Source: *Channel NewsAsia Online*
Date: 28 December 2017

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★Commentary | Singapore

Commentary: Asia's growing impact on global higher education

28 Dec 2017 06:14AM
(Updated: 28 Dec 2017 07:14AM)

Amid major shifts in the higher education landscape in Asia, universities must ensure their education remains relevant and seize new opportunities for their research to contribute to innovation and enterprise, says president of the National University of Singapore.

National University of Singapore graduates at a commencement ceremony. (Photo: Lionel Lin)

SINGAPORE: Over the past decade, there have been several notable trends and shifts in higher education in Asia.

Three major developments in particular are reshaping the higher education sector in Asia in significant ways that look set to persist.

These include the vast growth in the number of students enrolled in post-secondary education, a focus on the liberal arts education model at several leading universities, and the changing model of research, innovation and enterprise.

For global academic institutions deciding on their strategic goals and positioning, it is essential that they read the waters well and understand how these shifts are affecting their models of education and learning.

VAST ENROLMENTS

While developed economies like South Korea and Japan have maintained high post-secondary enrolment rates for many years, the story of the past decade has been the unprecedented speed and scale of this growth in China, and, to a lesser degree, India.

The numbers are remarkable, with enrolments by 2020 estimated at more than 37 million in China and more than 27 million in India. In my view, this is generally a good thing, as it is giving many students the opportunity to develop intellectually and pursue expanded career options.

But it has also resulted in significant challenges. In South Korea, graduate unemployment among 25 to 29-year-olds rose to 8.2 per cent in November 2016, not a particularly high figure in global terms but from an East Asian perspective, a recent historic high.

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There are also concerns over mismatches between the skills graduates leave university with and the needs of industry and employers, as well as questions about the quality of teaching and learning, an issue that has raised concerns in India.

In China, the rapid expansion of higher education has resulted in mismatches in the supply of and demand for graduates – major cities with large concentrations of graduates have high unemployment, whereas small and medium cities have an insufficient number of graduates to meet demand.

A student majoring in esports and management practices on her laptop in a dormitory at the Sichuan Film and Television University in Chengdu. University enrolment in China by 2020 is estimated to reach over 37 million. (File photo: REUTERS/Tyrone Siu)

This may be a short-term phenomenon as the Chinese government is reported to be converting several colleges into vocational schools to focus on skills matching to address concerns of not just high unemployment rates but falling graduate salaries.

For a small country like Singapore, a key question is how do we ensure our graduates retain a talent edge, given the huge growth in graduates in the region?

A DEMAND FOR A LIBERAL ARTS EDUCATION

A second major shift is the growing desire to improve the quality of teaching, with a trending rise in interest in liberal arts education programmes among several leading universities in Asia. This is a shift away from an education model of early deep specialisation towards one with greater academic breadth.

It is also a shift from pedagogies traditionally based on rote learning and lectures towards more interactive modes of learning, such as tutorials, symposiums and seminars. The desired educational outcome is to foster greater levels of creative and critical thinking among students.

It is with this shift in mind that the National University of Singapore (NUS) partnered with Yale University to launch the Yale-NUS College at NUS in 2013, motivated by a joint vision of developing a new model of liberal arts education which brings together the best elements from the US and the intellectual traditions, contexts and culture of Asia.

Our aspiration is to attract top students from Singapore and internationally. We want to nurture a new breed of leaders who have a deep appreciation of Asia and the world, and an ability to see the big picture and the connections between issues as well as the capability to go deep and rigorously into specific issues, and to think of different approaches and solutions.

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The Yale-NUS College is starting to bear fruit and has seen consistently strong demand, receiving nearly 8,800 applications from whom 250 students from Singapore and 45 nationalities were admitted for the class of 2021.

The first graduating class has done well with more than 90 per cent securing jobs, fellowships or graduate study positions in a wide range of sectors, within six months of graduation. A number have been awarded prestigious fellowships including a Rhodes Scholarship and a Schwartzman Scholarship.

The new Yale-NUS College campus. Yale-NUS College graduated its first cohort of 119 graduates in 2017. (Photos: Yale-NUS' Facebook page)

SHIFTS IN RESEARCH, INNOVATION AND ENTERPRISE

A third notable shift in higher education in Asia has been the huge growth in investment in world class research. In terms of research and development (R&D) expenditure as a percentage of GDP, South Korea has overtaken Israel as the world's most R&D-intensive country.

But the most impressive strides have been taken by China, which today accounts for 15 per cent of world scientific publications and has seen its share of the world's high impact research grow massively over the last 20 years.

In tandem with the growing research strengths, there has been an increasing emphasis on research translation and innovation among universities, particularly in Asia. One important pathway is through deeper R&D collaborations between universities and industry. However, there are a number of mismatches that have traditionally impeded such projects.

Academics are inclined towards publishing papers, while the industry is largely concerned about commercial outcomes and profits. Our academic colleagues like the freedom to explore and to pursue long-term research, but industry is often about timelines, schedules and deliverables.

Even here, though, the landscape is changing. Industry players are adopting open innovation approaches and strategies, and universities are embracing enterprise and innovation as part of their core mission. In fields such as artificial intelligence, computer science and data analytics, there are marked reductions in the time and barriers to move from a high-quality basic research discovery to its high-impact application and commercialisation.

All these are occurring against the backdrop of a new age of empowerment. Technology is levelling up skills and enabling individuals to do many things not possible before. New business and funding models are empowering start-ups and small businesses to pursue ideas at a local, regional or even global scale.

The rapid growth of Asia is creating excellent conditions for universities to develop education, research and entrepreneurial programmes that ride on the new opportunities as well as help address the complex challenges associated with that growth.

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NUS Department of Mechanical Engineering researcher Soheil Arastehfar showcases their aquatic robot manta ray "Mantadroid" at their faculty premises in Singapore on Nov 27, 2017. (Photo: REUTERS/Edgar Su)

THE VIEW FROM NUS

At NUS, we have spent a great deal of time and effort thinking about how we can nurture truly "future-ready" graduates, given the fundamental changes in the nature of work, the need to ensure successful lifelong employability and the requirement to maintain our human capital edge in the face of rapid growth of higher education in Asia.

We have developed programmes aimed at strengthening the essential skills our graduates need to be successful and employable across a lifetime. We have expanded experiential learning to help students build strong personal and interpersonal qualities and foster the ability to think strategically but also to go rigorously into details.

Beyond these, it is critical, in my view, to encourage our students to develop an entrepreneurial mindset, not in the narrow sense of starting a business, but in having the imagination to see new possibilities and the boldness to seize new opportunities.

At NUS, we have also thought deeply about how our university can have a truly transformative impact, bringing benefits to society.

This has resulted in a number of new initiatives. For instance, for the last few years we have worked in close partnership with the Singapore Ministry of Health and many stakeholders, bringing our multidisciplinary research strengths in medicine, finance, behavioural science, engineering, computing, data analytics and others to contribute to the transformation of our healthcare delivery system.

It is through goals and initiatives like these that universities can make a truly transformative impact that benefits society, and make them key places where the future is imagined and shaped and young people are inspired and empowered to contribute to the shaping of that future.

Professor Tan Chorh Chuan is the President of National University of Singapore. This commentary is based on the Higher Education Policy Institute 2017 Lecture he delivered on Dec 7 at the Royal Society.

Source: CNA/sl