Socio Environment Compendium

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2018

REVIEWS

Education 4.0 Embracing the
Fourth Industrial Revolution

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The emergence of the Fourth Industrial Revolution (industry 4.0) will lead to a convergence of physical, digital and biological worlds and lead us to unexploited possibilities. New jobs will be created in this new age world. New waves of jobs such as social media manager and content creators prove that education is crucial in preparing the youngsters today to strive and win the revolution. Disruptions have already happened and will amplify in years to come. The impact of this digital revolution has also changed our views on the economy, business, global society and individual activities.

Existing jobs today are expected to be obsolete in the next 30 years. As the nature of jobs will be redundant and most of the jobs will be in the form of automation, instead of having manual workers, jobs in industries such as manufacturing and construction which also include administrative jobs will mostly be replaced with robotics and computerization. However, we would prefer that the industry 4.0 be more about empowering people and a little less on the rise of the machine. But what will happen to our future workforce? Will our youngsters be able to cope with job evolution? Are we ready?

Education 4.0

Therefore, in bracing the challenges, the Ministry of Higher Education has crafted Education 4.0. This is an effort in redesigning the higher education scenery in Malaysia, to educate and produce a better nation along with the 10 shifts of the Malaysia Education Blueprint which was laid out in 2015 and the University Transformation Program Playbook. The key is to bridge the gap between the academia and the industry. Under this initiative, we have managed to put ourselves among the top 1% in the world, alongside other achievements that have made the Malaysian Education as an education of choice among international students. The Ministry has introduced a few initiatives. The initiatives that have been implemented include iCGPA, MOOC, APEL, 2u2i, CEO@Faculty Program and TVET: Modular & Stackable. The following explains these initiatives in detail.

Figure 1. Education 4.0

ICGPA ●

With the current technological wave (industry 4.0), students are now expected to be more holistic, possess entrepreneurial thinking skills and be well balanced. They should not just pay attention to the details of the subject and performance, but also develop the skills picked up while paving their way in university. Therefore, students' development and performance should include their ethics, knowledge and abilities. iCGPA (Integrated cumulative Grade Point Average) was introduced as a medium to assess and report the development and performance of students which integrate their ethics, knowledge and abilities developed along the way. A report card is displayed in the "Spider web" chart that demonstrates the attributes outlined in the six student aspirations postulated in the Malaysia Education Blueprint 2015 - 2025 (Higher Education) along with the eight domains of learning outcomes listed in the Malaysian Qualifications Framework. The Eight iCGPA domains include knowledge, practical skills, social skills and responsibility, ethics and values, communication, problem solving, information management and entrepreneurial skills. The Malaysia Education Blueprint 2015 - 2025 (Higher Education) Shift 1 Holistic, Entrepreneurial and Balanced Graduates outlined that iCGPA is to drive the development and help align the curriculum design, delivery and assessment. This will be conducted at program level and at course level with the focus on student's learning experience towards the development of a holistic and balanced human being. One of iCGPA reporting purposes is to assist in identifying the student's strength. It also includes improvements needed by them apart from assisting the potential employers in determining the suitability of graduates in meeting the requirements of employment and also assisting various stakeholders in making decisions or planning for improvements.

MOOC ●

"Have internet, will learn."

In response to global trend and challenges, our higher education provisions are affected by the new and emerging technologies. This marks a symbol of a new era in education. With the widespread use of digital technology, it is about time for the higher education to comply with the growing expectations to assist the students to survive effectively in a technologically based world. It is predicted that 50% of colleges in the USA will have a blend of face to face learning and online learning by 2020. For our young people who have grown up in the digital technologies era and for whom a life is fully integrated with digital devices, this promises that the demand for online learning is likely to accelerate.
MOOC (Massive Open Online Learning) was introduced not only with the intention to embolden online learning, but also to diversify the classroom experience and promote flexible learning. MOOC will also provide students new ways to access higher education. In line with the Malaysian Education Blueprint (Shift 9) "Globalised Online learning", the Malaysia MOOC was launched. The Malaysian MOOC is the world's first nationally coordinated online learning initiatives which concentrated on local subjects such as Tamadun Islam dan Tamadun Asia (TITAS), Hubungan Etnik, ICT Competency and Introduction to Entrepreneurship. This platform allows students from all other universities in Malaysia and abroad to register for the course and transfer of credit to award a certificate, diploma and also degree.

APEL ●

In promoting flexible education, APEL was introduced. APEL (Accreditation of Prior Experiential Learning) is where students can transfer credits obtained from their working experiences allowing them to continue their studies via a flexible study period.
2u2i

2u2i ●

This program allows students to get a feel of the industry in a duration of 2 years after completing 2 years in the university. The number one aim of 2u2i (2 years University, 2 years industry) is to promote flexibility in education based on the Malaysia Education Blueprint 2015-2025 (Higher Education) Shift 1: Holistic, Entrepreneurial and Balanced Graduates.

Among others, the objectives are to promote and expose students to the actual working environment and experience it in a specific duration of time in the respective industries. Industry exposures also include business start-ups which provide entrepreneurial opportunity for the students to continue upon graduation besides incorporating the company from the industries. This is to boost the marketability, enhance the skills of students and to prepare them for the actual working world.

In line with the Malaysian Education Blueprint, having an experience in the industry is very important especially in producing holistic graduates. 2u2i also ensures that courses offered by the higher learning institutions in Malaysia are conformed to the needs of the industries in terms of matching the curriculum design and industry involvement. A few selected universities in Malaysia such as Universiti Putra Malaysia (UPM) and Universiti Malaysia Kelantan (UMK) are the pioneers of this initiative. Other universities include Universiti Teknologi Malaysia (UTM), Universiti Kebangsaan Malaysia (UKM), Universiti Malaysia Terengganu (UMT) and Universiti Sultan Zainal Abidin (Unizar)

CEO@Faculty ●

CEO@Faculty Program bridges the industry and the university where the top local and international CEOs and the university are brought together to share the knowledge and experience of the CEOs with the university students. With the appointment as "Adjunct Professors", the CEOs are given 30 hours a year to provide mentorship and guide the university students and lecturers according to the relevance of the industry.

Under the Malaysia Education Blueprint 2015-2025 (Higher Education) Shift 2: Talent Excellence, this initiative is to enhance knowledge transfer, strengthen industry academia links and bridge the private public gap. The first round of the CEO@Faculty program "Learn from the PROs" started in 2015 with 24 CEOs and in 2016 with 60 CEOs. The second round of CEO@Faculty program 2.0 "Coached by the PROs" was launched in 2017 with 60 selected academicians undergoing an internship program with the CEOs.

TVET: Modular & Stackable

Empowering the Acquisition of Skills

Redesigning the higher education towards a dynamic and flexible education system is seen as a factor that empowers its learners based on the Malaysia Education Blueprint 2015-2025 (Higher Education) Shift 3, 4 and 7 as follows:

Shift 3 : Nation of lifelong learners
Shift 4 : Quality TVET Graduate
Shift 7 : Innovation Ecosystem

Technical and Vocational Education and Training (TVET) courses offered are modular and stackable where students can choose the skills and knowledge desired based on their readiness, experience and need.

So, are we ready

TO EMBRACE THE CHANGE FOR A BETTER FUTURE?