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LEARNING CURVE **UNIVERSITIES**

Striking up ventures

INSPIRING ENTERPRISE: Local graduates must dare to be more entrepreneurial to develop the country and it all starts with tweaking the curricula in tertiary institutions

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THE goal of the national education system is to ensure that youths develop holistically and have the necessary values, knowledge and skills to succeed in an increasingly competitive and uncertain world.

This is reflected in the recently unveiled Malaysia Education Blueprint (Higher Education) 2015-2025 which aims to produce students with the talent, skills and knowledge needed to thrive in the 21st century.

During the launch of the blueprint, Deputy Prime Minister Tan Sri Muhyiddin Yassin, who is also the Education Minister, said this will be achieved through the blueprint's 10 main shifts, the first of which is nurturing holistic, entrepreneurial and balanced graduates.

Bearing in mind the complex challenges — from global warming to economic crises — facing youths this generation, they must have problem-solving skills to deal with present and future demands. This requires equipping them with transferable skills and sound ethical foundations, and also the resilience and enterprising spirit to forge new opportunities for themselves and others. Graduates need to be not just job seekers but also job creators.

But how prepared are Malaysian youths for entrepreneurship?

A 2013 Global Entrepreneurship Monitor report shows that only 41.8 per cent of Malaysians view entrepreneurship as a good career choice. Compared with 11 Asia Pacific and South Asian countries, Malaysia ranked lowest in ascribing high social status to successful entrepreneurship, and highest in fear of failure. This explains why the country is lagging in entrepreneurship, particularly nascent and early stage.

To overcome negative perception and achieve the desired outcome, the ministry and higher learning institutes will focus on developing more holistic and integrated curricula and enhancing the ecosystem for student development. Key initiatives include enhancing the student learning experience by expanding

Entrepreneurial attitudes and perceptions in Malaysia compared to other countries

Entrepreneurial attitudes and perceptions in Malaysia

2013, % of respondents who demonstrated the following attitudes and perceptions about entrepreneurship

2013, rank among 11 Asia Pacific and South Asia countries¹

High status to successful entrepreneurs	44.9	11 th
Entrepreneurship as a good career choice	41.8	10 th
Perceived opportunities	40.7	6 th
Fear of failure	33.3	11 th
Perceived capabilities	27.9	8 th
Entrepreneurial intentions	11.8	10 th

¹ Lower rank number means higher percentage of respondents who demonstrated each dimension of attitudes and perceptions about entrepreneurship, compared to other countries. Countries compared are Korea, Malaysia, Singapore, Thailand, China, India, Indonesia, Japan, Philippines, Taiwan, and Vietnam
SOURCE: Global Entrepreneurship Monitor (GEM), 2013 Global Report

industry collaboration in the design and delivery of programmes in entrepreneurship, and increasing the use of experiential learning.

Universiti Teknologi Mara (UiTM), Universiti Teknologi Malaysia (UTM) and Universiti Malaysia Kelantan (UMK) are poised to be front-runners in providing an enhanced curriculum in entrepreneurship subjects and producing the desired graduates. The three universities have been selected to participate in the Faculty Train Faculty Programme, a part of the Stanford Technology Ventures Programme (STVP) — a collaboration between the Malaysian Global Innovation & Creativity Centre (MaGIC) with Stanford University in the United States — aimed at enhancing the Malaysian faculties to develop new or existing initiatives that encourage entrepreneurial thinking and increase Malaysian students' interest in entrepreneurship.

MaGIC chief executive officer Cheryl Yeoh said the aim of the programme is to expose local faculty to the manner entrepreneurship is taught at Stanford and explore how Malaysian universities can improve existing entrepreneurship curricula, and develop new courses that encourage entrepreneurial thinking.

Senior faculty members from the technical departments of select



Malaysian public universities will work on the project to introduce changes to the curricula of the entrepreneurship subjects, include new topics, vary teaching methods such as engaging Malaysian start-up founders to share with the students about their journey, and change the assessment method to move away from exam-based evaluation.

"Ten faculty members from three universities were selected to go on a week-long programme in Febru-

ary. The objective of this first trip was to expose faculty members to the way entrepreneurship is taught in Stanford. The Malaysian delegation sat in and observed classes, and also networked and exchanged ideas with Stanford professors," said Yeoh.

Classes conducted by STVP executive director Tina Seelig included a Creativity Workshop that encourages willingness to take risk, and turning problems

into opportunities; and Design Thinking

Workshop that aims to change the way students tackle problems, as well as educate them to focus on the needs of users.

UiTM research innovation business unit director Dr Nooritawati Md Tahir said it is exciting to see students who are pursuing technical majors, such as computer science and engineering, exposed to entrepreneurship classes, and encouraged to create their ventures using technical skills.

"Entrepreneurship is not just

a qualification or diploma offered under the School of Business. Students from every major can take these classes and cultivate their interest in entrepreneurship. The classes also engage start-up founders as guest speakers to share their experience in starting their companies," she said.

UTM senior lecturer/research fellow Dr Farhan Ahmad said that the Malaysian delegation observed that the students did not treat the entrepreneur subjects as text but as inspiring material.

"The classes were highly interactive, and students were not just listening to lecturers and jotting down notes for exams. In Stanford, entrepreneurship is not taught theoretically but through experiential learning. To make it more relatable to students, real case studies such as how Apple does global marketing are used," said Farhan.

Meanwhile, UMK 1MyStartup programme director Professor Raja Suzana Raja Kasim commented on the start-up environment in the classroom.

"The ecosystem is in the classroom with involvement of non-governmental organisations and venture capitalists to bounce ideas and dissect presentations. Students learn problem-solving and critical think-



Cheryl Yeoh

"Entrepreneurship is not just a qualification offered under the School of Business. Students from every major can take these classes."
Nooritawati Md Tahir, UiTM research innovation business unit director



Knowledge-sharing session with **Stanford University** professors.



Raja Suzana Raja Kasim **Farhan Ahmad**

ing skills, negotiations, spreadsheet financial modelling, digital marketing and pitching skills," she said.

Yeoh added the Faculty-Train-Faculty Programme fits in with MaGIC's goal to create more high growth start-ups that can expand into regional or global markets and boost Malaysia's economy.

"By nurturing more graduates with entrepreneurial thinking, we will be able to increase human capital within the entrepreneurship ecosystem. These graduates could either be co-founders themselves, or an employee working for a start-up. With a larger talent pool to draw from to form start-ups, we have a higher likelihood of generating the next big company, such as JobStreet, which was acquired by Seek of Australia, and MOL which was listed on NASDAQ last year," she said.

Nooritawati, Farhan and Raja Suzana are in a two-week immersive course as a continuation of the Faculty-Train-Faculty Programme. This time they are focusing on enhancing the current curriculum of entrepreneurship subjects at their respective universities.

"All degree students in local universities are required to take up two credits of entrepreneurial modules. There is 70 per cent fixed curriculum while the remaining 30 per cent can

INCUBATING **TECHNOPRENEURS**

UNIVERSITI Pertanian Malaysia (UPM) carries out numerous entrepreneurial drives at many levels including within the undergraduate class modules as well as in extracurricular activities organised by its Centre of Entrepreneurial Development and Graduate Marketability to instil an entrepreneurial mindset into its student and academia community.

But for commercialisation of UPM technologies, future technopreneurs are incubated at Innohub Putra Science Park (IPSP).

Starting out as a collaboration with Stanford Research Institute in 2012 to embed a culture of commercialisation within UPM, IPSP has since turned into a facility to validate the market and find the best business model for UPM-researched products. Its chief executive officer (commercialisation) Ahmad Zakir Ja'afar said IPSP's vision is to be the catalyst for producing successful technopreneurs and start-ups with UPM technologies.

"Those involved in a start-up consists of a chief executive officer and a researcher as business partners. It could be several researchers within the start-ups with one chief executive officer. We don't expect the researcher to play a role in running the business. The researcher's role is still within UPM, acting as technical adviser to start-ups," said Ahmad Zakir.

IPSP structures and measures tests to validate the market and find a business model for an idea.

"We measure the success of the start-up when the idea has graduated from Innohub. We incubate the business idea, start-up companies and entrepreneurs."

The heart of the programme is the Lean Start-up Principles where the business idea is validated with potential customers. "We go out and meet people. At the same time, we practise pitching, improve presentation decks and apply for external funding. We also steer company governance. So within one to two years, soft and hard skills are being continuously taught and coached within Innohub. New technopreneurs are put through the grind to bring UPM technologies to market. There is much blood, sweat and tears before they blossom."

IPSP first intake started at the end of 2013 with a participation of 18 start-ups. These start-ups are focused on budding technopreneurs from diverse technological fields including information and communications technology, engineering, medical, science, social science and the halal industry.



Niloofer Yousefi with the FoodPin app.



Rosnah Shamsudin (left) and **Christine Jamie** showcasing **Pepper Peel-O-Matic**.



Ahmad Zakir Ja'afar

IPSP coordinator Dr Wan Nurhayati Wan Ab. Rahman said: "InnoHub incubated and monitored these start-ups and 16 of them remain. Participation in InnoHub has increased after we approved another 10 start-ups for the second intake early this year, making 26 start-ups in total this year."

The start-ups are progressing towards market validation activities and Innohub is targeting a few start-ups to graduate their idea of innovation from Innohub by year-end. A few innovators have met their early adopters and their ideas will be commercialised soon. Among the start-ups include MyInfiTech Sdn Bhd (FoodPin, a mobile application for food and beverage promotion); and food machinery company RJ Machine Solution Sdn Bhd (Pepper Peel-O-Matic).

MyInfiTech chief executive officer and shareholder Niloofer Yousefi, who also holds a postgraduate degree from UPM, said the ecosystem that IPSP provided the company was the best thing that could happen. MyInfiTech was founded by Associate Professor Dr Marzanah A. Jabar, a lecturer and researcher at the Department of Software Engineering in UPM's Faculty of Computer Science, who

is director of design and development of the FoodPin application.

"Our vision as a food application start-up is to 'give ability of choice for people who have limited alternatives to dining'. It is important that people decide on their food based on other people's opinions rather than what the restaurant owner wants them to see and choose. Our mission is to 'provide the best dining option based on user preferences'. We provide information-based user needs and preferences. At the core of the application is a comparison of prices and menu, nearest restaurant and opening hours. We are planning to get funding so that we can develop and implement the application and improve it later," said Niloofer.

RJ Machine Solution was founded by Associate Professor Dr Rosnah Shamsudin, a lecturer and researcher at the Department of Process and Food Engineering in UPM's Faculty of Engineering. Postgraduate candidate Christine Jamie Vincent Eddy is chief executive officer and co-founder of RJ Machine Solution Sdn Bhd, with four years' experience in the food engineering field, two in food machinery design, and one in patent rights and industrial design rights for one machine.

The Pepper Peel-O-Matic is a patented technology that relates to the production of white peppercorns by removing the pericarp of pepper berries with the use of mechanical technology as an alternative to the conventional rubbing process.

"With the combined expertise of machinery design and entrepreneurial skills, our company is able to produce graduates who not only has an affinity for the products, but they also work to bring remarkable changes in the lives of others, particularly pepper producers in Sarawak. In the near future, there are plans to introduce the machine to the global market, especially the top five pepper-producing countries (Vietnam, India, Indonesia, Brazil, China)," said Christine Jamie.

The products from the two companies are vying for a place in the Halal Tech Challenge, a contest which identifies the Top 10 Halal Hi-Tech Gems in the country.