudes and values adoption?

"I hope that the authorities will start recalibrating their priorities in a holistic and integrated manner starting in 2020. This includes, but is not limited to, looking at the HEIs' readiness to embrace IR4.0, as well as to prepare the students for IR4.0 — an assessment of the HEIs' infrastructure, delivery system and talents."

So how are HEIs preparing for the challenges ahead?

Higher ED looks at what the public and private institutions are focusing on this year.

A more flexible delivery of education, greater exposure to societal problems, better collaborations, and strengthening of fundamentals are on the cards for higher education sector players in Malaysia in 2020 as they steer their way through an environment that is complex, evolving and dynamic.

Malaysian Association of Private Colleges and Universities president and APIIT Education Group chairman Datuk Dr Parmjit Singh observes that higher education institutions the world over face common and constant challenges in preparing the talent and generating knowledge needed to move businesses, industries and governments, as well as contribute to the advancement of humankind.

"However, disruption is now the new normal — caused by digital disruption, pervasiveness of technology and a borderless global business environment. The key challenge then will be for universities — particularly those in Malaysia — to continue reinventing themselves to remain relevant in a highly disrupted future," he said.

Universiti Sains Malaysia (USM) vice-chancellor Professor Dr Faisal Rafiq Mahamd Adikan said it is best to embrace the challenges and continuously find a sustainable solution in each emerging issue.

"IR4.0 is a new form of 'grand challenge' that we have to deal with. It provides us with a new set of challenges not only for universities but for the entire humanity," he said.

Taylor's University deputy vice-chancellor and chief academic officer Professor Dr Pradeep Nair noted that talent development is especially critical to support the economic development of a country.

"With intensified competition globally and regionally, higher education institutions here must innovate to stay relevant," he said. "To future-proof graduates, the education framework must give greater emphasis to training in life skills, enhanced opportunities for work-based learning and periods of study abroad with top universities around the world," he added.

Universiti Teknologi Petronas (UTP) vice-chancellor Professor Dr Mohamed Ibrahim Abdul Mutalib commented that structured student development activities in higher education must be in place to develop talent that contribute towards nation-building.

"This way, higher education will be able to produce readily marketable graduates that meet industry demand, graduates with high moral values who contribute back to society, and students with global mindset and perspectives," he said.

EDUCATION DELIVERY

In terms of delivery, Faisal foresees the emergence of a new trend in universities where education is offered in the wider context, accessible to students or learners throughout the country and the world.

The new model will offer a mix of online learning and multiple physical locations for student-lecturer interaction whenever needed, or in fulfilling market needs. The traditional single location universities with traditional campuses may face an inevitable demise as they need to deal with endless issues and problems which will have serious repercussions.

"These are three possible scenarios: one, some of the strong ones [with strong financial standing and solid reputation] may go on to expand their footprints. They are capable of making investments and undergoing expansion. Two, mergers of smaller universities so that their resources and expertise can be combined for better growth to serve a wider range of students. And three, the emergence of brand-based/boutique universities — those that belong to or are part of a consortium, catering to a more focused and market-segmented group of learners," he said.

A chance for students to better curate their own learning experience is something Universiti Putra



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Datuk Dr Parmjit Singh

Malaysia (UPM) is striving to provide this year. Its deputy vice-chancellor [Academic and International] Professor Dr M. Iqbal Saripan said it all began with the launch of UPM's Academic Transformation Plan in October last year that was aimed at producing "Putra Future-proof Graduates".

"We are transforming ourselves so that UPM can be relevant in providing the highest quality of tertiary education to students. Our curriculum will be flexible and organic. We will introduce

a new concept of programme development based on the interests of students. The delivery will be enhanced by allowing lecturers to use their creativity in delivering course content, including conducting virtual classes.

"We will allow alternative ways of assessing students based on the outcomes of the courses. Some courses will no longer require pen and paper exams, but rather other ways of assessment," said Iqbal.

REAL LIFE EXPERIENCES

Other than the "technical" aspect of tertiary education, students have much to gain from practical exposure to benefit from the "meaning and values" of such an education.

As such, UCSI University vice-chancellor Academician Senior Professor Datuk Dr Khalid Yusoff said the institution is set to continue its programmes by consolidating them with initiatives which will familiarise students with realities of life, such as environmental degradation, human experience/suffering and the World Economic Crises.

"Our students and staff have been involved in looking after refugees — providing tuition to refugee children and engaging the women folk in the catering industry. They have also been involved in community projects such as building the community centre in Kuala Sepetang, designing the new development of inner city community of Salak South New Village and conducting regular health



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PROFESSOR DR FAISAL RAFIQ MAHAMD ADIKAN
Universiti Sains Malaysia
vice-chancellor

screening in the community.

"We are now pushing this further. We are championing the United Nations' Sustainable Development Goals. Our Kuching branch has been recognised as a Regional Centre of Expertise on Education for Sustainable Development by the United Nations University, Tokyo.

"More, of course, needs to be done in this area of bringing in meaning and values back to higher education," he said. Initiatives such as these also promote the application of theoretical knowledge from lecture halls to real life.

Khalid said UCSI strives to equip students with constructive thinking, beyond critical, innovative and creative thinking.

"With these to offer, our graduates will be sought after by the industry and governments, and they will have enough confidence and capabilities to be entrepreneurial. Much has been said about the need for universities to be industry-relevant. We need to go a step ahead and make universities spur and propel the industry," he said.

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Trends will arise where universities will offer education in the wider context, accessible to students or learners regardless of location.

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Addressing challenges through continuous reinvention



UCSI is set to continue its programmes by consolidating them with initiatives which will familiarise students with realities of life such as environmental degradation and sustainability.



UTP is embarking on a transformational approach in research strategy based on the capability and strength of researchers in addressing two major trends: namely Smart Living and Energy Sustainability.

Taylor's University, through its Me.reka Makerspace, will also be refreshing its focus on students' ability to deliver business and social values by creating solutions to real world problems. "Supporting this intention, students' learning experience has been redesigned to encourage multidisciplinary collaboration, supported by the design-thinking process," said Pradeep.

COLLABORATIONS

Collaborations with academic institutions and industries, local and abroad, will also take centre stage to leverage on networks in an increasingly connected and competitive world this year.

Mohamed Ibrahim said UTP will continue to focus on regional research concerns in a structured manner by understanding the business and scientific needs of the various countries moving forward.

"We have embarked on a transformational approach in our research strategy based on the capability and strength of researchers in addressing two major trends, namely Smart Living and Energy Sustainability," he said.

UCSI, meanwhile, is looking at intensifying working and partnering up with top universities around the world so that its students will be exposed to the best there is. This will be escalated to postgraduate studies and research collaboration.

"This year, moves are afoot to set up a big research collaboration with universities from Indonesia, for instance, to tackle some regional



Professor Dr Mohamed Ibrahim Abdul Mutalib

problems related to climate change and environment degradation," said Khalid.

Parmjit hopes to see greater vibrancy in the sector with symbiotic working relationships between universities and industry.

"In this era of rapid disruption, it is vital that the two sectors synergise to address the ever increasing gap in competent, professionally-minded and future-proof talent," he said.

FUNDAMENTALS

Brand growth is another important aspect that can make or break a university.

USM is putting some effort into fortifying its brand, which involves students and alumni from over 80 countries.

"To achieve this, we are also looking towards solidifying our research ecosystem. We understand that the DNA of USM was based on the strength of several core research priorities. USM has always been known to open up opportunities for our students and we hope to take it a step higher," said Faisal.

In this aspect, UPM is looking at fundamentals and will start a course called Agriculture and Life.

"This is a compulsory course for all students regardless of study programmes, and they need to learn the theories and be involved in real agriculture practices. The idea is to strengthen the agriculture DNA among graduates," said Iqbal.

CONCERNS

Moving forward, Parmjit said higher education should be heading towards an environment that is more progressive, less bureaucratic, less regulated and more consultative.

Last year augured well for the industry with a clear intent by the Ministry of Education to reform the regulatory framework governing the sector, he said. He is encouraged by the fact the private higher education industry represented by Malaysian Association of Private

Colleges & Universities has been consulted and has actively contributed to key national strategic plans headed by the ministry — 12th Malaysia Plan (2021-2025) and the Way Forward for Private HEIs (2020-2025).

Pradeep hopes to see more innovation and collaboration among higher education institutions in Malaysia and simultaneous deregulation by the authorities.

"Over-standardisation and over-regulation can often stifle innovation. I look forward to the day when students can curate their own degree studies, choose to learn from different institutions and companies in and outside of Malaysia in order to complete the degree," he said.

But declining interest in STEM (Science, Technology, Engineering and Mathematics) is one issue that has to be resolved to ensure that the innovation and reinvention being done to cater to trends in globalisation and IR4.0 at tertiary level do not go to waste.

"Aggressive and extensive promotion of STEM at school levels must be done so that more students will pursue STEM at tertiary level. This can be done through conducting various STEM outreach and engagement programmes," said Mohamed Ibrahim.

Khalid said the outlook for Malaysia in higher education in 2020 is certainly challenging.

"We have a long-cherished aspiration to make Malaysia a regional hub for higher education. If our schools continue to do poorly (such as in Programme for International Student Assessment and STEM education) then this will just compound the problems. And we have to be cognisant of what other countries, even our neighbours, are doing.

"Some of them, despite the so-called world economic downturn, are moving leaps and bounds. So we need to ask ourselves why this is happening to us. Are we beholden to certain long-held views which are now outdated?"



Professor Dr Pradeep Nair



Professor Dr M. Iqbal Saripan



Academician Senior Professor Datuk Dr Khalid Yusoff



UPM is looking at fundamentals and strengthening the agriculture DNA among graduates.