Creating holistic talents to ride the waves of change

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By Christina Chin

(From left): Prof Syed Ahmad, Prof Barton, Prof Downes, Goh, Khairil Anwar, Prof Smith and Prof Britton.

The key to building a disruption-ready workforce is to produce adaptable, and resilient critical thinkers, with strong skills in communication. Tomorrow’s
graduates must be balanced individuals who can work in a team, say education experts at a recent roundtable session.

THE Malaysian Employers Federation has warned of retrenchments, while the World Economic Forum predicts that automation will kill five million jobs in the next three years.

The threat of disruptive technology and the need for graduates who can take advantage of new innovations, was highlighted at the Nov 9 EduCity roundtable discussion in Johor Baru.

Explaining disruptive technology as a process whereby a product, or service, that starts at the bottom of a market, moves up to displace established competitors, Star Media Group editor-in-chief Datuk Leanne Goh who moderated the hour-long discussion, looked at how it has impacted the higher education industry, and traditional fields like law, medicine, science, business, finance, accounting, and construction.

The need for employable graduates, what tomorrow’s workforce should be studying today, and the skills that will be relevant in the 4th Industrial Revolution, were also explored.

Panelists were Management Development Institute of Singapore (Malaysia Campus) CEO Prof Datuk Dr Syed Ahmad Hussein, Newcastle University Medicine Malaysia provost-CEO Prof Roger Barton, University of Reading Malaysia provost Prof Tony Downes, Iskandar Investment Berhad president-CEO Datuk Khairil Anwar Ahmad, University of Southampton Malaysia interim CEO Prof Peter Smith, and Raffles University Iskandar president Prof Dr Graeme Britton.

The universities are part of EduCity – a vibrant enclave of renowned tertiary institutions, and top notch supporting facilities, in Iskandar Malaysia, Johor.

Comparing EduCity with Dubai’s Academic City, Prof Syed Ahmad highlights the importance of internationalisation.

Like Malaysia, Dubai started over a decade ago with only a few institutions. Now the Academic City is a self-contained village with many international branch...
campuses that are moving towards internal educational exchanges within the village itself, he adds.

This area need to be explored, he says, suggesting that there should be credit transfers between the universities.

Goh shares that there has been much talk of industries going bust, or losing their relevance.

She cites an incident where the daughter of Joseph Tsai, the co-founder and executive vice-chairman of the Alibaba Group, asked her father on what she should be studying at university.

"Statistics, and psychology," was his reply, says Goh.

"Graduates, Tsai reasoned, must understand data, and have an insight into how the mind works," Goh shares.

The lack of teamwork and interpersonal skills, says Prof Barton, has hindered development and resulted in people working in silos.

"If we improve those generic skills, and allow medical students to work with engineering students – for example, we’d make far greater advances. It’s less about what we should study, and more about what generic skills we need from our degrees."

But the study of numeracy, and human behaviour, the panellists agreed, are important, and form part of most courses. Critical thinking, as well as communication, and problem-solving skills, are crucial too, they say. While digital technology has made its way into education, the extent of its use, and impact, depends on changing student needs and industry demands, they feel.

Prof Britton says universities must change the way they teach – especially the business schools because disruptive technology has given birth to new business models.

Exploring other interests

Stressing on the need for flexible inter-disciplinary learning, the panellists believe that students must be given opportunities to explore different interests. They need
to socialise with those from other courses, participate in research, and enjoy a good study-life balance.

Adds Prof Smith: "Internationalisation is a big aspect of success. Look at the iPhone ... UK software, US design, manufactured in China, and sold globally."

Internationalisation, is what EduCity is doing, he shares.

"Interestingly, our students in Malaysia actually see themselves at an advantage over their UK counterparts," says Prof Barton. "This is because they feel they have a more global idea of the subjects and their relevance, in the UK and South East Asia (SEA).

"In fact, it is a Malaysian student who topped the list of 453 doctors from the campus here and the UK, at our recent graduation. So EduCity and the global campus idea may be the best blend of SEA and UK," observes Prof Barton.

Globalisation, and technological advances, are a reality that we need to take advantage of, Prof Syed Ahmad says as a matter-of-fact.

"You need grit, and strong fundamentals, so that you can learn and unlearn quickly. Pick up skills that you’re interested in that will allow you to adapt later on."

While universities can facilitate character growth, Prof Downes says that children must be taught to think critically which is part of holistic education.

"We can’t teach resilience or stamina but we can give them opportunities to develop. Students must learn how to balance life with work. The most successful ones aren’t those who spend all their time studying. It’s those who lead balanced lives."

He opines that students are the greatest single feature of technology transfer from university to the workplace.

"They learn alongside researchers who are at the forefront of technology, so they’re taking new ideas from university to industry."

Disruptive technology brings change, and there’s a fear that many manual jobs are disappearing, agrees Prof Britton. But there will be different kinds of opportunities, he assures.
“When computers came, people said it would run the world and we’d be out of jobs. But computers have created more jobs instead.”

Revolutionary stage

Quantum computing and quantum technologies, Prof Smith predicts, will transform what we do in the future.

“We’re at an early stage of a revolution to create new companies and new industries.”

Innovation, creativity, and entrepreneurship, are what computers can’t do yet, argues Prof Britton, so these are areas to focus on.

“It’s about ‘design thinking’ and coming up with clever ideas. Focus on basic principles, and character development, for life-long learning.”

There may come a time when doing things at the press of a button is fine, but at this stage of their development, students may better grasp lessons -- especially the basic principles, if they do it themselves, says Prof Downes.

Goh adds that the main advantage of the American education system over other traditional ones, is flexibility.

Malaysia follows a traditional system. A pure science student who wants to study accountancy, or business, would have to do so on his own as opposed to doing it in school. Some of these rigid structures must be broken down, she says.

As an engineering student in the US, Kharil Anwar recalls studying a myriad of interesting electives ranging from psychology to botany.

Describing it as an enjoyable experience, he feels that a medical student – for example, who wants to take up business courses, should be given the option to do so.

“We encourage companies to establish links with the universities here. And we facilitate that by creating a platform for young entrepreneurs who want mobility, flexibility, and a place to ‘chill out’ with their friends, to have a workspace.

“We provide internships and we learn from the interns too. It’s important for students to be exposed to the real world as they will be entering the job market soon. They must be employable," he says, adding that industry-academic relationship is key.

Education providers must be sensitive to changing student needs, as the goal is about helping them in their careers when they leave the education system, he believes.

The problem, Prof Barton feels, is that the school exam format encourages memorising, not understanding. Students are unable to think out of the box, so it’s the job of higher education providers to make them more adaptable and critical.

A curriculum that inculcates resilience can determine success.

“We emphasise on communication, managing people, and working together to cope with challenges," he adds.

Wrapping up the discussion, Goh says it’s for graduates to decide how they want to see emerging technologies.

They must decide whether they want to treat technology as disrupters, or enablers. But, she says the education system must empower them with skills like adaptability, rapidity, stamina, design thinking, and resilience, so that they’re able to embrace opportunities that emerging technologies bring.

**Embracing disruption**
“The issue is how do we deal with disruption. Fire was once very disruptive. How did mankind deal with it? The ability to adapt rapidly is key. We’re all part of this great adventure of adapting to rapid change. Everyone is learning and we must adapt quickly. The idea of disruption must go side by side with constructing, and building, because when we talk about disruptive technology, it’s about someone constructing something that disrupts something else. Five years ago the buzzword was creativity, today it’s disruption. But the two must go together. There’s a difference between disruption, and destruction. It’s very dangerous to think of disruption as destroying, and then rebuilding from it. Disruption begins from a larger idea of constructing something over existing technologies.” - Management Development Institute of Singapore (Malaysia Campus) CEO Prof Datuk Dr Syed Ahmad Hussein
"Twenty years ago in hospitals, people held up x-rays and put them up on screens. Now it's all digital. That's been disruptive for companies that produce silver nitrate radiographs but not for medicine. In some 80% of cases, diagnosis and management plans are still made by talking to people. Disruptive technology enables. It's disruptive ideas that have changed things in the last two decades. For instance, the idea that the patient should be the centre of healthcare is a disruptive idea. In the past it's been doctors and nurses who have arranged healthcare models to suit them. Doing everything around a patient's needs has been very disruptive so we've to teach our students to adapt to a new vision of what life's going to be like looking after patients now." - Newcastle University Medicine Malaysia provost Prof Roger Barton

"Darwin’s survival of the fittest has been overtaken by survival of the most adaptable. So we’ve to produce graduates who are adaptable because what they learn today, may be outdated in five years. The ability to continue learning, and adaptability, will be the key to future success. The fear is that the less skilled and less paid are at the wrong end of disruption. Everywhere in the world there are unskilled labour jobs that provide steady income for many families. That’s what disappears. The highly educated and successful ones will probably know how to innovate and use disruptive technology to their advantage. The widening gap between these two groups presents a challenging social problem. We have to upskill much more of the population." - University of Reading Malaysia provost Prof Tony Downes
“We’ve to find new ways, solutions, and applications, to be ahead of the curve. So we try to have a multi-disciplinary team. As an employer, when we recruit new staff, critical thinking, and the ability to innovate, communicate effectively, and solve problems, are some of the key elements we look for. I like candidates who are balanced individuals with interests outside of work.” - Iskandar Investment president-CEO Datuk Khairil Anwar Ahmad
“The real ‘disruptive’ aspect of technology is the creation of a generation that’s constantly plugged into the virtual world. Disruptive technology isn’t the challenge. We’re the ones who create it. Disciplines - law, medicine, social science or whatever, that force clarity of thought, critical approach, and data-based understanding, have led to many breakthroughs. We offer engineering. Bits of new knowledge is being discovered but the basics don’t change - the laws of math and physics, for example. So research-led education is very important because it allows students to work alongside active researchers. This keeps students at the forefront of what’s new, and ahead of what the industry is doing. But students must have the stamina to succeed.” - University of Southampton (Malaysia Campus) interim CEO Prof Peter Smith
“When you talk about disruptive technology, I think of Uber, Grab or Airbnb. What’s mainly disrupted is the business model. The underlying technology of the business hasn’t changed. You still need taxis, cars, and drivers. Now they’re talking about artificial intelligence. That’s very different. The first disruption was on the business model, and information processing, but the new disruption will be on knowledge workers. That will have an impact. But then with new technologies, you can start your own business. It’s very easy now. You don’t have to be a tech expert - you can employ someone to develop an app for you. For example, if you have an app, your little nasi lemak stall in Bukit Indah can reach out to all of Malaysia.” - Raffles University Iskandar president Prof Dr Graeme Britton