MISSING SKILLS: Is higher education on the mark?

Malaysia’s growth story is coming under pressure from many sides, including a shortage of skilled workers in critical occupations, high dependency on cheap labour, which discourages investment in innovation, a higher education system hungry for resources and low collaboration between industry and academia. Can the stakeholders come together to solve this complex problem? Rash Behari Bhattacharjee and Syahirah Syed Jaafar examine the issue.

Table 1: Critical Occupations List Report 2016/17

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Increased Work for Existing Employees (%)</th>
<th>Difficulty in Gaining Quality Products/Services (%)</th>
<th>Increased Costs (%)</th>
<th>Difficulty in Meeting Customer Needs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace</td>
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Negative impact of not filling in critical occupations

The shortage of skilled workers is not only seen in the persistent problem of youth unemployment but it is also cited by businesses as a key factor constraining investment. Shamsuddin Bardan gives an example of where the problem lies.

“Unfortunately, a lot of IT graduates are not suitable for this work because they have not been trained for it. As a result, companies turn to countries like India because we don’t have the people. I think that is very telling.

Companies turn to countries like India because we don’t have the people. I think that is very telling. The industry has moved ahead but the system is not able to fit the industry with the right people.”

The COL report verifi es this. It states that big data analytics was one of the top skills in demand in Malaysia in 2016, citing studies as increased workload on current employees, diffi culties in providing quality goods and services, increased costs and diffi culties in meeting customer needs (see Table 1).

Malaysian Employers Federation executive director Datuk Shamsuddin Bardan gives an example of where the problem lies. “With the current trend towards digitalisation, companies need data analysts to mine big data for business growth,” he tells The Edge.

As for why businesses found it diffi cult to recruit the right people, the top four factors were:

- High expectations of salaries/benefits;
- Insufficient work experience;
- Insufficient technical skills; and
- Insufficient soft skills such as creativity and communication.

High expectations, Insufficient skills

This means that MOHE too needs to evolve to ensure that educational offerings of Malaysian higher education institutions (HEIs) are in line with the needs of industry, while also keeping in mind the role of education to promote good values and appreciation for the arts, history and social sciences.”

Dependence on cheap labour

The Bank Negara Malaysia 2016 Annual Report shines the spotlight on the dilemma.
Seismic change imminent in learning

The Malaysia Education Blueprint 2015-2025 (Higher Education) clearly recognises that the "fundamental transformation of how the higher education system and higher learning institutions currently operate" is required for Malaysian youth to thrive in a complex and fast-changing future.

Noting the constraints discussed in the main essay, a number of opinion leaders who The Edge interviewed pointed to the need for a shake-up of the education system at various levels.

The top proposals, briefly, are:

- Give education boards and institutions autonomy;
- Make curriculum reviews dynamic;
- Introduce transformative industry-academia collaboration; and
- Make market testing of academic research the norm.

Bukit Bendera MP Zairil Khir Johari, who is the DAP parliamentary spokesperson for education, science and technology, thinks that decentralisation is key to an effective education system.

"The root of the problem is structural and this needs to be fixed. The practical way is to give autonomy to educational institutions. People today want choice, then they are happier. So let them decide. Remove politics from the governance of academic affairs," he says.

An obvious starting point for reforms is to axe courses that no longer serve industry needs.

Universiti Malaya, for one, is already overhauling its stable of offerings. "All undergraduate curricula have been reviewed in the last few years with input from industry," deputy vice-chancellor (academic and industry-academia collaboration) Datuk Awang Bulgiba Awang Mahmud tells The Edge in an email.

"We have introduced a mandatory for external assessors from abroad to review the curricula of all programmes. Because curricula change at such a rapid pace, UM is now embarking on new approaches to designising programmes and curricula.

"The only solution is to move into an industry-academia collaboration to drive greater teamwork and address the skills mismatch between new graduates and employer expectations," she says in an email interview.

While there is no quick fix for the issue, the focus must be on reskilling and upskilling, as well as collective action involving all stakeholders, she adds.

Malaysian Employers Federation executive director Datuk Shamsuddin Bardan feels that universities need to adopt a culture of community-focus in partnership with industry.

"Why don’t universities work with the industries around them so that they become part of the community?” he asks.

"Enterprises can benefit too by looking for talent in the universities. I think that is a system that can be explored further. The community should be part of the university. There needs to be a sense of belonging, if not people will not care about the fate of the university.”

Former Universiti Malaya vice-chancellor Tan Sri Ghauth Jasmon favours an entrepreneurial approach.

"Teaching staff and even students should be encouraged and incentivised to innovate, either by sharing the research work or profiling from it. It is crucial to incubate an entrepreneurial mindset in the faculty besides their conventional teaching role," he says.

Ghauth currently sits on the boards of Sunway University and the International University of Malaya-Wales.

One person who wears two hats — in industry and academia — is DC & A Group managing director Datuk David Chua Kok Tee. He gives the business perspective of the challenges of hiring talent.

Real-life application of knowledge is important. Good industrial training programmes must be developed to bridge the skills gap that is making it difficult to run businesses.

"We must remember that industry often has different objectives from academia when it comes to research." Sohail adds.

"We know that there are six or seven areas in which tomorrow's industries will grow," he tells The Edge.

These trends include life extension and ageing, innovations in genetics, fresh approaches to city design and new types of food, among other things. They operate in peer-to-peer environments and are disruptive.

In this milieu, high school teaching will not be by subject but by global problems, Sohail says. That would include design thinking, futures thinking, ethics, conflict resolution and meditation.

"Teaching training should be adapted to prepare for a world after jobs," Sohail adds.

Mindful of the growing storm, the task force set up by the Department of Higher Education to align the education system with the emerging trends of the Fourth Industrial Revolution has identified 14 criteria to bring academic offerings in line with Education 4.0, as it calls the next evolution of learning.

The Higher Education 4.0 Framework being prepared by the department will be launched early this year, says Higher Education Minister Datuk Seri Idris Jusoh.

All indications are that the new paradigm will be shaped by the waves of digital transformation that have given rise to new global leaders like Airbnb, Uber and Netflix that have upended entire industries.

At any rate, it will not be long before we can tell how the next generation will fare in this new, unfamiliar world.
Putting varsities to the market test

To turn anemic universities into dynamic hubs of innovation, academic research must be routinely tested in the marketplace. The rise of three turnaround proposals by former Universiti Malaya vice-chancellor Tan Sri Gauth Jasmon for ensuring that higher education institutions remain viable in the era of disruptive change.

“Universities should commercialise their research. They need to know how to turn the research into products. The research is good, yet it’s not enough. They need to take one more step,” says Gauth, who used to be the board of Sunway University and International University of Malaysia-Wales. More universities, for example, appoint teaching staff as adjunct professors, paying them a salary for part of the year. Academicians are expected to generate their own income the rest of the time.

Malaysian universities must be liberalised so that they can adopt innovative teaching arrangements, Gauth tells The Edge.

This is necessary to produce graduates with an entrepreneurial mindset who are able to think outside the box and know how to use their skills, he says. “Malaysian universities are not par with international universities in terms of producing entrepreneurial graduates. We need to force people to think out of the box,” Gauth adds. Second, university board members must be given fundraising targets to build the resources of their institutions.

“I believe the board members must be given KPIs (key performance indicators). You must set targets. Pay them well so they will be given good incentives to raise funds,” says Gauth.

Business development is urgently needed by universities, but this is far from the board members’ minds, he says. The boards are filled with academic professors and they may not necessarily have the right business experience, he adds. “[Most of those appointed] are usually professors and they don’t have the experience in raising money for the university. They are good at teaching but not managing a business.”

Currently, not only are public university boards indifferent to fundraising but getting their members to approve proposals is also a mammoth undertaking. “If you have an idea, you will need to present it to the board. But it’s like moving an elephant. The idea will move very slowly and this is the biggest stumbling block for improvement,” says Gauth.

In the light of reduced government budget allocation to public universities in recent years, he stresses the need for universities to know how to raise funds in various ways. Lessons may also be taken from private institutions abroad, which have taken to increasing their asset base.

“Universities need to think about how to grow their endowment. But no one is talking about it here. For example, Harvard, which has the highest endowment allocation (currently US$37 billion), will be able to survive forever,” says Gauth.

Of the public universities in Malaysia, Universiti Malaya had the largest endowment of RM6.6 billion as at August 2017, followed by Universiti Kebangsaan Malaysia with RM1 million, according to the Higher Education Ministry. Of the 20 public universities in the country, a total of RM6.85 billion in endowment has been collected so far. “If you look at foreign institutions, they have quietly purchased land in various places. How many state universities here have done that?” asks Gauth.

Take politics out of education

It sounds ironic coming from a political leader, but there it is: The most crucial step to turn Malaysia’s education system around is to minimise political control over it.

In most developed countries, says DAP parliamentary spokesman for education, science and technology Zairil Khir Johari, the education portfolio is confined to policy debates in parliament, allocation of funding and oversight matters.

“Their education boards are autonomous, self-regulating institutions that are governed by the experts. They set their own standards and are judged by how well they maintain the quality of education,” he tells The Edge.

In contrast, Malaysia has one of the most centralised educational systems in the world, Zairil points out, adding that this must change if the country wants to move forward.

“Education must be decentralised. Certain aspects of the system should be left to those who would know the actual circumstances better,” he says. These include the community or independent educational bodies.

“Let the school board respond to the community. Let them choose the medium of instruction, set the curriculum, set the standards and so on. That’s the way to ensure excellence,” he asserts.

Another key area that is calling for attention is the quality of teaching.

“Teaching quality is important, but the research is good, yet it’s not enough. They need to take one more step,” says Gauth.

For example, Singapore has a programme called Skills Future, which provides locals with online token credits to pursue courses on its website, says Ng.

Another leader is Finland, which has a long history of promoting adult education.

“Teaching quality is important, but the politicians leave educators to do what’s best for the community and therefore, the country?”

Learning to learn all life long

Ready or not, people today must be prepared for constant, lifelong reskilling and upskilling. This need is being driven by two trends arising from the advance of technology — the changing global economy and our development policies — according to a Khazanah Research Institute report titled “An Uneven Future? An Exploration of the Future of Work in Malaysia”.

The first trend is job polarisation, writes KRI director of research Allen Ng, who co-authored the report. With the automation of semi-skilled routine tasks, there are simultaneous gains in high-skill, high-wage jobs on one end and low-skill, low-wage jobs on the other end. Middle-skill, middle-wage jobs are vanishing.

The second trend is the rapid rise of independent, alternative work arrangements. A worldwide phenomenon, it is being driven by the outstanding growth of digitally enabled platforms that help commercialise personal assets like cars and rooms and offer on-demand labour for everything from food delivery to mobile app design, says Ng.

To cope with this dual threat, says the report, Malaysia must deeply inoculate a culture of true lifelong education for all, in which formal learning is not limited to just the first two decades of life.

Speaking to The Edge, Ng narrates the example of his late father, who found himself in a mid-career change at a time of economic uncertainty.

Running an intercity taxi service over three decades ago, Ng’s father ferried passengers between Rishir and Ipoh using the old trunk road. When the North-South Expressway was opened in the 1980s, business dried up. “My father decided to take a few years off and learn how to be a sushi chef. To me, that is what it means to pursue lifelong learning — being able to reskill oneself amid changing conditions,” says Ng.

To him, this example is a metaphor for the current changing landscape of work, given the rise of digitalisation across multiple sectors.

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“These systems are easy to access for people who don’t really need this kind of reskilling, but for those who do, it’s not as available to them,” he points out.

Estonia and Singapore are among the countries that have taken big strides in adopting lifelong learning policies.

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National plan of action to bring higher education system up to speed

In an article on youth unemployment, the report summarises the multiple dimensions of the problem. “Despite the workforce increasingly becoming more educated, job creation in the Malaysian economy has remained concentrated in the low and mid-skilled jobs, as domestic industries stay in low value-added activities that emphasise cost efficiency and dependence on cheap labour, rather than pursuing innovation as a source of growth,” it states.

“The Malaysian economy also continues to face the challenge of attracting high-quality investments that would create more high-paying, high-skilled jobs for the local workforce. In the meantime, firms point to skills shortage as a key factor that prevents them from making investments to move up the value chain. “This mismatch between the changes in educational attainment of the workforce and the types of jobs created is also manifested to some extent in inanneic demand for fresh graduates, as online job postings for entry-level positions for graduates have remained largely stagnant since 2012.”

The article cites a 2014 survey by the World Bank and TalentCorp, which found that 90% of companies believe that university graduates should have more industrial training, and 81% of companies rated communication skills as a major deficit among graduates. While businesses point to weaknesses in the national education and technical and vocational education and training (TVET) systems for the poor job prospects of graduates, the article notes, the lack of industry involvement in human capital development has also contributed to the dearth of effective training programmes for workers.

“The same TalentCorp survey found that 53% of firms have never engaged with career centres in their region, and 38% in their state. Thus, even though youth may lack requisite skills, effective, meaningful training programmes that would prepare them for work have also not been forthcoming,” the Bank Negara report states.

Malaysia Education Blueprint (Higher Education)

Cognisant of the situation, the MOHE has been developing a national plan of action to bring the higher education system up to speed.

A key step forward is the Malaysia Education Blueprint 2015-2025 (Higher Education), which outlines 10 shifts that are designed to transform the education system. Four of them focus on outcomes for key stakeholders, namely students in academic and TVET pathways, the academic community and people engaging in lifelong learning. The other six concern enablers such as funding, governance, innovation, international links, online learning and delivery. By the ministry’s reckoning, important progress is being made towards addressing the skills mismatch.

“Between 2007 and 2015, MOHE was guided by the National Higher Education Strategic Plan, in which Improving Graduate Employability (GE) was a part,” says Idris. “The GE rate in Malaysia increased 2.9% from 74.4% in 2012 to 77.3% in 2016.”

However, business leaders, such as property developer Datuk David Chua Kok Tee, who has served on the board of Sunway University and the private HEIs are facing a financial crunch, Ghauth, who is on the faculty of leading private HEIs, warns that, “We know the people with the skills, the people who best cope with uncertainty are creative people. They are versatile in different circumstances.”

To add to the pressures facing universities, the report notes that these disciplines require several years of undergraduate study with a supervisor and certification by an accreditation body. “For law, it is not an issue. But for engineering, architecture and accounting, the number of lecturers who are chartered professionals is actually very low. So, what do you expect from the graduates?” asks Saifuddin, who is chief secretary to the Prime Minister.

The report states, “The key is to depoliticise education and let academic boards independently set standards and handle administration in response to community needs, he tells The Edge. Penang Institute in Kuala Lumpur general manager Dr Ong Kian Ming, a vocal advocate for academic quality, says the issue boils down to the question of employability. “The first part of the challenge is what needs to change in order that educational institutions produce graduates who meet a minimum bar of being employable — being able to communicate clearly, show a basic understanding of concepts and how to apply them to the real world, an ability to absorb and process information in the workplace, and an ability to write and produce output that is understandable,” says Ong, who is MP for Serdang. “To add to the pressures facing businesses, global developments, including the impact of the Fourth Industrial Revolution, are rapidly changing the rules of the game. One expert who is helping the Ministry of Higher Education to prepare for this shift is Australia-based Prof Sohail Inayatullah, the Unesco Chair in Futures Studies. “Tracing various scenarios that emerge in an evolving learning environment, he presents a compelling case for fostering innovation in the education system. “Teaching training should be adapted to the world after jobs,” he tells The Edge. In this scenario, lifelong learning is not a fancy idea but a critical requirement for adapting to the new economic reality. For example, in Finland, a world leader in education, some 2.5 million of its 5.5 million people are engaged in lifelong education programmes at any given time. Finland’s former education minister and current director-general of the Finnish National Agency for Education, Olli-Pekka Heinonen, says, “We don’t know much about the future. We know the people who cope best with uncertainty are creative people. They are versatile in different circumstances.”

In a report entitled An Unseen Future: Education in the Upcoming Industrial Revolution in Malaysia, Khazanah Research Institute director of research Allen Ng notes that as the landscape of employment changes over the coming decades, inculcating lifelong learning for all is essential to ponder, given two important trends.

“Firstly, the fast pace of progress in technology would most likely lead to more rapid cycles of obsolescence and renewal in the types of work and industries available. Secondly, together with the first trend, with the rise of independent work, the traditional employer-employee relationship could be eroded, which would simultaneously provide greater autonomy to workers and remove the requirement of more traditional full-time fixed employment,” he says.

All said, the range of challenges adds up to quite a formidable test of our resilience as an economy. Can academia and industry forge a dynamic partnership to respond to this critical task?

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TABLE 2

Measures to address difficulties in hiring for critical occupations

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<th>SECTORS</th>
<th>EXPANDING LOCAL RECRUITMENT EFFORTS (%)</th>
<th>RAISING WAGES (%)</th>
<th>EXPANDING INTERNATIONAL RECRUITMENT EFFORTS (%)</th>
<th>INCREASING WORKER TRAINING (%)</th>
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TABLE 3

Reasons for difficulty in hiring for critical occupations

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<th>SECTORS</th>
<th>COMPANY IS UNABLE TO MEET SALARY/ HIRING REQUESTED (%)</th>
<th>APPLICANTS DO NOT HAVE SUFFICIENT EXPERIENCE (%)</th>
<th>APPLICANTS DO NOT HAVE SUFFICIENT TECHNICAL SKILLS (%)</th>
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