RAVTE
Regional Association for
Vocational Teacher Education

TECHNICAL REPORT

RAVTE WEBINAR SERIES 1

WEBINAR INFORMATION

INTRODUCTION

TVET education basically emphasizes on employment opportunities and industrial practices. TVET is to promote economic development through changes in technological advancement due to digitization and globalization. Currently, the demand of TVET education has changed to sustainable development where the emphasis is shifted to promoting environmental care while fulfilling the human needs. In line with this, TVET institutions especially higher education institutions as key stake holders are geared towards achieving sustainable education to suit the latest demands. The transformation of the education system comprises quality, equity, access, unity, efficiency and inclusivity (Malaysian Education Blueprint, 2020). In higher education, the emphasis is on producing quality graduates and academic programmes, as well as attaining excellence in overall governance. Efforts are undertaken to ensure that TVET graduates are equipped with industry-relevant skills to produce quality human capitals that meet the demands from the industry. The ASEAN higher education institutions in TVET are also set to undertake various initiatives to enhance TVET education. This is done by establishing industry-based programmes, ensuring employability of graduates and accrediting technologists as professionals in the context of ASEAN.

WEBINAR INFORMATION

The first RAVTE Webinar Series with the theme of "Fostering Quality TVET Postgraduate Programme" was held on 12th December 2022 in conjunction with 8th World Congress on Technical Vocational Education and Training (WoCTVET 2022). This webinar aimed at exchanging information on managing the TVET postgraduate programmes among the RAVTE member countries. A total of 227 participants including Malaysia, Thailand, Indonesia, Vietnam, China, Cambodia, Indonesia, Australia and Nigeria had joined the webinar. It highlighted on the special aspects of promoting TVET programmes and sharing of experience based on the implementation of the TVET programmes in four countries, that were Thailand, Malaysia, Vietnam and China. The panelists of this RAVTE webinar were:

1. Assoc. Prof. Dr. Sommai PIVSA-ART

(President of RAVTE, and President of Rajamangala University of Technology Thanyaburi (RMUTT). He was the first speaker, who presented on Work-Based Learning Model: Forwarding Industry Revolution 4.0 & the Thailand BCG Model. His expertise is on organic synthesis using transition metal catalyst, polymer processing, synthesis and characterization of composite nano- structures for photo-electrochemical functional materials.

2. Prof. Emeritus Datuk Ir. Ts. Dr. Wahid bin Razzaly

(Former Vice-Chancellor of UTHM) is an expert in the field of TVET curriculum and engineering education. He delivered his presentation on Fostering Quality TVET Postgraduate Programme for this RAVTE webinar.

3. Associate Professor. Dr. Nguyen Van Tuan

is a lecturer at the centre of Teaching Technology, Institute of Technical Education, HCM University of Technology and Education. Her research areas include psychology, education, learning skills and professional skills. For this webinar, she talked on Industry's Transformation and Contributions of TVET Providers in Vietnam.

4. Associate Prof. Dr. Jun Li

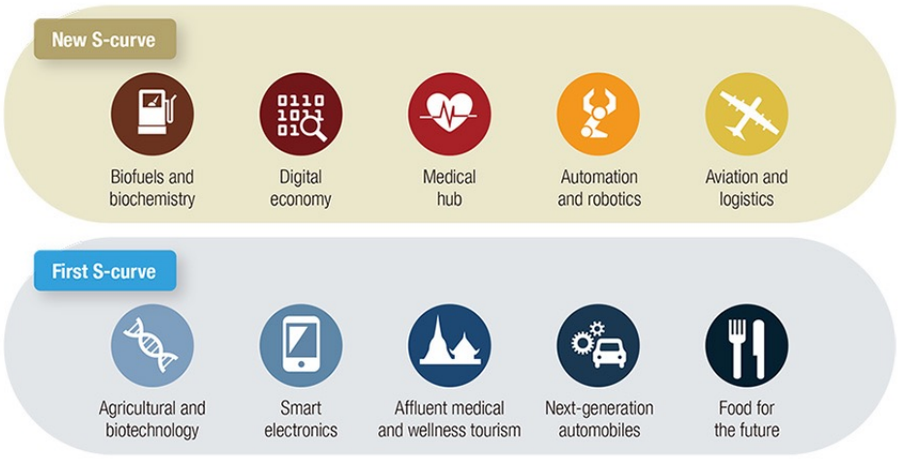
is the Director of Institute of Education Economics and Management, CDIBB, Tongji University. He is also a member of Academic Committee of the Chinese Vocational and Technical Education Society, and a member of Asian Association of Society of Vocational Education and Training. For this RAVTE webinar, he presented the topic on Fostering Quality TVET Teacher Training Program: Novice Teacher Training in Shanghai.

WORK- BASED LEARNING MODEL: FORWARDING INDUSTRY REVOLUTION 4.0 & THE THAILAND BCG MODEL

Assoc Prof. Dr. Sommai Pivsa-Art (President of RAVTE, President of RMUTT Thailand)

Assoc Prof. Dr. Sommai Pivsa-Art began his presentation by explaining Thailand's demand-driven approach for TVET Education. Thailand's vision in 2037 is to become a developed country with security, prosperity and sustainability in accordance with economic philosophy. To fulfill Thailand's vision, the country is committed to ensure stability in social, economic, environmental, and political aspects. To live in harmony and unity, the country is to secure its people with occupation, income, housing, as well as safety of life and property. These circumstances will lead to constant economic growth and Thailand will become high- income economy and also promote constant growth in terms of people's income and quality of life.

Previously, Thailand has passed through three economic development model which are focusing on agricultural sector (Thailand 1.0); light industry (low to medium income status, or Thailand 2.0), and heavy industries (continued economic growth, or Thailand 3.0). Currently, in Thailand 4.0, its focus is on smart industry in which the aim is to enhance innovation in Thailand industries. Thailand had survived five (5) new s-curve of innovation, covering diverse industries like bio-fuel and biochemical, digital economy, medical hub, automation and robotics as well as aviation and logistics. Thailand has developed strategic locations to be transformed both physically and socially by initiating the Eastern Economic Corridor (EEC). The three locations are Rayong, Chonburi and Chachoengsao. EEC has designated 21 promoted zones for 12 targeted industries. This project estimated a huge amount of manpower between the year 2017 to 2023 and it will lead to accessibility of employment for locals. It is, in part, the responsibility of university and academic institution to produce skilled manpowers in this economic development plan.

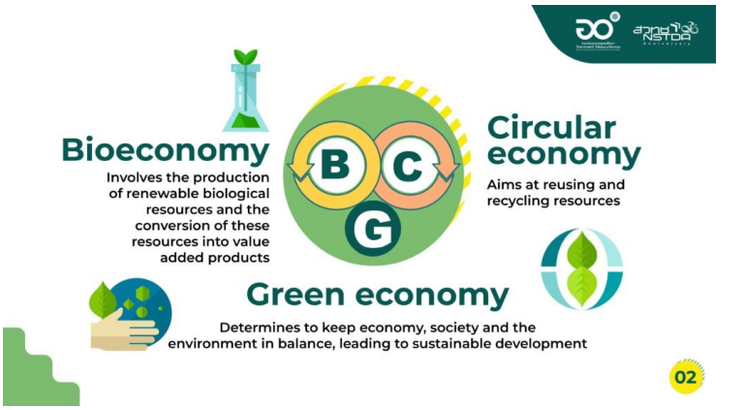


Therefore, there are two type of EEC Model; Type A is OVEC Sattahip (College) model, which is to build private- academic partnership. In this model, academic partnership with the industry is established through the WBL (work-based learning) courses and work-integrated learning. This premium course set up programmes together with industry and university to produce skillful graduates. Among the benefits to each party include up-to-date equipment for university, work experience (industry), salary during study (student), and job guarantee. Meanwhile for EEC model type B, module learning through short courses is implemented for reskilling and up-skilling of the new technologies among the employers. This involves accreditation system between the private and academic sectors. This type of model is being implemented to support academic degree certification by co-funding (tax incentive).

The presentation was then continued to Part 2 entitled: Thailand Bio-Circular-Green (BCG) economic model. Thailand has changed from MDG (Millennium Development Goals) from year 2000 to 2015; to SDG (Sustainable Development Goals) from 2016 to 2030 (SDG). MDG aimed at reducing poverty and extend basic services in poor countries, while SDG is concerned with sustainable development in all countries. The main agenda of SGD is to end poverty and fight for inequality, ensure healthy lives and quality education, protect ecosystem, promote global peace and solidarity, preserve justice and maintain partnership for the goals.

The main agenda of SGD is to end poverty and fight for inequality, ensure healthy lives and quality education, protect ecosystem, promote global peace and solidarity, preserve justice and maintain partnership for the goals. SDG index 2021 reported that Thailand is ranked 43rd among the 165 world countries with respect to sustainable development performance. To achieve the SDGs, Thailand higher education institutions has implemented the BCG economic model focusing on bio-economy, circular economy and green economy. Bio-economy involves the production of renewable biological resources and the conversion of these resources into value added products. Circular economy aims to reuse and recycle resources, while the green economy is to keep society and the environment in balance, leading to sustainable development.

The ministry has set up Thailand Economic Model for Post-Covid19 which comprises of: 1) Biodiversity and Cultural diversity, 2) Food and Agriculture, 3) Medical and Wellness, 4) Energy, Material and Biochemical, 5) Tourism and Creative Economy, 6) Circular Economy. This is according to the new S-curve economy in Thailand. There are six dimensions of the BCG economic model. First, to enhance the competitiveness of the natural product (biodiversity) and cultural diversity. Second, to apply sufficiency economy philosophy. Third, to fulfill at least 10 out of 17 sustainable development goals. Forth, to cover five out of ten targeted S-curve industry. Fifth, distribute opportunity and wealth to regional and local community and sixth, to collaborate with university, research institute and community. In the last part, Assoc. Prof. Dr. Sommai presented a case study in Thailand which was conducted by RMUTT. The research was about utilization of the bamboo starting from the “upstream”, “midstream”, and also “downstream” businesses.



For the “upstream” business, RMUTT collaborated with the community and the local market in collection and distribution of fresh bamboo. At this level the demand and supply of bamboo production, including the processes of plantation, bamboo stem and bamboo shoot until the end bamboo products are all put into use. This is to support SMEs in bamboo so that they can be enhanced into the larger industries. Thus, this provides new value chain involving people in plantation and those who develop bamboo-based products by themselves. For the “midstream” businesses, Thailand manages bamboo wastes into the production of bamboo fiber and bamboo mat. The bamboo stem can also be produced into new bamboo charcoal product, while the young bamboo stems are turned into high quality pickled bamboo shoots. In term of engineering technology, RMUTT has supported the people in community with discovery of new machine for the purpose of making bamboo fiber for quality and fast production.

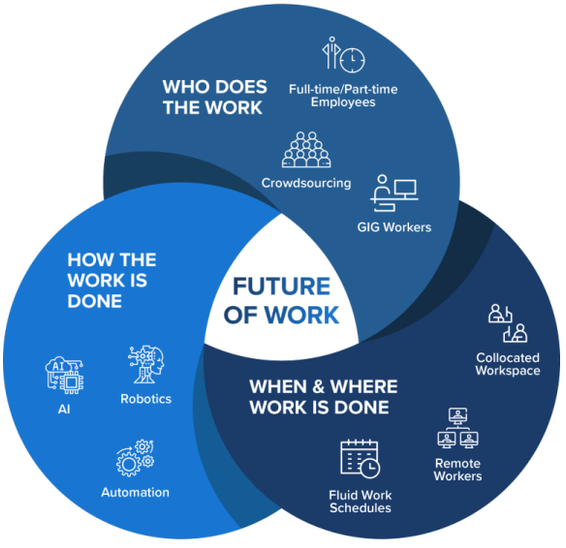
In addition, with respect to arts and architecture, the Thai produced modern-style bamboo products and furniture for local resorts in Thailand. Bamboo charcoal foot-patches are also among the new medical products which are in high demand among the tourists, apart from pickled bamboo shoots. The use of lactic acid bacteria seedlings was innovated by the faculty in RMUTT to improve the quality of pickled bamboo shoots, which reduces salt consumption to up to 50-75%. The market of this innovation product has increased into six times higher compared to when it was first introduced. For the “downstream” businesses, RMUTT supports the community and government for the tourism development by promoting the OTOP product. The research involves providing databases and apps to market the product through social media and this has been successful to support to the community’s businesses.

FOSTERING QUALITY TVET POSTGRADUATE PROGRAMME

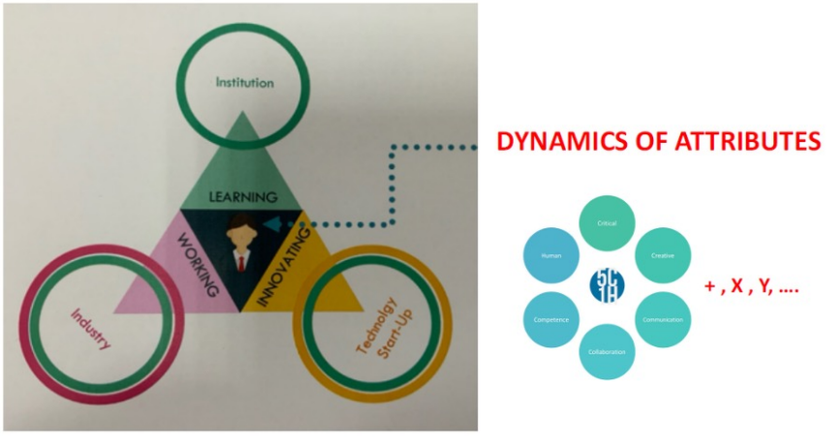
Prof. Emeritus Datuk Ir. Ts. Dr. Wahid bin Razzaly

The second speaker has spoken within his capacity as the former Vice Chancellor of UTHM, who exercised his leadership as prominence as the think-tank for one of Malaysia's TVET higher education. The speaker's focus was solely on how to foster the current postgraduate programmes in TVET. TVET education so far is concerned with providing the workers for the industries. He congratulated Thailand for being ranked the 43rd in SGD Index Report, while Malaysia is still at the 65th rank. Surprisingly, Singapore is ranked the 76th although Singapore is known for its advanced technology. The main task of the TVET is to eradicate poverty and provide sustainable education that have some impact to the economy. Historically speaking, the TVET postgraduate programmes in Malaysia first emerged in 1980s-1990s mainly concerned the 'learning domain' and less in 'working domain'. Unlike in the 2000s, at current, the industries' supply of employment in Malaysia has decreased. Job creation is, suggestibly, the more sustainable approach to the students' future and the country's economy. TVET programmes for the post-graduate students should be more about developing anticipation skills of constructing the future markets, rather than just embracing the trends already set up by the industry.

At the university level, the post-graduate programmes in TVET should enhance stronger participation of stakeholders into the programme. Globally, UNESCO, ILO and other international bodies highlighted SDGs that inspire how universities promote the best practices in TVET. TVET institutions are to take up the challenges of matching the local programmes to be designed based on what has been promoted at the global level. It is the role of educational practitioners in TVET institutions to carry out the new "add-ons" from the original practices in industries. In order to provide futuristic TVET post-graduate programmes, the curriculum and process of knowledge need to be addressed. The future of higher education is dynamic in nature and keeps on changing, especially in the post-pandemic situation that we are facing now. The future of work is driven by the trend of technology and population. Therefore, the challenge of TVET education providers is in connecting the future of learning and the future of work. TVET institutions have done quite a lot for undergraduate programmes, but there is still ample room for improvement in terms of the TVET postgraduate programme. From the speaker's point of view, TVET talents or future workers' skills is less on innovating. Thus, the domain of innovation should be emphasized not only for postgraduate programmes, but also undergraduate programmes. What should be the measurable learning outcomes of our learners? The basic things of learning outcome are not only skill and knowledge, but also the elements of 21st century learning such as communication, creativity, collaboration and humanity. TVET practitioners need to understand and manage the dynamic nature of competency in TVET learning outcomes. The main concern is, the undergraduate and postgraduate TVET programmes cannot fulfill the demand of the industry because the industry itself changes rapidly. That is where anticipating comes in. The big question is do we really need postgraduate student in TVET? The community has accepted that the undergraduate programme is needed by the industry. As postgraduate programme commonly known as academic and scientific education, the speaker expressed his thought that postgraduate students should be named as innovators. However, the nature of scientific innovations must look into the areas of research in practical or applied sciences, rather than the pure sciences. Post-graduate programmes may enforce innovation not only in term of processes, but also in term of marketing of products.



The students must take the challenge in entrepreneurial aspects as the scope of TVET research. The existing TVET programmes are not totally wrong, but there needs to be more initiatives to upgrade the programmes to include higher level of thinking. Among the interesting questions is, how do we change the processes of work to be better. To this, perhaps the technological innovators and entrepreneurs can provide the answers. The emphasis on innovation is also articulated in the Malaysia's 2025 Digital TVET Transformation. As a TVET provider, UTHM envisions to make itself as a global technopreneur university in sustainable technology and transformation, by year 2030. The figure above shows how TVET shapes the talent. The learners are at the centre of the whole thing: the working, learning and innovating activities. Addressing the issue of the dynamics of the learning outcomes at any level, whether undergraduates or postgraduates, is one of the most difficult things. TVET practitioners have to ensure that we can manage these dynamics of attributes due to the changing of the world. However, the most important thing is for us to keep an open mind and to not lose track of the global purposes in the SDGs.



INDUSTRY'S TRANSFORMATION AND CONTRIBUTIONS OF TVET PROVIDERS IN VIETNAM

Associate Professor Dr. Nguyen Thanh Thuy

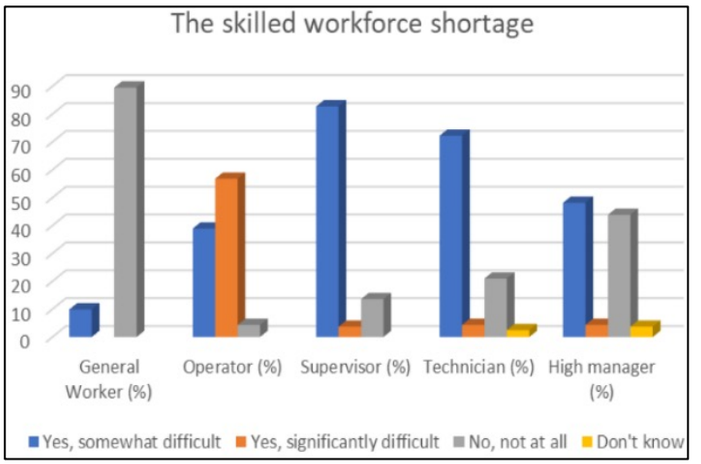
Associate Professor Nguyen's presentation revolved around the findings of an actual research conducted on the continuity between TVET institutions and the industry. Dr. Nguyen began her presentation with a brief explanation about how vocational education and training can support industries who need access to workers with appropriate knowledge, skills and attitudes. In general, vocational education and training prepare students for work to remain employable and responsive to the needs of the economy. Most TVET providers try to enhance the TVET students' skills for trainer's personal development; and to boost company's performance due to competition in research and innovation. She highlighted that in her research they discussed about the contribution of students in providing the companies with the correct skills. In Vietnam, skills formation system involves all parties such as the TVET schools and universities, industries, associations, labor unions and government bodies.

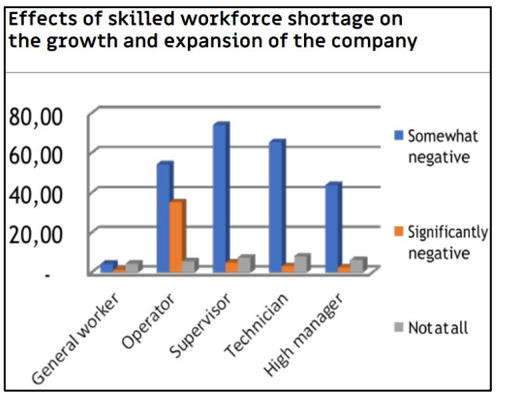
Three issues among TVET providers are the types of training, features of the training and cooperation with industry. Types of training is divided into three parts: formal training, informal training, and non-formal training. Formal training includes off-the-job training, classroom training, massive open online courses (MOOC), virtual classroom training and webinars while informal training includes on-the-job training and expert training. The trainers can get non-formal training through personal experience or TVET-relevant daily life encounters.

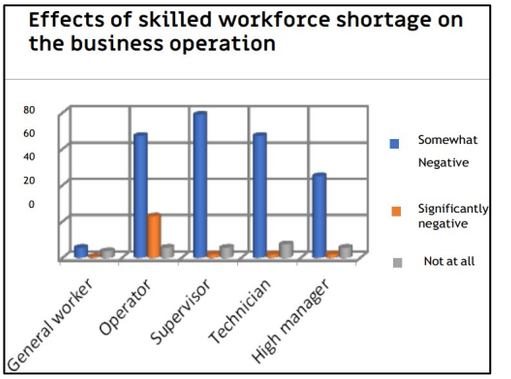
The features of the training are about the curriculum, trainers, trainee, and infrastructure. The curriculum is organised based on the key skills related to the jobs that trainees will perform after graduation. Based on the research, challenges in the training include the limited capacity of the trainers. The trainers were lacking in technical skills, vocational skills, English and ICT skills, scientific and technological research skills and pedagogical skills. Some of the trainers need to improve their knowledge and skills or get appropriate certification for the trainings they obtained in the past.

As for the trainees' side, there were problems with respect to students' less satisfactory academic background, as well as their lack of will to complete the programme that has led to attrition. Some students showed low interest in advancing to a higher level of study after they graduate because of the idea that the training they received was sufficient to serve the industry. There were also problems with regards to infrastructure for the training programmes where the investment is highly dependent on the state capital and the funding application process is very complicated. Dr. Nguyen stated that cooperation with the industry focused on three main activities: recruitment, internship opportunities and practical experience for students.

TVET colleges actively cooperated with enterprises, but less with businesses. Some factors had led to this, such as the cognitive limitations in cooperation, limited resources and the gap between training requirements and training results. Therefore, there are two main themes emerged from the discussion of contributions of TVET providers to company transformation. The first is the vocational skills development programs did contribute to the needs of companies. Second, there is a need of comparing the level of contribution between the pre-employment 'versus' the in-employment vocational skills development programmes.

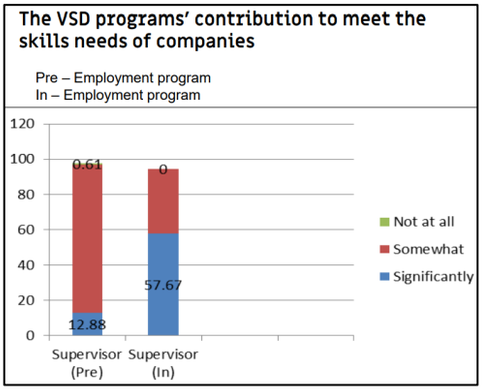


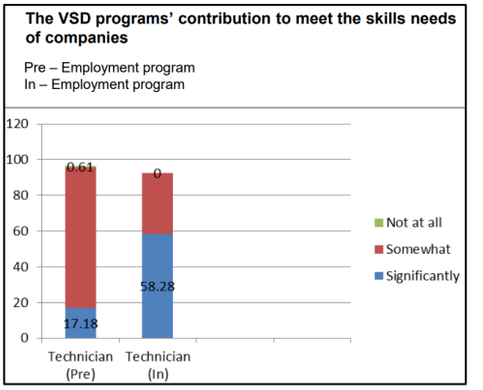


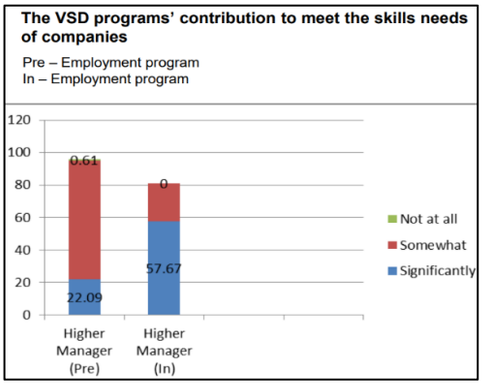


The first table shows that supervisor (80%) and technician (70%) found it difficult to complete their task since their percentage is higher than 50%. The second and third table show that operators, supervisors, technicians, and high managers think that skilled workforce shortage give negative effect on the growth and expansion of the company also the business operation.

The figure below illustrates the contribution of the Vocational Skills Development (VSD) programmes According to the figure, individuals in roles such as supervisors, technicians, and high managers participate in the VSD programme, which combines pre-employment training with on-the-job training to better serve business needs. The findings demonstrate that supervisors, technicians, and senior managers believe that on-the-job training programmes considerably improve job performance and training.







FOSTERING QUALITY TVET TEACHER TRAINING PROGRAM: NOVICE TEACHER TRAINING IN SHANGHAI

Associate Professor Dr. Jun Li

Associate Professor Jun Li began his presentation with an overview of TVET teacher education in China. With the expansion of TVET, there's strong and increasing demand for TVET teacher training. However, in Shanghai, China, the majority of TVET teachers are recruited from college without prior professional certification in teaching. Basically, these TVET teachers graduated from electronics, engineering, humanities, or social sciences majors and became a teacher without much training. It is difficult to recruit teachers from TVET institutions or teachers with industry experience. It is also not easy to recruit teachers with industry experience because there are not many TVET institutions that cater to teachers' training. On the other hand, the quality of professional teachers did not meet the needs of TVET. In short, there is a shortage of "Double Qualified" teachers and teaching teams with both theoretical and practical teaching skills. Prof. Jun Li shared basic information about TVET teacher education in China where there are 61 TVET teacher-training bases in undergraduate institutions nationwide. There were 37 undergraduate institutions that joined in the development of TVET teachers specifically at the undergraduate level, while 49 universities have enrolled TVET teacher trainees at the master's level. There are 12 independent TVET teacher training colleges. These are the main bodies that would train vocational school teachers in China. Various TVET teacher training measures are promoted by the central and provincial governments, but the quality varies from each other. For a couple of years between 2019 and 2022, they are 100 "Double Qualified" teacher training bases in cooperation with schools and enterprises, and 100 national enterprises, which provide practical bases, are constructed nationwide. So, these enterprise training bases are located or established in the companies. The education bureau of ministries is sending teachers to the bases on a regular basis. Various TVET teacher training measures are promoted by the central and provincial governments, but quality varies. Most training is organized by the local bureau of education, which does not take into consideration the specialty of TVET. So, when they organize the training, they offered generic training on teaching methods or educational psychology for understanding students, but not so much to the needs of vocational students. Training content and method are very often theory-oriented and not very helpful for participants.

The Shanghai TVET education providers offer a relatively systematic TVET teacher training system, organized by both universities and vocational colleges. Different institutions are involved in this process of teacher training. They have relatively rather comprehensive training contents and areas like pedagogic content knowledge (PCK), professional competence, IT-related competence etc. The training in these areas is provided on regular basis. In Shanghai, there is strong support from universities and research institutions because there are several good universities that conduct vocational education research (for example, the Shanghai Institute of Education Science).

There has been empirical investigation suggesting that novice teachers face various difficulties in transition like little knowledge about TVET in general, lack of guidance and support, and very often heavy teacher workload. Therefore, the government has decided to initiate programmes with few objectives. Among the objectives are to raise new teachers' awareness of education, teaching, and students in TVET; to improve new teachers' theoretical knowledge of TVET; to improve their teaching ability, capacity for moral education and professional practice ability; to help new teachers to adapt to teaching and learning in secondary TVET schools as soon as possible, and to lay a solid foundation for their professional development.

Module 1	Core curriculum	Course content	hours
Theories of TVET	Current situation and trends in TVET	TVET development in an international perspective	4
		TVET Development in Shanghai	4
	Vocational pedagogy	TVET Curriculum Theory	4
		TVET Teaching Theory	4
	TVET Psychology	Analysis of psychological characteristics of secondary TVET school students	4
		Analysis of cognitive characteristics of secondaryTVET school students	4
		Psychological Literacy for secondary TVET school teachers	4
	Professional Development for Secondary TVET School Teachers	Professional Standards for secondary TVET school teachers	4
		Career Development for secondary TVET school teachers	4
		Professional Growth Confusion of secondary TVET school teachers	4
	Total		**40**

Module 2	Core curriculum	Course content	hours
Teaching skills	Teaching Design	Teaching requirements for TVET	4
		Course Objectives Design	4
		Selection and organisation of teaching content	4
		Teaching assessment design	4
		Teaching plan design and development	4
	TVET teaching methods	Teaching characteristics of TVET	4
		Project-based teaching methods and other methods	4*9
	Information technology applications	Information-based teaching design methods	4
		Development of modern teaching media	4
		Information Technology and Curriculum Integration	4

Module 2	Core curriculum	Course content	hours
Teaching Skills	Teaching practice	Development and application of teaching media	4
		Analysis of the implementation of project-based teaching methods	4
		Analysis of the implementation of the investigation teaching method	4
		Analysis of the implementation of brainstorming teaching method	4
		Analysis of the implementation of task-led teaching and learning, etc.	4*6
		Presentation and Seminar	4
	Total		**140**

Module 3	Core curriculum	Course content	hours
Capacity for moral education	Theory of moral education	Moral Theory and Management Wisdom	8
		Moral Literacy Enhancement for Secondary TVET School Teachers	4
		Developmental patterns of secondary TVET school students	4
		Design of disciplinary moral education programmes, etc.	4*2
		Handling of classroom emergencies	8
	Practice of moral education	Design and organisation of classroom culture in secondary TVET schools	4
		Capturing the opportunity to nurture moral values in classroom management	16
		Moral education case writing	4
		Implementation and Reflection on moral Education	8
		Extended Practical Courses	4*2
	Total		**80**

Module 4	Core curriculum	Course content	hours
Professional practice ability	Awareness of Industry and Corporate	Industry Developments and Trends	4
		Corporate security awareness	4
		Building the culture of the corporate	4
	Research for Occupations in the Corporate	Main business workflow of the corporate	16
		Knowledge and competence requirements of the occupation	16
		Operating procedures and specifications for the occupation	16
	Corporate Skills Practice	Practice of the skills required for the occupation	120
	Professional qualification (Position) certification	Acquisition of professional qualifications / recognition of existing certificates	80
	Total		**260**

The management of the program is concerned about a few things of the overall program: (1) relevant work is carried out by the Teacher Training Centre of the Shanghai Municipal Education Commission, organized by teacher training bases, with the cooperation of the secondary TVET schools; (2) each secondary TVET school formulates a professional development plan for new teachers, the headmaster as the first responsible person, assigns professional teaching mentor and classroom management mentor to each new teacher; (3) teachers who already have a relevant vocational qualification at the intermediate level or above may be exempted from the relevant module, subject to the school's approval.

Prof. Jun Li also shared the achievements, challenges, and improvements for novice TVET Teacher Training in Shanghai. Empirical investigation suggests the following achievements: (1) Relatively high satisfaction rate; (2) Most participants find the content relevant to their daily work and helpful for personal development; and (3) Novice teachers who participated in the training have won various competitions. However, even though they find it satisfactory and helpful, many participants find the training long and exhausting because they still face a heavy workload at school. Also, traveling within the city can be very time-consuming, and the overall training period is too long. Some of the training contents also were not very helpful. There was a relatively low percentage of training content in subject-related areas and vocational education theory can be difficult to understand, given the circumstances of the training. Some training contents can be too demanding for novice teachers and give pressure to the teachers. Because of these difficulties, they made some improvements: (1) Adjustments of training content and modules to better meet the requirements of the participants; (2) Strengthening mentor guidance and support: each participant is provided with 2 mentors, one concerning professional competence, one concerning the class management skills; (3) Introduction of new modules such as teaching video analysis, combined with traditional "lesson review" provided by expert teachers.

Finally, Pro. Jun Li stated some implications and reflection. According to the speaker, a work-training balance is crucial for the success of the program. This is only possible with support from the government and an understanding of school management. Meeting novice teachers' individualized needs is of great value, which can be realized through more individualized "accompanying supports" from mentors, experts and colleagues. Continuous improvement is necessary for the sustainability of the program. Support from the scientific community also plays an important role, which makes the program more flexible and reasonable.

OUTCOMES

One thing that all the panelists agreed upon is problem-solving skills. In conclusion, the outcome of this webinar are as follows:

1) First, this is to see the actual local problem and the opportunities we can create from something cheap but can uniquely be approached by the locals who know the problems best.

2) Second, if the end-product of TVET education is to fulfill the market needs, the market itself needs some paradigm change. Therefore, it is more viable to work on creating or innovating the students' own paths and not to compete as in the Blue Ocean strategy. This implies that entrepreneurial innovation skills must be promoted. Most importantly, this is adduced by seeing what is most needed in society, but it is still absent from the market. In short, it is about the teaching of thinking.

3) Third, the business of the day is about how we manage thinking. As far as the thinking is concerned, it is a very wide spectrum of thoughts on everything TVET education providers should be doing. The thinking for TVET is slightly different from the thinking of the scientists. In TVET, we should focus on innovation and applied research, and not on fundamental or scientific research. The higher level of the post-graduate program should focus more on having to produce some processes of products, and a new way of doing things. If we do not let our thinkers make their way into something innovative, then perhaps we will be losing track. The industry would impose a challenging future and without preparation and readiness to take part as the decision makers, the students can offer no good things for our country.

In conclusion, the key points that can summarize by all the presenters are quality education for TVET must be accredited and certified; TVET education needs to be industry-driven; fostering post-graduate students means enforcing innovation to be future market creators; and the need for continuous improvement in teaching competency among TVET trainers.