

Putting Education Before Investment: Luban Workshop Empowers Thai Youth

By BI Weizi

Jarun Youbrum, director of Phra Nakhon Si Ayutthaya Technical College, has been to China many times and engaged in several Sino-Thai education exchanges. What impressed him most is China puts education before investment, providing scholarships for students in Thailand to study in China, along with training for local instructors through the Luban Workshop platform. Youbrum recently spoke to *Science and Technology Daily* to share his thoughts on Luban Workshop and other related issues.

S&T Daily: What is the Luban Workshop project in Thailand and how does it operate?

Jarun Youbrum: Tianjin Municipal Education Commission responded to the Chinese government's Belt and Road Initiative and built the very first Luban Workshop at the Phra Nakhon Si Ayutthaya Technical College in Thailand, with the help of Tianjin Bohai Vocational Technology College and Tianjin Railway Technical and Vocational College. The workshops train students in technical areas that include industrial sensors, robotics technologies, machinery equipment manufacturing, and high-speed rail technologies. To date, more than 1,000 Thai students have graduated from the workshop, and the facility has expanded greatly, providing an increasing number of programs.

Compared with traditional vocational training, what is unique about Luban Workshop?

Luban Workshop is a "future center" for modern technology learning, answering the question of the direction of national development, keeping up with



The Thailand Luban Workshop is the first of its kind outside China and launched in March 2016. (PHOTO: Tianjin Bohai Vocational Technical College)

the changes in the industrial world, meeting the needs of entrepreneurs and serving as a modern study and research base for teachers and students of vocational education schools in Thailand and other countries.

Moreover, integration of enterprise training into vocational education is also helpful. For example, Tianjin Shengna New Energy Vehicle Company has built a training center at Luban Workshop, and Tianjin Qicheng Weiye Technology Company has built a maze robot training center and organized a maze robot competition every year to train and improve students' skills in operating automated production equipment. Meanwhile, Beijing Xindalu Technology Company has built a practical training center to train students in Internet of Things technology application skills.

Engineering courses are delivered in a project-oriented and innovative way at the Thai Luban Workshop, or under the EPIP model. Could you tell us how this works?

The teaching model of Engineering

Practice Innovation Project (EPIP) and Luban Workshop have been founded on the educational thoughts of ancient and modern Chinese scholars, which emphasized the combination of hand and brain in skill training.

The five new programs opened at Luban Workshop are delivered through the EPIP teaching model at the Phra Nakhon Si Ayutthaya Technical College. The training is student centered and promotes team work and cooperative training. It is flexible project-based training with continuous and formative assessment, enabling trainees to participate and win local and international talent/skill contest as part of their achievements.

This teaching model is quite effective in encouraging trainees' participation, interaction, group work, and creativity, so that they can have fun learning, solving engineering problems, designing their own machines in work teams, and creating their individual projects using the modern equipment.

The Railway Center of Luban Workshop was rolled out in 2018. How do you think this project can help facilitate Thailand's transportation development and improve people's livelihoods?

Two new majors, namely high-speed railway maintenance technologies and the automatic control of railway signals, were set up within the Railway Center of Luban Workshop. This was done in order to teach learners railway traffic skills, which is helpful to develop a regional-railway-traffic network that covers Thailand and neighboring southeast Asian countries. With the development of a regional railway network, the time people spend on transportation is largely reduced. Taking a high speed train is more cost-effective and time-saving for people to visit their families during holidays, compared with driving in their own private cars. More importantly, connecting to the rest of the world by high-speed rail can also have a positive impact on the development of Thailand.

What do you think of the Luban Workshop initiated by China along the BRI countries?

I think that China's policy of "putting education before investment" through the construction of 20 Luban workshops in 19 countries along the Belt and Road Initiative, is the best initiative I have ever seen. Through the establishment of Luban Workshop in Thailand, the friendship between China and Thailand has been strengthened. The youth are more willing to recognize Chinese products and technologies because of the systematic educational teaching they have received.

This article is also contributed by Tianjin Bohai Vocational Technical College.

Traditional Eastern Wisdom

The Origin and Development of Rice Cultivation

By BI Weizi

China is the first country in the world to have written records of rice varieties. *Guanzi · Diyuan*, the earliest book on land classification, written in the Warring States (476 -221 BC), keeps an account of ten rice varieties and the suitable soil conditions for their cultivation. During the Song Dynasty (960- 1279), Zeng Anzhi wrote the first Chinese monograph on rice varieties in five volumes, which is an important ancient work on agricultural science and technology. Rice varieties, their fertility and cultivation characteristics, along with a large number of local varieties are also recorded in local chronicles.

In ancient times, rice was mainly cultivated by using fire for farming and water for weeding. In the Eastern Han Dynasty (25 - 220), rice technology was developed, and more advanced techniques for plowing, transplanting and

harvesting were introduced in southern China. After the Tang Dynasty (618-907), curved plow in the southern rice fields improved labor efficiency and field quality substantially, and under the influence of dryland plowing and harrowing techniques prevalent in northern China, a set of land preparation techniques applicable to

paddy fields was gradually formed.

In the Southern Song Dynasty (1127 - 1279), specific standards and methods for preparing early rice fields, late rice fields, low-wet cold fields in mountainous areas and plain rice fields were proposed, and the land preparation technology was further perfected. The "2016 Science and Technology Forum - Colloquium on the Origin of Chinese Rice Cultivation" hosted by the Chinese Association for Science and Technology suggested that Wannian County, the mountainous terrain of east China's Jiangxi province, is the birthplace of rice cultivation, the roots of which have been traced back to around 10,000 years.

As one of the most important grain crops, rice supports more than 50 percent of the global population. Being the birthplace of rice cultivation, China has always contributed its agricultural wisdom to further increase rice production and improve people's livelihood.



Villagers in Peimei town, Wannian county, Jiangxi province, harvest rice in October, 2022. (PHOTO: VCG)

STCSM Provides Efficient Online Manual Service

Service Info

To provide more convenient services for people and enterprises, the Science and Technology Commission of Shanghai Municipality (STCSM) launched an online manual service at the beginning of August for Foreigner's Work Permits in China, identification and registration of technology development contracts.

Enterprises and relevant people may access the service through the "Intelligent Customer Service" on Government Online-Offline Shanghai whenever they have questions, which will be answered by the service hotline respondents within one minute.

In order to optimize its service, STC-

SM has specified the mechanism and procedure of the online manual service with clear responsibilities. Its service hotline undertakes the services and operation on the solid knowledge base to ensure the reception rate and satisfaction. Relevant business offices and management departments provide business support.

Since August 1, STCSM has accepted a total of 266 cases, including 144 for identification of technology contracts and 122 for Foreigner's Work Permit. The overall call completion rate and one-minute response rate all reached more than 96 percent, and the user satisfaction rate hit 100 percent. This efficient and professional service gives foreign applicants a novel experience and a feeling that they are valued.

Source: STCSM

Photo News

China's National Forest Cities Increased to 219



National Forestry and Grassland Administration announced a new batch of 26 national forest cities recently, bringing the number of China's national forest cities to 219. For the past few years, China has stepped up efforts in advancing Beautiful China Initiative and seeking harmony between human and nature. The picture shows the lush forest and snow mountain in Boni county, Nyingchi, Xizang Autonomous Region. Nyingchi is awarded as the national forest city this year. (PHOTO: XINHUA)

Chinese Tea-making Technique Added to UNESCO List



He Shi'an, an inheritor of Crumby-cake tea making technique, demonstrates the manual stir fixation technique of Wuyi rock tea in Wuyishan, China's Fujian province, Dec. 1, 2022. (PHOTO: XINHUA)

By Staff Reporters

Tea has pleased and refreshed people worldwide for millennia, and the popular drink has finally been given the recognition it deserves as cultural treasure for humanity at the highest level.

On November 29, China's traditional tea-making techniques and their associated social practices were successfully added to UNESCO's Representative List of the Intangible Cultural Heritage of Humanity. According to UNESCO, China's traditional tea processing techniques and associated social practices entail the knowledge, skills and practices around tea plantation management, tea-leaf picking, manual processing, drinking and sharing.

Since ancient times, Chinese people have been planting, picking, producing and drinking tea. Tea producers have developed six categories of tea: green, yel-

low, dark, white, oolong and black teas. Together with reprocessed teas, such as flower-scented teas, there are more than 2,000 tea products in China.

Chinese people have a high regard for traditional tea-making methods, which are progressively gaining popularity in other countries. As UNESCO explained, tea is ubiquitous in Chinese people's daily life. Steeped or boiled tea is served at homes, or in workplaces, tea houses, restaurants and temples, and used as an important medium for communication in socializing and ceremonies.

The social significance of tea is widely recognized in China. The practice of greeting guests and building relationships within families and among neighbors through tea-related activities is common to multiple ethnic groups, providing a sense of shared identity and continuity for communities.

Myth Buster

Use of Food Additives Must Be Legal

By Staff Reporters

When it comes to food additives, many people become suspicious as it carries a negative connotation. Professor Fan Zhihong, from College of Food Science and Nutritional Engineering at China Agricultural University, believes that the reason why the public are scared of food additives is due to their confusion between illegal additives and food additives.

Illegal additives are not food additives

"Food additives are safe to use legally. So far, none of the food safety inci-

dents that wreaked havoc on people's health in China are caused by the legal use of food additives," said Sun Baoguo, academician of Chinese Academy of Engineering and president of Chinese Institute of Food Science and Technology.

In 2008 when the melamine incident shocked the whole country, some experts said, "Melamine is not a good food additive."

"Melamine is not a food additive at all, but an illegal additive. These illegal food additives, such as Sudan red and lean meat powder, are mistaken by some people as food additives, thus food additives are made a scapegoat," said Sun.

"China's Food Safety Law clearly stipulates that non-food raw materials or chemical substances that may be harmful to human health are strictly prohibited in food production," said professor Cao Yanping, from the School of Food and Health, Beijing Technology and Business University.

Food additives approved in China account for less than one-sixth globally

China has strict restrictions on food additives. The Chinese government has established the food additive safety evaluation method and *National Food Safety Standard Food Additive Use Standard*, and implements strict, con-

tinuous and dynamic management of food additives to ensure public safety. At present, the number of approved food additives globally is about 15,000, while China has only 2,300.

As for the public's concern about whether they'll consume excessive amounts of food additives since various additives are contained in everyday food, Cao said that different factors, such as age, region, gender, should be taken into account while deciding the maximum amount of each food additive. Therefore, food additives used in the prescribed range and dosage will not cause excessive intake and harm to human health.