Pre-Tertiary Education Sector

Education is a highly contested area in all countries. Apart from diverse views with regard to the aims and purpose of education, states differ in terms of the resources and attention they are prepared to invest in educating their population. Differences in approach also exist in terms of what goes into the national curriculum as well as how the system is structured for the various age groups.

Post-World War Two, the countries in Asia, and chiefly Southeast Asia have adopted a pragmatic approach to educating their citizens to prepare them for an industrialised world. However, as these countries are at different stages of economic growth, the quality of education accessible to school-going children is not consistent. Due to the systems of government established in each country, the priority given to ensure consistency of delivery, quality assurance and certification also varies.

An analysis of data from international testing conducted by the Organisation for Economic Cooperation and Development (OECD) has shown that there is a correlation between PISA ranking for Mathematics and Science, and economic development; the stronger the economic indicators of a particular country, the better the scientific and mathematical abilities of their students, on average. High competencies on the part of the student population contribute correspondingly to generate economic growth for the country and work towards a virtuous cycle.

The OECD correlation is highly plausible and that is why developed countries especially the United States, the United Kingdom and Europe are re-emphasising the need for STEM (science, technology, engineering and mathematics) education for schools. However, it will take more than a strong Mathematics and Science curriculum in schools to ensure that youth are well prepared for the job market. Increasingly, in developed economies, governments are also incorporating 21st century skills, problem-solving abilities, people skills and character strengths, and an entrepreneurial mindset in their curriculum, to ensure that school-leavers are ready for an increasingly volatile, uncertain, complex and ambiguous future. Additional programmes such as career counseling, internships, industrial attachments and job shadowing have also been introduced for certain sectors of the school population.

Research tells us that youth employability is 1.5 times the adult rates in developed countries and three or four times that in developing countries (Panth 2014). Another set of data stemming from the UN tells us that there will be a potential shortage of 38 to 40 million high-skill workers and about 45 million medium-skill workers by 2020 (United Nations 2014). At the same time, we will see a potential surplus of 90 to 95 million low-skill workers around the world by 2020.

Evidently, educating children, regardless of the philosophy of education adopted, is not enough. Responsible states and economies that hope to thrive in a
technological era will have to ensure that educational goals are in tandem with national needs and that schools play a part in equipping students with the skills needed for a globalised and competitive world.

Singapore used to structure its education system according to the academic abilities and career choices of students at a young age. Students who are less academically-able were streamed into a less academically demanding course to prepare them for a polytechnic or a vocational education. The latter could take up to 70 per cent of a primary one cohort by the time they reach ten years of schooling. Even within the academic stream at high school, students would choose between a Science, Arts, Commerce or Technical course. Fast-forward three decades, there is now a blurring of lines and more lateral transfers between streams. The latest government initiative called “SkillsFuture” is a comprehensive plan at helping students at all levels and in all schools, to make informed choices about the course they intend to pursue and the career opportunities it will lead to. Estimated to cost the government S$1 billion per year from 2015 to 2020, the initiative involves developing: a professional core of education and career counselors for the schools and institutes of higher learning; internships in tertiary institutions; online Individual Learning Portfolios for every student to track their training needs from secondary school onwards; paid and structured on-the-job training for polytechnic and vocational institution students leading to industry-recognised qualification; and a SkillsFuture Credit for every Singaporean aged 25 and above to constantly upgrade and re-skill themselves, for career changes.

Singapore currently has a transitional youth unemployment rate of 6.7 per cent. Prompted by the wide skills gaps and the growing aspirations of students to attain university degrees without having clear ideas of their career prospects, the latest announcements go out in tandem with a strong government rhetoric that not everyone needs to have a university degree, and that strong academic qualifications do not guarantee success in the workplace. Not all governments will have the political resolve and resources to calibrate the gap between school systems and manpower needs. It is the belief of the author of this paper that the least governments can do is to ensure that their education systems are in good shape, and that young people, especially in developing countries, increasingly get the fundamentals they need to serve the needs of their economy.

In Southeast Asian countries such as Cambodia, Laos and Indonesia, multinationals have been unable to hire from within because of the lack of skills and the right competencies in the indigenous population. A 2010 McKinsey Report, “How the World’s Most Improved Systems Keep Getting Better” provides us with some clues as to how every system can make continual improvements if they wish to, within a five-year time frame (Mourshed et al. 2010). School systems can move...
from poor to fair if they are able to ensure education access for all, build enough schools, provide basic facilities in the schools, have teachers trained and set basic literacy and numeracy targets for attainment. They can move from fair to good when they are able to build a strong foundation with clear decision lines and accountability, and equitable funding. They should have reliable assessments in place through a centralized authority, ensure close monitoring and that the curriculum is appropriate for the age groups. Systems that aim to move from good to great will need to have the professionalism and quality of teachers raised in terms of stronger credentials and certification standards, and provide clear career pathways for educators with commensurate pay increase, while encouraging peer learning and self-development among them. The move from great to excellent requires the creation of an environment that unleashes the creativity and innovation of educators and stakeholders; a highly-skilled set of educators, frameworks used to ensure standards and accountability, and strong mentoring programmes.

Governments that want to narrow the skills gap within their economy will be well-advised to do a few things in the pre-tertiary sector: ensure age appropriacy and the relevance of curriculum and standards for their country’s needs; provide appropriate reward and pay for teachers and administrators of schools; put in place valid and reliable assessment of student outcomes and performance; establish data systems that inform policy reviews; and make available policy documents and laws to ensure compliance and communication of intent and expected standards. The World Bank has highlighted the fact that “in cross-country comparisons, it is generally found that countries maintaining a substantial dual apprenticeship system, for instance, Austria, Denmark, Germany and Switzerland exhibit a much smoother transition from school to work, low youth unemployment and below average repeated unemployment spells than other countries” (World Bank 2013). This speaks volumes for a deliberately planned vocational or apprenticeship system that incidentally underscores Singapore’s new rhetoric that a university degree is not necessarily the best way to ensure employment, job security or a successful career.

Unemployment is a key issue in most of the European and North American economies, affecting, in particular, young people. The youth unemployment rate in the EU in March 2015 reached almost 21per cent (corresponding to more than 4.8 million people). At the same time, in all the 34 OECD countries, youth unemployment reached 14.3per cent in February 2015. This leads most people say that a “lost generation” is emerging in the Western world.

Universities, whose primary mission is people qualification, assume a central role regarding this challenge. The strategies of higher education institutions must increasingly take into account the needs of the productive sectors as well as the requirements of sustainable development and social cohesion. This requires universities to be more open to the needs of their major stakeholders: current and prospective students, alumni, companies, governmental bodies and society, in general. The academy cannot shut itself away in a sort of “ivory tower”, circulating knowledge in a closed circuit. Quite the contrary, it should be outward-looking, and more sensitive to the community’s problems, challenges, and opportunities.

In this context, higher education institutions must provide three levels of education: (i) basic education, which is scientifically sound and culturally extended, and provides skills directed to the professional reality; (ii) soft skills, that is, personal competences beyond academic curricula, but greatly valued by the labour market (such as problem solving skills, time management,
resilience, ability to communicate, team work, learning potential, positive attitude, etc.); and (iii) continuing education, in which universities and companies must work together to define what knowledge and competences are needed for business qualification. Incidentally, the Bologna Declaration steered European higher education towards practical know-how. This means that universities are increasingly focused not only on the acquisition of knowledge by the students, but also on the application of such knowledge in real-world situations; in particular on those related to business dynamics. Moreover, the Bologna Declaration encourages the mobility and interdisciplinarity of knowledge, which for example, makes it possible for a graduate in History to continue 2nd cycle studies in Economics. This approach to the blending of knowledge shrugs off the idea that a certain course has to correspond to a specific area of studies or employment; representing the broadening of professional horizons and career choices for graduates.

The promotion of employability by higher education institutions also requires close relationships with companies, as the private sector is a major source for the creation of skilled jobs. In fact, universities have, today, more responsibilities in terms of economic value of knowledge, creating value for companies, and promoting corporate competitiveness.

In terms of employability, relationships between universities and companies must encompass other forms than the traditional professional traineeships and continuing training courses. There has been the emergence of innovative experiences in the field of on-the-job training, involving a close interaction between students and teachers, on the one hand, and companies, on the other hand. This interaction may give rise to in-company courses and classes taught by company staff replicating the companies’ dynamics, as well as to joint educational projects developed by universities and companies. There is a whole host of collaborative solutions, providing that both universities and companies are open to them.

On the other hand, the training offered by universities must adapt to the social-economic situation of each country. This means that courses tend to be available in more attractive, practical, and company-focused technological areas. Curricular interdisciplinarity must also be encouraged in order to promote the intersection of humanities, arts, sports, natural and social sciences, and health sciences with the more technological fields. Moreover, universities are adjusting their research and development strategies to the demands of the productive sector, reinforcing applied research and innovation activities.

In fact, innovation has always been the main driving force for the sustainable competitiveness of companies. The conversion of technical-scientific knowledge into business value is extremely important for the development of high added-value and differentiated products, the introduction of sophisticated productive processes, the adoption of more effective business models, and the development of more effective interfaces between companies and their consumers.

All these activities require know-how and skilled human resources so that the innovation potential delivers more value to the companies. This means that universities are key players within the research and development and innovation ecosystem, and the main source of human resources capable of transforming knowledge into economic and social value. As such, the closer the relationships between universities and companies in terms of research and development and innovation, the more skilled employment there will be in the labour market and the greater the employability rate of higher education courses.

In short, because universities bring together human capital, scientific critical mass, technological resources, and capacity of innovation, they are essential for the entrepreneurial boost that we are aiming for our societies, and which will result in the creation of skilled youth employment.

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