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PART 1: INTRODUCTION

1. This paper describes the current structure of the post-secondary education landscape in Singapore and highlights efforts to further strengthen the quality and relevance of education provided by post-secondary education institutions (PSEIs) to enhance the employability of graduates. It also describes steps taken to increase the flexibility and porosity between different pathways so that individuals are able to discover their strengths and develop to their full potential at school, and eventually in the work place.
2. Singapore has a vibrant post-secondary education landscape that provides a diversity of programmes and pathways to cater to the different learning needs, interests and strengths of its population. The Ministry of Education (MOE) is the main agency responsible for oversight of the post-secondary education sector, and provides funding to the various institutions – six universities, five polytechnics and the Institute of Technical Education (ITE) – to provide educational opportunities to improve the employability and livelihood of Singaporeans, and to provide the economy with a pool of quality manpower for industry development. MOE also works closely with the Ministry of Trade and Industry (MTI) and the Ministry of Manpower (MOM) to ensure the relevance of the programmes and curriculum, and the employability of the graduates.

PART 2: OVERVIEW OF EDUCATION PATHWAYS IN SINGAPORE

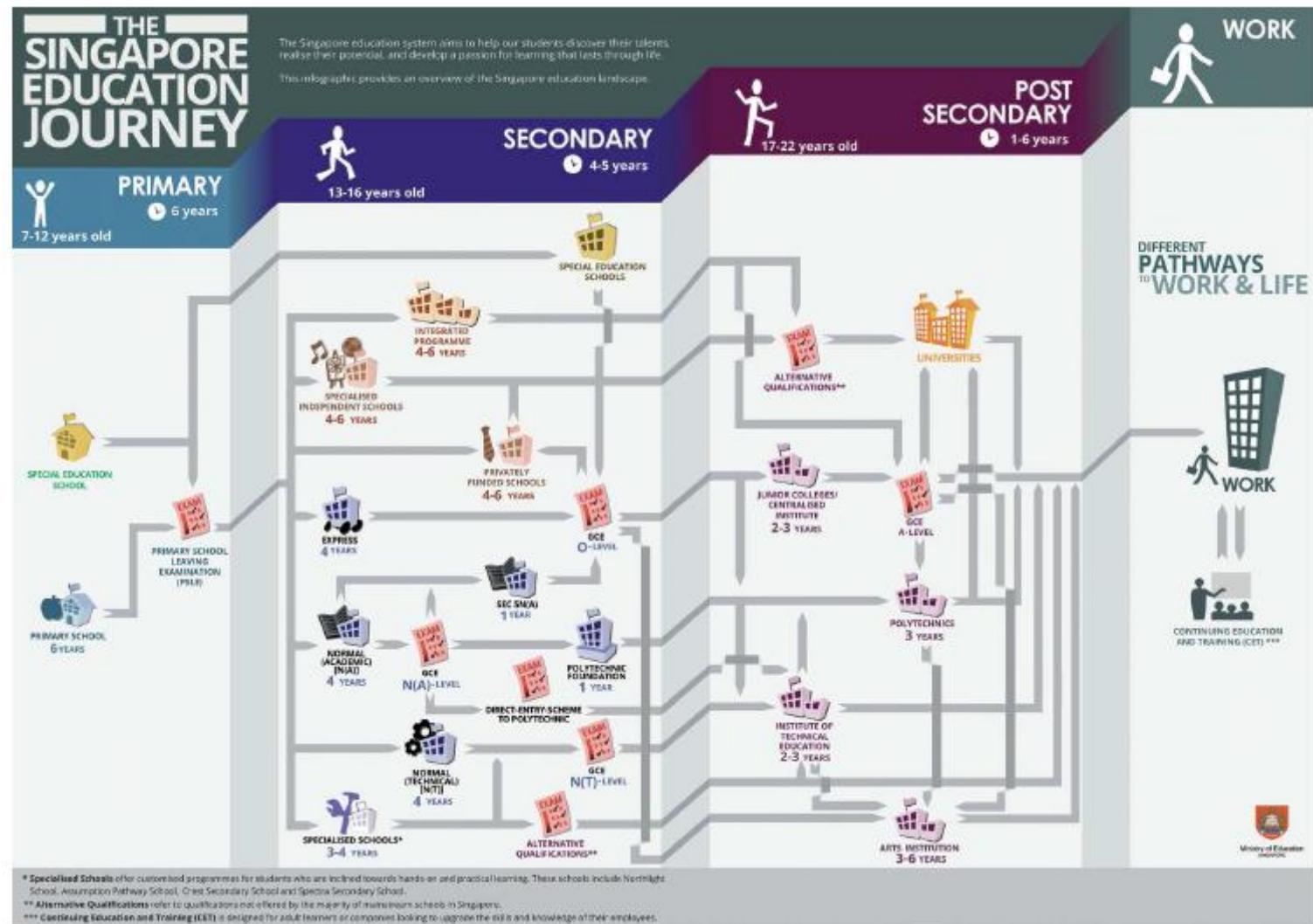
3. Today, students in Singapore receive at least ten years of general education in schools, comprising six years of primary education and four to five years of secondary education. Over 90% of the cohort will progress on from here to the Junior Colleges / Centralised Institute, polytechnics, or the Institute of Technical Education (ITE), the choice of which depends on their academic achievements, aptitude and interests.

- a. Junior Colleges (JCs) / Centralised institute (CI). The JCs/CI provide pre-university education to close to 30% of each cohort, and prepares them for entry to university by equipping them with the essential skills and knowledge required for tertiary education.
- b. Polytechnics. The polytechnics offer three-year practice-oriented diploma programmes to about 45% of each cohort. The programmes prepare students for a wide range of middle-level professional and technical jobs, and equip them with the skills necessary to contribute to the technological and economic development of Singapore. Polytechnic graduates may also go on to pursue further studies at the degree-level in universities in Singapore and overseas.
- c. Institute of Technical Education (ITE). Over 20% of the cohort will progress to ITE, which provides students with the technical skills and knowledge that they need to embark on a career in an area related to their training. ITE offers two basic levels of certification under the National ITE Certificate (*Nitec*) system of certification. Depending on their academic performance in school, students will either enrol in a *Nitec* or *Higher Nitec* course in ITE, which typically takes two years to complete. Graduates from ITE may also gain admission to a polytechnic to pursue a diploma in an area that is relevant to their ITE course.

4. Publicly-funded university education in Singapore is provided through the five Autonomous Universities (AUs), which are corporatised entities that each have their own Board of Trustees and the autonomy to decide on their strategies and directions. These include the National University of Singapore (NUS), Nanyang Technological University (NTU), Singapore Management University (SMU), Singapore University of Technology & Design (SUTD), and the Singapore Institute of Technology (SIT). SIM University (UniSIM), a private institution, also receives funding to provide subsidised part-time degree programmes that are targeted at working adults. Since 2013, UniSIM has also been offering full-time degree programmes targeted at fresh school leavers from the junior colleges, centralised institute and polytechnics.

5. Figure 1 summarises the post-secondary education pathways for students. A key feature of the Singapore education system is the flexibility in education pathways, which allows students the possibility of moving between the different pathways, and the opportunity to pursue education upgrading to as far as their abilities take them.

Figure 1: The Singapore Education Landscape



6. Enrolment in the various institutions has increased over the past five years, as shown in Table 1.

Table 1: Enrolment in AUs, Polytechnics and ITE from 2009 - 2013

Year	Full-time Enrollment (%)		
	Autonomous Universities	Polytechnics	ITE
2009	25.1	44.7	21.2
2010	25.6	45.8	20.9
2011	26.9	46.5	21.3
2012	28.2	47.1	21.2
2013	29.4	46.4	22.8

PART 3: NATIONAL POLICIES TO STRENGTHEN TECHNICAL EDUCATION

7. ITE and the polytechnics are integral to the education system in Singapore – together, they provide education and training to support the technological and economic development of Singapore. Over the years, consistent focus has been placed on, and considerable resources invested in improving the relevance and quality of education provided through these institutions.

8. In 2005, ITE underwent a restructuring which saw the consolidation of ten existing ITE institutes into three regional campuses, to expand its capacity for training, and ensure that its training facilities and environment remain relevant in the new millennium. A regional campus concept allowed ITE to provide a more comprehensive range of courses to facilitate inter-disciplinary learning and cross-department training for students so as to produce ‘thinking doers’, who would be able to better adapt to the changing needs of the new economy.

9. More recently, following a review of the polytechnic and ITE system of education in 2014, plans are currently afoot to enhance applied learning in the polytechnics and ITE through strengthening of partnerships with industry to provide

better on-the-job learning opportunities for students. Internships, which are already a key component of the polytechnic and ITE curriculum, will be enhanced so that students can better apply their learning in real work environments, and develop the skills that are necessary for them to succeed in the work place. The polytechnics and ITE are also organising themselves to engage industry in a more coordinated, and targeted manner, so as to ensure the continued relevance of their curriculum to industry, and open up opportunities for their students and graduates.

10. The strength of the polytechnic and ITE model of education in preparing students for rewarding careers in industry and otherwise, is reflected in the high employability rate of its graduates – over 90% of polytechnic graduates and around 86% of ITE graduates obtain employment within six months of their final examinations in the polytechnics and ITE¹. The good employment performance of technical and vocational education and training (TVET) graduates reflects the strong endorsement of the industry and the value of a TVET education.

PART 4: INCREASED FLEXIBILITY FOR EDUCATIONAL PROGRESSION

11. In addition to strengthening the relevance and quality of education offered by the polytechnics, efforts have also been made to further diversify the pathways available to graduates from such institutions.

12. Following the 2012 review of the university sector under the Committee on University Education Pathways beyond 2015 (CUEP), the target university cohort participation rate was increased, from 30% to 40%. Two new institutions – the Singapore Institute of Technology (SIT) and UniSIM – were selected to offer degree programmes that were more applied in nature, and which might be suited to students with a proclivity for hands-on learning. The increased cohort participation rate and new applied degree programmes offered by SIT and UniSIM will allow more polytechnic graduates to pursue a university education.

¹ Data on employability obtained from the 2014 Graduate Employment survey.

13. New pathways for graduates from the polytechnics and ITE to further their education and deepen their skills, are also being developed under SkillsFuture, a national movement that aims to provide Singaporeans with the opportunities to develop to their fullest potential throughout life, regardless of their starting points, by enabling them to develop skills relevant to the future. These include the development of short modular courses that offer targeted skills upgrading and are particularly suited for working adults.

14. A new place-and-train programme, called the “Earn and Learn Programme” has also been launched to encourage fresh graduates to enter the field for which they are trained, and continue learning for life. Fresh graduates from the polytechnics / ITE are placed under employment with a company, and given structured on-the-job and institution-based training so as to gain a career headstart in chosen sectors.

PART 5: CHALLENGES AHEAD

15. Individual aspirations are rising and in light of increased access to upgrading, there is a need to ensure that the local workforce does not blindly chase paper qualifications, and to ensure that the skills they choose to pursue are relevant to industry and translate to positive employment outcomes. Thus, to improve employability, it is necessary to not only provide increased opportunities for training but also to change perceptions and expand the definitions of success. Through SkillsFuture, we will continue to involve individuals, employers, industry, trade associations, parents, teachers, educators and trainers so as to create multiple pathways for success by building an integrated system for education, training and career for Singaporeans to develop their potential throughout life, and to promote industry support for individuals to advance based on their skills