INITIAL ACHIEVEMENTS OF COOPERATIVE TRAINING AT LILAMA 2

Having experienced for nearly three years of learning in the model of Cooperative Training oriented to German Standards, 80 first batch trainees of four pilot classes in Metal Cutting - CNC, Construction Mechanics, Industrial Electronics and Mechatronics were fully prepared with knowledge and skills from training phases at college and partner companies.

To re-confirm their professional qualifications and competencies once again, the students would have to take two part of final examination according to the German model. In order to prepare for this exam, a detailed introductory session (known as "Brown Bag Lunch") about the procedures and regulations of Final Examination including Part One “Practice Task with professional discussions” and Part Two “Practice Task required by Customer along with professional discussions” was carried out in August 2019.

“For students, it is not easy to pass this examination. Examination structures and procedures are completely new, knowledge and skills are assessed very rigorously as industrial requirement in comparison with traditional exams. That’s why we are so proud of our students who have overcome those challenges to achieve the results which are average from 63% to 92%!”. Mr. Nguyen Hong Tien, Head of Examination Committee of Construction Mechanics

Vocational College of Mechnery and Irrigation has gradually taken the first step of implementing the Cooperative Training on two new occupations

Further training courses for teachers and examiners were continuously conducted at LILAMA 2

LILAMA 2 and VCMI simultaneously performed additional functions rightly fit to their profession

The Programme deployPPP. de was deployed with the aim of developing the partnership between enterprises and LILAMA 2
Vocational College of Machinery and Irrigation (VCMI) is being supported with development of becoming Centre of Excellence for Green TVET to provide fundamental and further trainings according to the requirement of green economy and sustainable development.

Advisory Board for two new occupations

Two new occupations “Electronics Technician for Energy and Building Technology” and “Mechanics Technician for Sanitary, Heating and Climate Technology” are currently being developed at VCMI based on German standards to meet the needs of business sectors in Vietnam. Partner enterprises and industry associations have actively participated in the development of occupational standards in the form of DACUM charts for two new occupations in 2018. As a next step, in June 2019, VCMI, the Directorate of Vocational Education and Training (DVET), the Ministry of Agriculture and Rural Development, the Vietnam Federation of Civil Engineering Associations (VF-CEA), the Vietnam Association of Construction Contractors (VACC), and partner companies have officially cooperated with each other by signing a Memorandum of Understanding under the witness of the Vietnam Chamber of Commerce and Industry (VCCI) and the Department of Labour, Invalids
and Social Affairs (DoLISA) of Dong Nai Province. Two Advisory Boards with members from partner enterprises, industry associations, DoLISA Dong Nai, and VCMI have been established. The advisory boards have the function of discussing and agreeing on the necessary and detailed preparation and implementation of cooperative training.

Cooperative Training Programme for two new occupations

Learning Outcomes and Training Programmes of two new occupations at VCMI, “Electronics Technician for Energy and Building Technology” and “Mechanics Technician for Sanitary, Heating and Climate Technology”, have been developed based on the needs of Vietnamese businesses. German standards are applied as international standards and have been modified to meet the requirements of Vietnam’s labour market. During the duration of September to November 2019, with the consultation and support of German experts, VCMI’s teachers and staff actively developed Learning Outcomes and Training Programmes for two new occupations. This process also includes demand survey activities as well as accumulating comments from sector associations and leading business groups in Vietnam to complete the detailed contents of Training Programmes for each occupation.

Consultation Workshop on 21 November 2019 marked the completion of Training Programmes for two new occupations at VCMI. The 3-year cooperative training programme for each occupation was agreed for implementing the pilot training in the upcoming time.

As a worthy result for the efforts of the College and enterprises, the Chamber of Crafts, Aachen (Germany) has officially handed over the “Letter of Acknowledgement” for equivalence to the German Standard of two training programmes “Electronics Technician for Energy and Building Technology” and “Mechanics Technician for Sanitary, Heating and Climate Technology”.

Mr. Nguyen Van Lan - Head of Training Management Department, MARD “With the support of GIZ and the cooperation with the business sector, VCMI is becoming the leading TVET institute under MARD. As a Centre of Excellence, it will provide valuable additional services for the system, such as the implementation of the MARD skills competition in 2020.”
Getting ready for Cooperative Trainings and Further Trainings

In parallel with the development of training programmes, VCMI also cooperated with experts of GIZ to build up and install equipment for theory class rooms and practice labs to meet the requirements of implementing training activities oriented to German Standards for students as well as further trainings for teachers and in-company trainers.

Since March 2019, the practical labs for the Electronics - Electronics, Information Technology, KNX... have been gradually improved for practical trainings for students and further trainings for teachers by German experts.

Initial Achievements of Cooperative Training...

(continuation of page 1)

Thanks to this event, 1st batch students of Pilot Classes of LILAMA 2 gained more confidence and completed the examination Part 1 (from September to October 2019) and Part 2 (from October to November 2019).

With the objective of assessment the written tests and practical test based on real-industry requirements for the final examinations, two professional experts cum certified examiners from Erfurt Chamber of Crafts, Mr. Hartmut Stein and Mr. Dirk Kittel have fulfilled their mission at the college with giving instructions to all examination committee members as well as monitoring throughout the exam to assess the procedure which are equivalent to German standards.

The Final Examination oriented to German Standard at LILAMA 2 was taken place successfully. Moreover, LILAMA 2 has received the official letter of “Equivalence Recognition” for the implementation of the Final Examination for Cooperative Training Programme oriented to German Standard from the Chamber of Craft, Erfurt, which has German authority on vocational training and evaluation. This once again gives an evidence that the ability to train and organise examinations by LILAMA 2 is equivalence to German standard.
Ms. Le Thi Thu Uyen, Deputy Director of Martech Boiler Company, one of many enterprises accompanying LILAMA 2 to develop and implement cooperative training as well as organise the graduation examinations: “The Success in the organisation of Cooperative Training Model according to German standards affirms that LILAMA 2 is eligible to become a Centre of Excellence of vocational training and education evaluation equivalent to the German vocational training system”.

“For Mechatronics and Industrial Electronics occupations, after analysing theory and practice assignments of 1st batch students, I can say that the documents were developed oriented to German standard examinations. And it is also being implemented accordingly. The examiners from the companies and LILAMA 2 have done very well, congratulations to all!” Mr. Dirk Kittel, an expert in electro technology.

Performing more activities of promoting the Cooperative Training

In addition to the training, examination, and evaluation, LILAMA 2 also continuously cooperates with Programme TVET to implement the Open Day (Admission Day) to promote and attract more students to the College. Target participants include students of secondary schools and high schools located in neighbouring districts of Dong Nai and Baria-Vung Tau. In addition, parents as well as teachers from schools also had the opportunity to attend this day to gain more information about the Vocational Education Model to be able to reorient the future career for their children.
FURTHER TRAINING COURSES FOR TEACHERS AND EXAMINERS WERE CONTINUOUSLY CONDUCTED AT LILAMA 2

LILAMA 2 teachers have acquired the same vocational competence as skilled technicians in Germany.

Following the success of the competency examination Part 1 in October 2018, 18 key teachers of Metal Cutting - CNC and Mechatronics successfully completed the Examination Part 2 in January and February 2019. Examination results were assessed and recognised by German examiners from the Chamber of Crafts, Erfurt. This achievement shows the efforts of LILAMA 2 teachers in demonstrating their competence equivalent to the level of skilled technicians in Germany. At the same time, the teachers also prove that their own practical technical skills and necessary theory in order to not only provide high-quality initial trainings but also conduct further trainings for technicians of the business sectors or for teachers of other TVET institutes.

During the examination, Dr. Nguyen Hong Minh, Director General of DVET, and Head of Formal Training Department, Dr. Vu Xuan Hung, visited LILAMA 2 to get a general overview about the competency assessment examination oriented to German Standards for teachers.

Further trainings for enterprises and in-company trainers

The further training courses under four key occupations as Construction Mechanics, Metal Cutting - CNC, Mechatronics, and Industrial Electronics, were continuously conducted in the past year. Participants are key teachers of LILAMA 2, Bac Ninh Technology College, Nha Trang Vocational College, Long An Vocational College and An Giang Vocational College together with technical staff from the partner enterprises, who were instructed and coached by national and international experts.

As of December 2019, there were total of 09 further training courses for TVET teachers with different topics of MTS Software Application, Project Metal Work-Ball Deviding Device, Project Metal Work-Manufacturing by MAG Procedures, Assembling of Mechanical Subassemblies – introduction to mechanical diagnostic devices, Basic Manufacturing and Forming of Sheet Metal and Sheet Profiles, Production with
conventional lathes and milling, Development and Implementation on CNC training projects using E-learning, Close-Loop Control Technology in the training field of Mechatronics, Servicing Concepts and Maintenance Management were successfully developed and conducted for TVET teachers.

**Further trainings for enterprises and in-company trainers**

One of the highlights of 2019 for further trainings is that 18 LILAMA 2 teachers along with 08 company staff participated in further trainings for examiners in order to prepare the final examinations for four first-batch-pilot classes of Cooperative Training oriented to German standards in August and early September 2019. Two German experts instructed the examiners of Mechanical Technology (Metal Cutting-CNC and Construction Machanics) and Electronics Technology (Mechatronics and Industrial Electronics). After these training courses, teachers and in-company trainers were fully qualified to become examiners and well-ready for the assessment students from the Cooperative Training pilot classes.

German experts conveyed the knowledge and skills of evaluating students’ perfomance to the examiners of LILAMA 2 and partner companies, they also guided examiners to develop examination questions/tasks according to German standards. LILAMA 2 teachers and partner company staff from ISHISEI, Thuan Hai, Sang Tao and Martech Boiler constantly learned and actively compiled and developed written and practical tasks, successfully organised and implemented examinations and evaluated the results of students’ competence according to German standards. These efforts have

Mr. Cap Trong Ba, a teacher from Bac Ninh Technology College, said how proud he was with the acquired knowledge and skills that he gained from this course “Thanks to this training, I can effectively use image recording, video recorder and simulation tools to design and document lessons. Moreover, with my knowledge and skill, I can bring remarkable benefits to the educational process at my College”

Mr Lutz Dlugokinski, certified welding expert and trainer of the inter-company training center of the HWK (Chamber of Crafts) in Potsdam/Germany: “Next to extensive exercising of several welding processes and in different positions, the participants also implemented real metal construction projects according to welding procedure specifications (WPS) and welding sequence plans that the industry worldwide requires”

“All participants showed eager interest on how they to apply their knowledge of closed loop control and their training equipment in the field of Industry 4.0. I really welcome these approaches and am willing to exchange opportunities and new measures with the participants”. Mr. Stefan Paschek, an expert in Automation Technology.
also been acknowledged by the Chamber of Crafts, Erfurt through the awarding of certificates to all members.

Mr. Hartmut Stein, the trainer from HWK of the training for examiners of Mechanical Technology: “In the following months, the members of the examination committees are going to organise and implement the examination for the first batch of trainees in the four supported cooperative training programmes at LILAMA 2. We experts of HWK will coach the examiners during the examination and audit the processes equivalent to German examination standard”.

“After establishing the examination committees for the above-mentioned occupations, the training for examiner marks the final step to make teachers of LILAMA 2 and in-company trainers of its partner companies ISHISEI, MARTECH BOILER, THUAN HAI, SANG TAO ready as examiners. Not only ready to organise and implement final examinations oriented on German Standard but also to develop the theory and practice exams cooperatively with experts of the Vietnamese industry” Mr. Dirk Kittel, the trainer from HWK of the training for examiners of Electrical-Electronics Technology.
LILAMA 2 AND VCMI SIMULTANEOUSLY PERFORMED ADDITIONAL FUNCTIONS FOR THE SYSTEM

In addition to the main functions of Initial Trainings of the Centres of Excellence for TVET, LILAMA 2 and VCMI also actively carried out additional functions for system of TVET Viet Nam.

LILAMA 2 aims to multiply the model of Cooperative Training oriented to German Standards

Following the success of implementing the Cooperative Training model and organising Final Examinations for four pilot classes oriented to German Standards, LILAMA 2 also carried out the activities of sharing experience and lessons learned in implementation process, as well as supporting with disseminating these cooperative training programmes to other TVET institutes in Vietnam.

In December 2019, representatives from the DoLISA of Ho Chi Minh City, Bac Ninh Province and Dong Nai Province, along with the leaders of 20 national TVET institutes, received the full packages of Cooperative Training Programmes and the teaching and learning documents of the four occupations which were compiled according to German standards and adapted to Vietnamese conditions.

LILAMA 2 teachers aim to train other teachers of domestic and other regional countries

Within the framework of Regional Cooperation Programme for TVET in ASEAN (RECOTVET), a series of further training courses on Connecting business sectors and TVET institutes for teachers and staff of 07 ASEAN countries were organised in different regional countries and in 5 modules respectively.

With the goal of learning about business cooperation model of LILAMA 2, the fifth module of the above-mentioned training series was held at LILAMA 2 for 20 participants from Cambodia, Indonesia, Laos, Malaysia, Myanmar, Thailand and Vietnam. The training was successfully conducted in collaboration among LILAMA 2 teachers and regional experts.

Due to the renovation of Industry 4.0 and the rapid change of technology, it is necessary for pioneers to actively participate in the improvement and adaptation to reform of TVET in the Industry 4.0 era.
And this is the time when development partnerships start to more expand.

Several LILAMA 2 teachers, with GIZ support, had the opportunity to attend RECOTVET’s series of training programmes in recent time. And the knowledge gained from these courses has been widely multiplied to the system by these LILAMA 2 teachers. Typically, the further training course on Integration of Industry 4.0 into Vocational Education (Module 1) was conducted for 14 teachers from 6 different TVET institutes in Vietnam.

The basic module on “Protection of the environment, efficient use of Energy and Resources” was actively multiplied by VCMI

Started launching from 2018, 10 VCMI’s key teachers were certified to have sufficient training capacity on the implementation of modules for other TVET institutes’ teachers.

In 2019, these key teachers conducted three further training courses of Basic Module on “Environment Protection, Energy and Resource Efficiency” for total 65 teachers and staff from 32 national TVET institutes.
At LILAMA 2, students are trained in four occupations with extremely high development potential in technology innovation: construction mechanics, mechatronics, industrial electronics and metal cutting CNC. On behalf of BMZ, GIZ has supported TVET institutes and enterprises in developing and providing further trainings to meet German standards and the needs of the regional business sectors by public-private partnership agreements (develoPPP). The core objective of the agreement is to create close cooperation between businesses and stakeholders in the field of training and developing high-quality technical human resources to research and experiment with adjustments in technical training programmes, closely following up the demands of enterprises in the Industry 4.0 era and the digital revolution in Vietnam within 3 years (2018-2020).

The first training course on Application of Industry 4.0 was conducted by Bosch Rexroth expert, aiming for LILAMA 2 Electronics and Mechatronics teachers together with in-company trainers from Bosch TGA. In the practical lab with I4.0 standard equipment which set up at LILAMA 2 by Bosch Rexroth, teachers and trainers improved their capacity with new-level knowledge based on the requirements of Industry 4.0.

Together with the training for teachers, managers of the TVET institutes and businesses also have the opportunity to deeply access to the understanding of Industry 4.0 development through surveys of I4.0 capacity and needs.

A workshop on “Integration of Industry 4.0 requirements in vocational education: Vietnam’s Strategy 2030” was organised at LILAMA 2 within the framework of “Programme Reform of TVET in Viet Nam”.

The results of above-mentioned activities were reported during the visit of the German Federal Ministry for Economic Cooperation and Development (BMZ). Delegations highly appreciated the efforts of LILAMA 2’s management board, teachers, and students for get-together developing a high-quality training environment, contributing to the knowledge level improvement of Vietnamese human resources.

“With new technology, there will be many challenges existing. New Industry 4.0 technical vocabulary has been born and the need for English communication is increasing. I realise that all the teachers here understand that Industry 4.0 is an Internet connection solution for CPS system.” Mr. Tran Huu Tra, the trainer from Bosch Rexroth.
“The Vietnamese economy has grown rapidly in the past two decades. This presents many opportunities as well as challenges together with a significant shortage of skilled human resources. Human resource development is the key to success for a sustainable development. In recent years, Bosch has accompanied with GIZ and DVET to develop and implement Industry 4.0 training programmes, along with setting up a practical lab with the I4.0 standard equipment at LILAMA 2, which shows that Bosch’s goal is to accompany with stakeholders to improve the quality of human resources in Vietnam” Mr. Le Hoang Viet, Director of Drive and Control, Bosch Rexroth Vietnam