提升马来西亚技职教育：芬兰、新加坡和瑞士的经验

Uplifting Malaysia's Technical And Vocational Education And Training (Tvet): Lessons Learned From Finland, Singapore And Switzerland

教育部于2015年4月7日推介《2015–2025马来西亚高等教育大蓝图》，取代先前的国家高等教育策略计划。面对大学生失业问题和预期对技职熟练员工需求不断增加，大马政府注重技职教育在教育系统的发展。该蓝图包含四个主要目标：（一）推动以需求为导向的技职教育，以提升学生就业能力；（二）减轻政府在技职教育方面的资源负担；（三）降低技职教育资格的复杂性，以得到更多学生和雇主的认可；（四）改善民众对技职教育的看法。

相比经济合作与发展组织（OECD）国家平均四十四巴仙的入学率，马来西亚只有大约十巴仙的学生入读技职高中。 除了低入学率之外，马来西亚的技职教育亦面对其它问题。目前的技职课程不符合现实的行业需求，各行业于技职课教育发展的反应冷淡，以及提供技职毕业生在职培训的参与率偏低，其他问题包括不合资格的教学人员和欠缺资金以支持技职学校的扩展和升级。此外，许多学生和家长担心技职教育将限制学生未来接受高等教育的机会。

社会经济研究中心在其《提升马来西亚技职教育：芬兰、新加坡和瑞士的经验》工作报告中探讨芬兰、新加坡和瑞士技职教育的关键成功因素。在1980年代，芬兰学生在国际教育基准测试的表现一般都处于传统教育强国，例如美国、英国、德国和瑞典之下。但是，今天，芬兰拥有一个公认高性能的教育体系。在芬兰的技职教育里，学生的能力是通过职业技能演示（vocational skills demonstration）来测试的，并由老师、业界代表以及学生本身共同评估，以确保学生实现相关学习目标及学生的教育和培训符合有关劳动市场的要求。该演示通常于在职培训期间进行。此外，芬兰亦改革其技职教育的课程设置以符合大学入学要求，因此拥有三年高中技职教育资格的芬兰毕业生可以申请理工学院（polytechnic）或传统大学以继续深造。

新加坡教育部设立工艺教育学院（Institute of Technical Education，简称ITE），并由ITE自1995年起通过一系列的《五年策略性计划》，成功改革新加坡的技职教育。ITE成功实施的举措包括设置员工实现100学时的百分比指标（annual learning indicator）；规定教学人员每五年一次在当地或海外的业界工作，以便让他们可以获取与其行业相关最新的知识；设立技职教育卓越中心（centre of excellence）以提升ITE在课程设置、评定、教学、教学科技和学生管理方面的实践；以及与业界伙伴合作设立科技中心（centre of technology）以提供一个让ITE学院可以与业界伙伴合作的平台，从而促进技术的转移给ITE教学人员。

瑞士的技职教育在当地是主流教育途径，每年大约有三分之二的初中毕业生选择入读技职高中。在一些国际教育基准测试里，一部分技职学生获得的成绩是高于普通教育学生的平均表现。瑞士的技职教育注重教学人员的质量。技职学校老师（vocational teacher）的最低资格要求是学士学位和六个月的实际工作经验，此外他们也必需接受技职教学训练（vocational pedagogical training）。职场教练（workplace trainer）也必须拥有一定的教育水平，并需要接受技职教学训练。而在职培训的考官需要接受训练与认证。

依据以上三个国家实行技职教育的经验教训，SERC的报告针对技职教育教育部提出以下建议：在新高等教育蓝图技职教育的重点是（一）推行以科学、科技、工程和数学（Science, Technology, Engineering and Mathematics，简称STEM）为重点的技职教育；（二）追求国际技职认证和资格；（三）提升技职学生受高等教育的机会和教育途径之间的渗透性；（四）提高技职教学职员入行要求并实行强制性的工业实习；（五）合并较小的技职学校或将它们组织成区域性学校网络；（六）设立公共与私人咨询机关以鼓励雇主参与技职教育并进行成本效益研究；(七）于教育部属下整合所有公共技职学校；（八）制定一个强及有力的沟通、营销和品牌战略；（九）制定全面的转型方案而不是零碎改革，并加强规划与执行能力，以及强调执行效能，而不是预算支出的效率。

社会经济研究中心撰稿

The Malaysia's Ministry of Education (the "Ministry") launched the Malaysia Education Blueprint (Higher Education) 2015-2025 (the "Blueprint") on 7 April 2015 to replace the previous National Higher Education Strategic Plan. In the wake of graduate unemployment and the expected increase in demand for technical and vocational trained workers, the Malaysian Government seeks to emphasise technical and vocational education and training (TVET) in the education system. The Blueprint is slated to include four main objectives on TVET: (1) make TVET programs demand-driven to improve employability; (2) minimise resourcing burden of TVET on the Government; (3) reduce complexity of TVET qualifications to students and employers; and (4) improve perception of TVET pathway.

In Malaysia, only approximately 10 percent of students enrolled in upper-secondary TVET, whereas the average enrolment rate for OECD countries is 44 percent. Apart from the low enrolment rate, the Malaysian TVET sector faces various other issues. The present TVET programmes may not meet the actual industries' needs as reflected in the lukewarm industry participation in TVET curriculum development and low engagement in the provision of on-the-job-training opportunities to TVET students. There are also problems of under-qualified teaching staff and inadequate funding to TVET providers for expansion and upgrade. In addition, many students and parents are concerned that TVET study path has limitation to tertiary education.

The key success factors of three countries: Finland, Singapore and Switzerland that implemented TVET education successfully were discussed in the SERC's research paper, "Uplifting Malaysia's Technical and Vocational Education and Training (TVET): Lessons Learned from Finland, Singapore and Switzerland". In the 1980s, the Finnish students' performance in international education benchmarking tests was generally below traditional education superpowers such as Germany, Sweden, USA and UK. Today, Finland is well known for its high-performing education system. In the Finnish TVET, students' competency are jointly assessed by vocational teachers, industry representatives and students themselves, by means of vocational skills demonstrations and on-the-job training. This ensures that students achieve their learning and training goals that are parallel to the needs of the labour market. Reform was also made to TVET curriculum to enable access to university. This means that Finnish TVET graduates with a three-year upper-secondary vocational qualification can apply for further education in polytechnics or traditional universities.

Singapore's success in vocational and technical education is carried out through successive five-year strategic plans since 1995 by the Institute of Technical Education (ITE), set up under the Ministry of Education of Singapore. The successful initiatives implemented by ITE include setting annual learning indicator target of staff attaining 100 learning hours; industry attachment locally and overseas for academic staff once every five years to keep them updated with latest industry practices; establishment of a centre of excellence for vocational and technical education to enhance ITE's practices in curriculum, assessment, pedagogy, educational technology and student management. More significantly was the establishment of centres of technology with global industry partners to provide a platform for the ITE colleges to work with the industry partners, thereby facilitating the transfer of technology to ITE staff.

The Swiss vocational education and training is a mainstream education, with about two-thirds of each cohort of students completing lower secondary education enter vocational upper secondary. In some international education benchmarking tests, there were vocational students who had better performance than the average of the students in general education. There is high emphasis on the quality of vocational teachers. Vocational teachers are required to have at least a tertiary degree with a minimum of six months' work experience. They are also required to participate in vocational pedagogical training. Workplace trainers are also required to demonstrate a certain level of education, besides participating in vocational pedagogical training. Even examiners of the on-the-job assessment of the vocational component are required training and certification.

Based on lessons learned from successful TVET implementation in the three countries, the SERC's study puts forth the following recommendations on TVET to the Ministry: (1) to implement a STEM-focused (Science, Technology, Engineering and Mathematics) TVET; (2) to pursue international accreditations and qualifications; (3) to increase access to higher education and permeability between educational pathways; (4) to raise entry requirements and implement compulsory industry attachment for TVET instructors; (5) to merge smaller TVET institutions into larger institutions, or form regional networks of institutions; (6) to establish public-private advisory bodies to include industry as a formal partner and undertake cost-benefit analysis for industry participation; (7) to consolidate all public TVET institutions under the Ministry; (8) to develop a strong communication, marketing and branding strategy; and (9) to develop a holistic transformation programme rather than piecemeal changes, strengthen planning and execution capabilities of relevant TVET departments, and emphasise on effectiveness of executions rather than efficient spending of budget allocations.

Contribution by SERC Sdn. Bhd.