

Tensions and opportunities in higher education

Acting Minister for Education Ong Ye Kung sets out how the Government hopes to balance the needs of the country with the choices of individuals in an age of rapid and profound economic and social change. Below is an edited excerpt of his speech at the OECD-Singapore Conference on Higher Education Futures yesterday.

A company can no longer become competitive and stay successful by lowering cost and enlarging scale. It has to be innovative and make its products special to customers – offering utility not just in the physical sense but also in the psychological and emotional sense.

Today, the world works as one big complex production ecosystem, and production becomes modular as a result. The traditional lines between products and services are becoming increasingly blurred. Societies too are changing. People are increasingly educated, and technology and the Internet have created opportunities for mobility and progress in a big way. Populations are crossing borders, congregating around cultural nodes for lifestyle, spiritual well-being and personal enrichment.

People have multiple layers of identities and affiliations. The system of higher education exists and evolves within these larger social, economic and technological contexts. The Organisation for Economic Cooperation and Development's Skills Outlook says that high skills will be in increasing demand, low skills will be in constant demand, and medium skills will be in decreasing demand. Advances in technology have the potential to replace or transform jobs that not just involve manual work, but also cognitive and increasingly complex intellectual tasks. To prepare people well for this reality, education institutions must be well plugged into the needs of industries and the real and unpredictable world.

Education should be as much as possible like the life for which it prepares. If that is the case, then a learner's experience in higher education will have to evolve to become innovative, less extractive, more connected to the world, more modular in course delivery, more attuned to the complexity and diversity of students' individual identities.

One key imperative of education is to serve national and societal needs and interests. Our system in Singapore started off that way – to survive, earn our own living, create jobs for our people, and train our people well so that investments would come to Singapore. Like many universities around the world, the system also imbues common values, languages, foundational skills and world view among our young. Such a system is top-down, functional, preserving and integrating.

WHAT DO YOU WANT TO BE?

But to a young person, he or she may be much less attracted by the national imperatives of education. For them, I suspect, education is often about choices – where and how to channel their energies and passions. To them, this life choice can be confusing and intimidating. When we ask a child what he



Singapore is on the cusp of a new wave of growth as it grows its applied degree space through the SIM University (above) and the Singapore Institute of Technology. Its polytechnics and the Institute of Technical Education have also established themselves as world-class providers of technical education. ST PHOTO: STEFFI KOH

wants to be when he grows up, he has spontaneous answers. I asked my friends through Whatsapp to survey their young kids recently – the answers came in fast and furious – policeman, fireman, teacher, aerospace engineer, scientist, doctor, pilot and soccer player. Many are in fact skills-based, and rarely does a kid say he wants to work in a cubicle or office. One did say he wanted to be a boss. Another said, politician.

Kids want to grow into vocations, professions and careers that allow them to protect the ones they love, to walk through fire to save those who cannot save themselves, to cure the sick, to build cars, to fly to the moon, to understand Mother Nature. In this era of individual empowerment and global opportunities, we must not fail our young. We cannot just offer them career counselling and introduce to them the variety of job possibilities when what they really want to know is how these jobs have meaning. We cannot talk to them about international standings and rankings when they want conversations about society and nation, and the contributions that they can make.

Each of us has innate talents, abilities and interests, and the higher education system must help people uncover and pursue their passions, and chase their respective rainbows. Such a system

is bottom-up, aspirational, changing and diversifying.

ONE PERSON AT A TIME

The rethinking of the meaning of higher education must include the fact that the collective good is attained – or, in fact, can only be attained – by the ability of individuals to pursue their own talents and passion. Every Singaporean counts, and he or she can only count if the system allows maximum play of what he or she is best at doing. In this evolution, Singapore as a whole becomes stronger, better, more sure of our place in the world.

By setting ourselves on this course, we will encounter many requests that we cannot meet and expectations we cannot fulfil. Behind every one of these requests is a passionate person yearning to get into a particular programme but who was somehow rejected. But one thing I noticed about the Ministry of Education when I first arrived here is that the staff begin all their presentations with a picture of a starfish. This alludes to the story about the boy who saves starfishes stranded on the beach by throwing them back into the sea one at a time. Our efforts are indeed about opening pathways to fulfil aspirations – one person at a time.

That is a key reason why we are increasing the university cohort participation rate of our students to

40 per cent by 2020 – an eightfold increase since 1980. We are growing the number of university places for our people not by adding more of the same, but in the form of new programmes and new institutions. It is not a cookie cutter but a full range – square pegs, round pegs, and new and fantastical shapes.

Diversity will not merely be in terms of course choices, but will be multi-dimensional. It means rethinking what we learn, when we learn, where and how we learn, and the kind of credentials we achieve at the end of the training, as well as how society recognises and regards those credentials.

In Singapore, this multi-dimensional, qualitative change will be done through SkillsFuture. This is the movement launched last year to provide Singaporeans with the opportunities to develop to their fullest potential throughout life, regardless of their starting points.

NEW POSSIBILITIES

In terms of what we learn, the range of possibilities and choices in our university sector has grown tremendously, especially in the last 10 to 15 years. We are on the cusp of a new wave of growth as we grow our applied degree space through the Singapore Institute of Technology and the SIM University. Our polytechnics and

the Institute of Technical Education have also established themselves as world-class providers of technical education.

To help our students navigate these possibilities, we have introduced education and career guidance in our schools and higher education institutions. We are not transplanting but are learning from the systems in other countries, such as the apprenticeships and universities of applied sciences in Germany.

In terms of when we learn, the answer is, simply, throughout our lives. Study and work will no longer be sequential, but interspersed with each other throughout a person's life. More fundamentally, we should over time blur the differentiation between PET (pre-employment training) and CET (continuing education and training). Learning as a concept has to be inherently lifelong.

In terms of where and how we learn, learning will still be centred on but not confined to schools and higher education institutions. Much of our learning can be online, through peer-to-peer interaction, and importantly, at the workplace and on the job. There will be greater use of technology. The Internet as an infrastructure for learning is not just a conduit for e-learning. We have outsourced a significant portion of memory and knowledge accumulation to the Internet,

although much curation work remains. And the spirit of outsourcing means we must focus on what matters most to us – our most-needed core competencies.

Our vocational institutions – the Institute of Technical Education and polytechnics – are developing modern apprenticeship programmes, called Earn and Learn Programmes (ELP). Under the ELP, a learner will go into the industry of his choice and undergo a formalised work and study arrangement, at the end of which he will get formal industry-recognised certificates or qualifications.

For an ITE graduate, these credentials can be stacked towards a polytechnic diploma. For a polytechnic graduate, they could stack towards an applied degree or qualification certifying mastery in a specific field.

In terms of credentials, these will continue to be important. There is nothing wrong with paper qualifications, because how else will industries and employers know your level of knowledge and proficiency? What we do want to prevent is paper chase for its own sake and an overemphasis on one particular type of paper qualification.

We are already seeing more diversity in higher education credentials. Beyond traditional academic qualifications, there is a burgeoning market for alternative qualifications globally – graduate certifications, even "badges", transcripts and portfolios are becoming credentials in their own right.

If we succeed in our effort, we will have a better balance between knowledge and skills pursuits, between academic and competency accomplishments, and across a wide spectrum of disciplines that is more reflective of the needs of the economy and personal aspirations.

More importantly, there will have to be inter-operability between qualifications systems – those belonging to our vocational institutions, under our adult learning frameworks, industry trade certifications, and university degrees. They must speak the same language and use similar source codes. It is imperative that we achieve this because this will bring about a significant step towards making learning modular, flexible, progressive and lifelong.

Under SkillsFuture, we will open up the learning of skills and pursuit of mastery as a broad pathway for Singaporeans. Pursuit of mastery of skills and advancement of knowledge exist alongside and overlaps significantly with one another and can be strongly complementary and reinforcing. Mastery of skills can deepen fundamental academic understanding of a subject matter and even spark innovation. It is noteworthy that many genius entrepreneurs started by fiddling with their inventions in their garages, and artistry can rarely be achieved without using one's hands. Conversely, stronger academic foundations can improve the ability to acquire and apply skills.

If we do this right, from a broader economic and social standpoint, we will not just add value but also create value, not just make things but also invent things. The definition of merit and success will be broadened. But what is beyond the Government's control – and rightly so – is how society regards and recognises a skilled worker, a craftsman and a master. This will have to be part of our continuing evolution as a society.