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Conference Report

# Preparing TVET Educators for the Next Generation (EDUCON 2011)

December 12-13, 2011  
Corus Hotel, Kuala Lumpur, Malaysia

Organized by

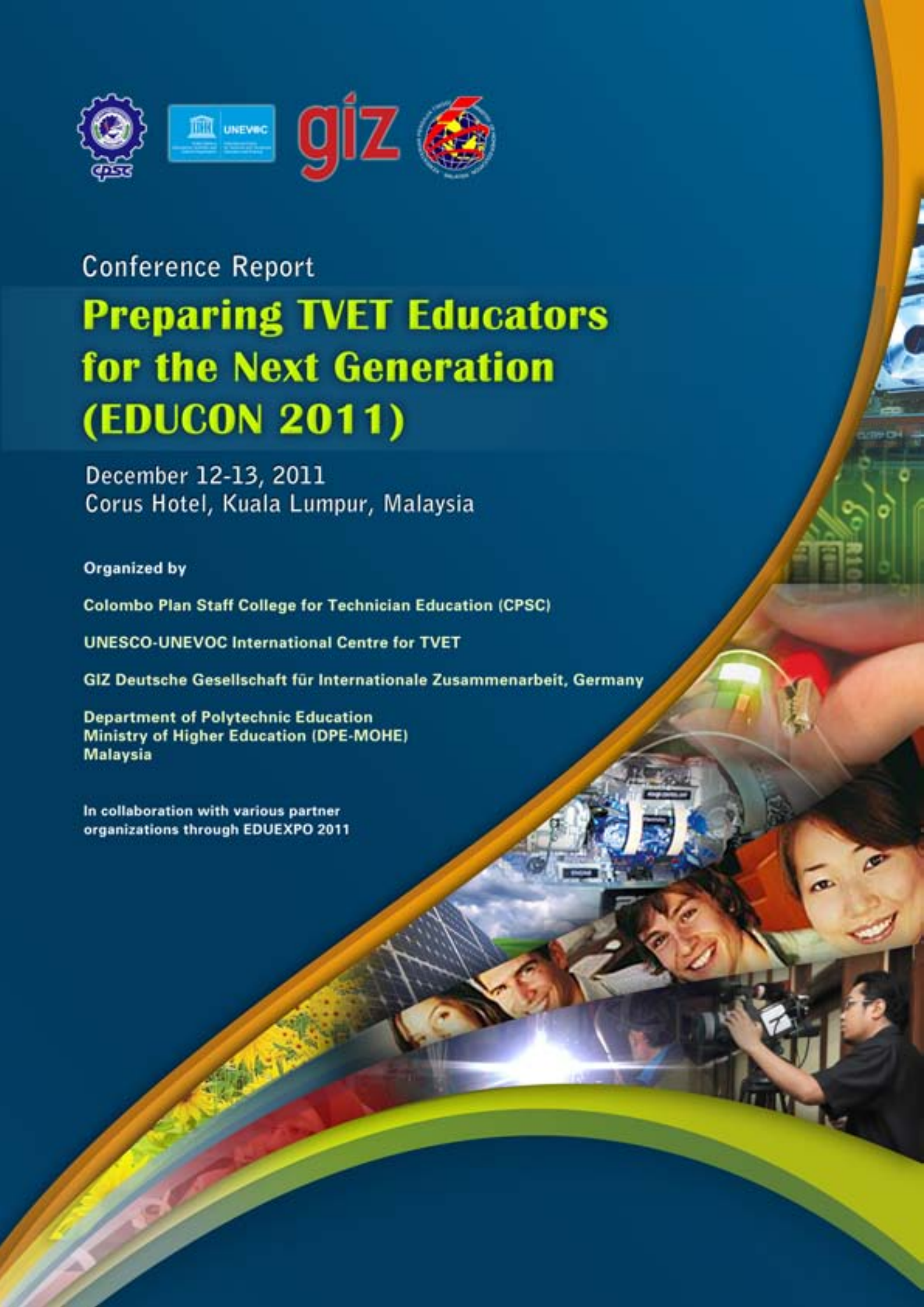
Colombo Plan Staff College for Technician Education (CPSC)

UNESCO-UNEVOC International Centre for TVET

GIZ Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany

Department of Polytechnic Education  
Ministry of Higher Education (DPE-MOHE)  
Malaysia

In collaboration with various partner  
organizations through EDUEXPO 2011



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## BACKGROUND

The 21st century poses great challenges in the education systems, which include rapid globalization, advent of information and communication technology, increasing shift towards knowledge – driven economy, and international and regional competitions. In this view, educators and policy makers are facing several challenges on how to bring reforms in the existing system and prepare young graduates to effectively cope with these changes.

With the advent of rapid globalization, emergence of information and communication technology (ICT) and international and regional competitions, significant challenges are faced by the education systems in the changing world of work, calling for the reorientation of Educators' development especially in the technical and vocational education and training (TVET) sector.

The quad partite organizers including the Colombo Plan Staff College, UNESCO UNEVOC International Centre for TVET – Germany, GIZ Deutsche Gesellschaft für Internationale Zusammenarbeit – Germany, and Department of Polytechnic Education, Ministry of Higher Education (DPE - MOHE), initiated the stimulation of efforts and participation in discussions among decision makers, policy implementers, senior administrators, curriculum developments, and academic professional to build awareness and information on emerging issues and cooperation frameworks for TVET educators' development.

## INAUGURATION AND CONFERENCE PROPER

The inaugural ceremony was held on the first day of the conference. Mejar (K) Haji Md. Nor Bin Yusof, Director General, Department of Polytechnic Education, Ministry of Higher Education delivered the Inaugural Address. Distinguished officials from the partner institutions gave their special remarks: Prof. Dr. Shyamal Majumdar (Head, UNESCO-UNEVOC International Center for TVET, Bonn Germany) and Dr. Eberhard Trowe (Senior Project Manager, GIZ/UNEVOC Center Magdeburg, Germany): Welcome message was delivered by Dr. Mohammad Naim Yaakub, Director General, CPSC.

In the plenary session that followed, the quad partite organizers, UNESCO-UNEVOC, GIZ, CPSC and MOHE KPT, emphasized that teacher education must be a top priority in every country in the world; the teacher being the key change agent, for progress to be achieved and that there is an increasing need to make preparations for the changes in the mode of delivery and to offer curriculum with strong industrial relevance.

The Conference successfully provided a platform for sharing and deliberations on vital issues, challenges and emerging trends in the education systems in the 21st century with the advent of ICT, rapid globalization and shift towards knowledge-driven economy and the urgent need to look into the readiness of TVET educators in facing such challenges. The delegates examined said premises and exchanged ideas on good practices, new paradigms, models and approaches in teaching and innovations. The discussions also brought to fore proposals for policy review and reforms in the education systems along with strengthening of capacity building programs for teachers in preparing TVET educators in facing arising issues in education in the future.

## AIMS AND OUTCOMES

The objectives of the international conference are to:

- Appreciate the significance of global challenges in TVET Educators' development;
- Examine the emerging issues and challenges in TVET in training and developing educators;
- Share innovative concepts and models in TVET Educators' training and development; and
- Promote best practices and approaches in TVET Educators' development through cross – sharing of experiences.

The international conference aimed to convene policy makers, senior administrators, decision makers, educators, lecturers/teachers, representatives of NGOs and civil society to exchange and share their experiences, research results, creative ideas, innovations and new initiatives about aspects of TVET Educators'



training and development and discuss practical models, frameworks and best practices including recommendations and solutions adopted.

Outcome of the conference would include but not limited to:

- Conference Proceedings and Recommendations
- Innovations in TVET Educators' Development
- Networking among speakers, participants and guests

## DELEGATES



About **208** foreign and local delegates from **26** countries all over the world gathered in Kuala Lumpur for the International Conference on Preparing TVET Educators for the Next Generation (EDUCON 2011). The breakdown of the delegates, participants and staff from the different countries participating during the Conference are as follows: Australia (1), Bhutan (1), Brunei Darussalam (3), Canada (1), China (2), Egypt (1), Fiji (1), Germany (3), India (5), Indonesia (12), Kenya (1), Korea (2), Lao PDR (4), Malaysia (148), Maldives (2), Mexico (1), Mongolia (9), Myanmar (1), Pakistan (1), Philippines (7), Saudi Arabia (1), Singapore (4), Sri Lanka (1), Thailand (3), UK (1), USA (2). Through the 2-day Conference, the delegates appreciated the significance of the role of teachers as agents of change for the next generation. They deliberated on the emergence of an innovation-led economy, ICT revolution, and sustainable development as the principal drivers of change in society.

International delegates of the EDUCON 2011 in one of the plenary sessions.

## SPEAKERS AND PRESENTORS

TVET experts and practitioners, policymakers, educators, teachers, government administrators and industry specialists comprised the line-

up of distinguished speakers, panelists, paper presentors and session chairs which include: UNEVOC; GIZ, Germany; CPSC; MOHE, Malaysia, SEAMEO VOCTECH, Ministry of Education, Brunei Darrusalam; Ministry of Labour and Human Resources, Bhutan; Ministry of Education, Fiji; University of London, England; Alexandria University, Egypt; GIZ, China; Singapore Polytechnic; Universiti Tun Hussein Onn, Malaysia; Moi University, Kenya; TESDA, Philippines; DTET, Sri Lanka; NITTTR, Bhopal; NITTTR, Chandigarh; TVET Authority, Maldives; TITI, Nepal; ITE, Singapore; KRIVET, Korea; RMUTT, Thailand; WVCST, Philippines; Technological University, Myanmar; and Labtech International, Ltd. The different presentors shared their views on the thematic areas pertaining to educators' reorientation.

The emergence of subject areas focusing on sustainable development, green economy, use of ICT in learning and their impact on educators' development were reviewed and deliberated by the delegates, while regional and country perspectives on good practices for TVET educators development were shared by delegates from CPSC member countries.



(From L-R, starting from 4th, seated) Mej (K) Md. Nor Yusof, Director General, DPE, Dr. Mohammad Naim Yaakub, CPSC Director General, Prof. Dr. Shyamal Majumdar, Head, UNESCO-UNEVOC, Dr. Eberhard Trowe, GIZ with the session chairs and speakers of the conference.

## NEXTGEN IMPERATIVES 2011

### EDUCON 2011 SUMMARY

The quad partite organizers along with the delegates from the Asia Pacific region, Europe, Canada, Australia, the Middle East, and Africa laid down the NEXTGEN EDUCON IMPERATIVES 2011 for consideration of and further action from policy makers from international and regional organizations, the government and private

sectors, non-government organizations and all sectors focusing on teacher education and development to work hand in hand in preparing TVET educators for the next generation.

The NextGen Imperatives 2011 reads as follows:

“The International Conference on Preparing TVET Educators for the Next Generation organized by CPSC, UNEVOC, GIZ and MOHE-DPE, Malaysia on 12-13 December 2011 in Kuala Lumpur, Malaysia with over 200 delegates from 26 countries shared and deliberated upon the theme, and considering the importance of the issue:

Appreciates the significance of preparing teachers as agents of change for the next generation through strategic interventions in developing relevant teacher education and training programs;

Understands the emergence of Innovation-led Economy, ICT Revolution and Sustainable Development as the principal drivers of change in the society;

Acknowledges the changing role of TVET educators from mere transmitter of knowledge to facilitator, mentor, manager and coach;

Realizes the importance of generic skills, higher order thinking (HOT) skills, as well as green skills as essential components in the development of next generation TVET graduates;

Recognizes the growing concern for shortage of qualified or well-trained TVET teachers, policy initiatives will have to be formulated and implemented to give priority focus and attention in improving teachers’ quality and quantity in the TVET sector;

The Conference concludes on the following points for consideration and further action:

- There is a need for more concentrated efforts on Capacity Development of TVET Educators in preparing graduates for world of work and ever expanding global workplace;
- There is a necessity to formulate Teacher Qualifications Framework and Competency Standards for TVET Educators;
- There is a need to enhance the professional competence of TVET educators through

practical skills training, hands-on exposure, simulation and innovative strategies, and industry attachment programs on a continual basis;

- In view of the huge growth and employment prospects for green jobs, teacher educators need to prepare graduates for Green economy;
- Active involvement and strong commitment of stakeholders is necessary for preparing TVET Educators for next generation;
- Attractive performance-based incentive schemes must be worked out to entice promising professionals into the TVET system by introducing attractive packages schemes;
- Strategic alliances with international and regional organizations for technical cooperation and development;
- Create opportunities for TVET educators to develop Technical and Generic Skills (especially HOT, creativity, innovation skills) through continuous professional development and life-long learning;
- Harness the potentials of using ICT as a tool in advancing TVET educators for the next generation;
- New models of pedagogy have to be evolved to match the emerging learning styles of digital natives.

The Quad Partite Organizers along with the delegates from Australia, Bhutan, Brunei Darussalam, Canada, China, Egypt, Fiji, Germany, India, Indonesia, Kenya, Korea, Lao PDR, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Philippines, Saudi Arabia, Singapore, Sri Lanka, Thailand, UK and USA urge upon policy makers from international and regional organizations, the government and private sectors, non-government organizations to work together in preparing TVET educators for the next generation.”

## Day 1 (December 12, 2011)

### PLENARY SESSION 1: EMERGING TRENDS IN TVET EDUCATORS' DEVELOPMENT (TED)

Session Chair: **Prof. TJ Tesoro-Gayondato**,  
Manager, Projects and Consultancy Division,  
CPSC



#### Keynote Presentations

##### 1. NEW PARADIGM IN TEACHERS' EDUCATION IN TVET

presented by **Prof. Dr. Shyamal Majumdar**,  
Head, UNESCO-UNEVOC International Centre for  
TVET



Dr. Majumdar highlighted in his paper the importance of teachers as 'agent of change' in the 'knowledge society' thus, they must be well-trained. He stressed that the pursuit of relevant teacher education approaches is

of paramount importance to enhance student learning at all levels of education, with particular focus on Technical and Vocational Education and Training (TVET).

He briefly provided a background on the new technological trends across Asia and the Pacific region which are virtually reshaping all aspects of work, at all levels, and in all types of industries and pointed out that obsolescence and technological advancements are happening at a rapid pace. Therefore, technological trends suggest an increasing pressure for educational systems to visualize the types of work that will soon emerge, prepare students for technologies that are not yet invented and equip them with the knowledge

and skills that would help prosper in a fast-changing work and life environment.

He also elaborated on the need for HOTS (Higher Order Thinking) skills and a new set of generic skills in the emerging work place which include critical thinking, creative thinking, innovation and problem solving, abstract reasoning, analytical skills and information processing along with key competencies that are generic. The knowledge-based society requires a new type of Teacher: Able to transfer HOTS Skills and soft Generic Skills; and recognizes the facilitation role in an environment that makes learners work together.

He said that today, teachers are expected to create a new flexible and open learning environment in ICT era, however, he stressed that the teacher should always keep learning at the center of all activities, pedagogy should be at the heart and integration of pedagogy-technology should be the central focus.

He also discussed the implications of sustainable development in teacher education and emphasized that integrating ESD in TVET requires a massive capacity building of teachers to undertake the challenges to promote sustainable development in all parts of education.

##### 2. TVET EDUCATORS FOR THE NEW GLOBAL ECONOMY

presented by **Dr. Mohammad Naim Yaakub**,  
Director General, Colombo Plan Staff College for  
Technician Education (CPSC), Manila, Philippines



The Speaker gave an overview of the rapid development of new technologies which requires TVET graduates or engineers and technologists to face new situations in their working environment.

He said that in order to meet these emerging needs, TVET institutions need to relentlessly modify and improve the quality of its program and services.

Discussed in length were the six mega-trends that influence the nature of society, economic growth and situations in the environment in the global scale. These are: changing population structures; economic globalization; ubiquitous internet applications; cross-disciplinary



technology integration; agile manufacturing and environmental concerns, and efficient use of natural resources. These have created challenges for sustainable development with depletion of natural resources and at the same time challenging the workforce competitiveness through lifelong learning. In order to adapt to these changing trends in TVET he said that an “open learning culture” must be created where TVET teachers should consider assuming greater, student-centric roles that will be flexible and at the same time conducive to encourage student development.

On the information revolution he expounded on the synergy of combining new information and communication technologies with human skills which has dramatically altered job content and skills requirements at the workplace. Due to innovations in technology, a new set of skills will have to be developed and must be focused on developing TVET educators so as to prepare the new workforce. In this regard, he said that the new global economy skills are critical and that TVET system in Asia & the Pacific region needs adaption to key features, which includes globalization, ICT revolution, sustainable development, emergence of knowledge worker and rapid knowledge obsolesces.

In line with said emerging challenges the speaker shared that the Colombo Plan Staff College for Technician Education (CPSC), is constantly advocating program thrusts towards human resource development by conducting relevant activities such as symposiums, dialogues, member country programs and skills development projects.

In view of the above, the speaker put forward proposal for a roadmap for developing TVET educators which include: best and most relevant teaching/learning methods; technology adaptation and appropriate integration in the TVET classrooms, broadening the role for TVET educators' education; attention to in-service education of existing TVET Personnel on training on new technologies; emphasis on lifelong learning for continual professional development of TVET educators; and constant revision of TVET teacher curricula for bridging and providing remedial courses for career development.

### 3. INNOVATIVE PRACTICES IN TED IN TVET: THE MALAYSIA EXPERIENCE

*presented by Mejar (K) Haji Md. Nor Bin Yusof  
Director General, DPE-MOHE, Malaysia*



The presenter and also the Director General of Department of Polytechnic Education (DPE), Ministry of Higher Education, Malaysia, shared with the delegates various innovative programs, activities, programs and practices that they have

tailored, adapted and developed in line with their vigorous efforts of ensuring continuous education and training of polytechnic educators, keeping in view producing well-trained human resource for the country and other parts of the world.

The department has created the E-SIS (Electronic Staff Information System) which is a globally accessible data base of polytechnic educators that provide current information on personal and professional particulars such as courses they have attended, aimed to assist educators to plan and organize their professional development needs. The PPK (Skills Enhancement Programme) involves training polytechnic technical educators to enhance their skills and knowledge on various courses pertinent to their specialized fields such as hands-on and high technology skills acquisition (computer trouble shooting, e-commerce, PLC Programming Languages and Application, etc). The CPCM (Career Path Competency Matrix) is a professional development program that ensures that polytechnic educators are able to perform tasks based on specific criteria, knowledge, skills and behaviours whereby promotion assessment are also based. SIP (Educator Industrial Attachment), on the other hand, gives opportunity to polytechnic educators to experience real work in an industrial environment for 3 months, which will enable the educators to impart new knowledge to their colleagues as well as benefit the students in the polytechnics on the latest technology, machinery maintenance, workshop management and work ethics practised in the industry. Coaching and Mentoring provides a platform for establishing a deep partnership between a superior and his subordinates. The English Enhancement Program was carried out as a rebranding exercise of the PPSMTI or the

Teaching of Mathematics, Science and Technical subjects in English which is a series of training to enhance their English Language proficiency. DPE also has a Research, Development and Innovation where polytechnics carry out in-house courses to train lecturers to initiate research such as research seminars through participation in international conferences and various fora. The Federal Training Sponsorship Scheme offers scholarships for qualified polytechnic educators to pursue their studies at Masters and PhD levels (locally and abroad). KIPA (Instructional Leadership and Andragogy Development Course) was a compulsory training of polytechnic educators to provide teacher training and equip them with instructional leadership capabilities and andragogy development in place of post Diploma Courses. DPE also strengthened its international collaborations to be able to garner knowledge and experience in the management of human capital development active involvement in various programs such as joint programs conducted with other international and regional organizations like CPSC, SEAMEO VOCTECH, etc.

**4. DEMAND ORIENTATION OF TVET-SYSTEMS: ASPECTS OF TVET TEACHER TRAINING - EXAMPLE INTERNATIONAL LEADERSHIP TRAINING**

*presented by Dr. Eberhard Trowe, Senior Project Manager, GIZ, Germany*



The Speaker discussed the need of teachers to be considered throughout in the planning stages of reform, in policy and strategy development, in teacher training and in the school environment, due to the rapidly changing conditions in the new globalization era. Their traditional function as trainers of youth is moving into new areas. In this regard, there is an increasing focus on in-service training for TVET teachers in the international scene. New approaches and strategies in teaching must be evolved to improve on teachers' effectiveness and competence and to enable them to adjust their changing roles in these changing times. Especially that the role of teachers has dramatically changed from being traditional instructors to becoming facilitators

and even counsellors helping students to develop key competences so that they can adjust more flexibly to the changing demands of the world of work. Further professional development to enhance their expertise are also proposed to be able adjust to the required competence standards in this information era and emergence of knowledge society.

The presenter also elaborated on UNESCO's "International Conference on Innovation and Excellence in TVET Teacher Education" held in Hangzhou, China which came up with a proposal for an international Master's Degree standard in teacher and trainer education in TVET to enhance quality of teaching through scholarship programs. The framework curriculum of this program provides for five areas of study which include education, TVET and vocational disciplines, studies of the vocational discipline and its didactics, further studies, the Master's thesis and practical studies and internships. The Master Study Course is proposed to be run by a higher education institution, or consortium of educational institutions.

The Speaker also proposed for an establishment of structures and systematic approaches following international experiences and tendencies in a sense of a Global Capacity Development Network in orientation of improvement of competences of TVET Managers and Teachers

**5. SUMMARY OF PLENARY SESSION 1**



The keynote presentations significantly emphasized the need for preparing TVET educators in the new global economy and realigning their skills and competency in the changing education systems to respond to the emerging global demands such as ICT revolution, sustainable development and the knowledge society. All the



three speakers stressed the changing roles and skills requirements of teachers, thus, the need for a refocusing of TVET teacher training, creating new approaches, structures and strategies in teaching, evolving new paradigms and models and policy reorientation in the education system in adapting to the changing demands of the society. Proposals, roadmaps, various programs, activities and practices for developing and preparing TVET educators for the next generation were also put forward by the plenary speakers.

## **PANEL DISCUSSION 1: PREPARING TVET EDUCATORS IN THE KNOWLEDGE SOCIETY: PERSPECTIVE AND STRATEGIES**

*Session Chair: Prof. Dr. Rajesh P. Khambayat, Governing Board-Engaged Faculty Consultant, Colombo Plan Staff College*

### **1. THREE – TIER VTE QUALIFICATION SYSTEM IN BRUNEI DARUSSALAM**

*presented by Dr. Junaidi Abd. Rahman, Permanent Secretary (HE), Ministry of Education, Brunei Darussalam*



The presentation focused on the introduction of Brunei Darussalam's 3-Tier VTE Qualification System (VTEQS) in 2012 in line with the total revamp of its education system known as The National Education System for the 21st Century (SPN21). SPN21, launched officially in 2008, is a means to achieving the vision of Brunei's Ministry of Education and concomitantly, it also signifies a contribution of the Ministry towards achieving the National Vision 2035 (Wawasan Negara 2035) whereby Brunei Darussalam would like to be known globally as a nation with educated and skillful citizens. The 3-Tier VTEQS is a qualification system meant to provide multiple pathways to higher education and this will be done by introducing a variety of technical and vocational programmes that will suit the capabilities of students after they have completed their studies in the secondary school system at Year 10 or Year 11. This system will introduce changes in the technical and vocational curriculum in line with the changes that occur in the SPN21. This system will also

ensure that students are given suitable learning timeframes to have in depth knowledge and high level of competency. Feedback from the relevant stakeholders has indicated that the academic qualification obtained by students in the current system is not enough to equip them with the necessary skills and knowledge required by the job market. The new system will consolidate and streamline the existing system, and will be comparable and similar to other international systems.

3-Tier VTE Qualification System (VTEQS) is yet to be proven effective and needs more improvement with the input of stakeholders such as the industries.

### **2. GENERIC SKILLS DEVELOPMENT FOR THE 21st CENTURY LEARNERS: THE MALAYSIAN SCENARIO**

*presented by Datuk Mohlis Jaafar, Deputy Director General, Department of Polytechnic and Community College Education, Ministry of Higher Education, Malaysia*



The paper stressed on the importance of generic skills as profound changes have emerged in the workplace today across all sectors and occupation. Generic skills are the general skills, qualities, knowledge, abilities and traits a person should possess to succeed in one's studies and career, which include skills of managing information and resources, developing interpersonal skills, communicating ideas and information, solving problems and being tech-savvy. These skills are not specific but are skills which cut horizontally across all industries and vertically across all jobs from entry level to chief executive officer.

In line with this, polytechnics across Malaysia are striving towards obtaining Malaysian Qualification Accreditation (MQA) for their programmes. MQA has come out with guidelines on eight domains of competencies that should be given emphasis by higher education providers. Of the eight domains, six refer to generic skills namely: Social skills and responsibilities; Values, attitudes and professionalism; Communication, leadership and team skills; Problem solving and scientific skills;

Information management and lifelong learning skills; and Managerial and entrepreneurial skills. The inclusion of these skills into the curriculum plus the recognition of MQA certification are vital in assuring the quality of graduates produced by higher learning institutions to be wholesome and industry-ready.

The initiatives of the Ministry of Higher Education, Malaysia to enhance generic skills of the 21st century learners are: 1) E- learning programmes such as Curriculum Information Document Online System (CIDOS) and 60 Multimedia Learning Object (Learning Modules), Malaysian Soft Skills Scale or My3s, and Special Projects on Incubation, Coaching and Entrepreneurship or SPICE. The presenter stressed that generic skills is important for graduates to meet the demand of industries. Reorientation of curriculum is necessary to inculcate generic skills in students.

### 3. ADAPTING EDUCATION TO 21ST CENTURY NEW ECONOMY

*presented by Mr. Steve McKee, President, Labtech International*



Mr. McKee started his presentation with an introduction of the Project Restructuring the VTC Program in Jordan – a project initiated by Labtech and is supported by the Colombo Plan Staff College, Ministry of Higher Education Malaysia, and Universiti Tun Hussein Onn Malaysia. He presented the objectives and components of the project and urged representatives of the conference to become involved in the project through contribution of ideas and exchange of research information.

His presentation mainly focused on how fast the technology is changing, how fast the countries are changing, how the previous two impact how teachers teach and what they teach, and what we can do to reorient the educational system. One such solution is the use of personal learning networks as part of education and as part of a person's lifelong learning, not just for students but more importantly for educators. They consist of new digital tools and systems many of which involve or function on the internet. Many of these

things are used constantly by today's learners and can be harnessed more effectively for education.

To prepare teachers for the knowledge society, he enumerated key program elements such as upgrade or embed ICT skills and knowledge up to a medium level, embed technology for learning in the classroom and activities, and embed Life Long Learning into the culture of Learning.

### 4. REGIONAL CO-OPERATION PLATFORM (RCP) ON VOCATIONAL TEACHERS' TRAINING IN ASIA

*presented by Dr. Thomas Schröder, Project Director, Regional Cooperation Platform Vocational Teacher's Training and Education in Asia, GIZ - China*



The presentation provided an overview of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the RCP Project.

According to Dr. Schröder, the RCP's objectives is to be established as a forum for professional and scientific exchange in the field of initial and continual vocational training in the region. The member universities of the RCP strengthen and extend their institutional competence and capabilities in regional cooperation aimed at future-oriented education. RCP's anticipated effects are the development of needs-oriented offers in further training for vocational school teachers and management, improvement of the research quality in vocational education research and the resultant sustainable improvements of teaching and reform-oriented policy advisory work, and the professional and scientific cooperation regarding endeavours towards integration in the ASEAN region, with the added goal of a standardisation of vocational teacher training education resulting in a mutual recognition of final qualifications. A Memorandum of Understanding was signed by the deans of the partnering universities. This MOU serves as the RCP's foundation.

### 5. SUMMARY OF PANEL DISCUSSION 1

To wrap up the session, the presentors provided insights and interventions to build the capacity of educators. Mr. Steve McKee highlighted the



need for in-service training especially in the area of information and communication technology. We may look upon using innovative alternative solutions such as engaging students to assist teachers in this field as the youth of today is more adept in using modern technology. Dr. Schröder affirmed that strong educators' support and changing in the way educators' teach are necessary in building up their capacity. Datuk Mohlis Jaafar emphasized that educators' industrial immersion and public – private cooperation as a whole have big roles to play in the advancement of skills and knowledge of educators. Lastly, concerted effort of all stakeholders is Dr. Junaidi Rahman's answer to the issue of teacher education.

This session dwelled on important areas in line with teacher education and training in the knowledge society. These are adjustment and enhancement of curricula, preparing sound instructional resources; conduct valuable researches, partnership among stakeholders, and generic skills development without compromising technical skills. The session also affirmed that there is no substitute for teachers in providing TVET education.

## **GOOD PRACTICES AND EMERGING CHALLENGES FOR TVET EDUCATORS' DEVELOPMENT: REGIONAL EXPERIENCES (COUNTRY PERSPECTIVE PRESENTATIONS) - TRACK A**

*Session Chair: Mrs. Mariyam Noordeen, Asst. Executive Director, Technical and Vocation Education and Training Authority, Ministry of Education, Republic of Maldives*



### **1. GOOD PRACTICE AND EMERGING CHALLENGES FOR TVET TEACHERS: REFLECTIONS FROM AN ENGLISH PERSPECTIVE** *presented by Dr. Norman Lucas, Head, Lifelong and Comparative Education Department, Institute of Education, University of London, England*



To start his presentation, Dr. Lucas provided an overview of the educational system in England. He pointed out that there are massive differences in the TVET educational system and is deregulated in Europe due to diverse areas of expertise and training traditions as well as fragmented professional identity of TVET teachers.

The presentation focused on the extent to which TVET and other teachers in colleges in England are supported by their institutions during the time they spend on in-service teacher training programmes. It set the policy context and situation regarding the regulation of TVET teachers in England. It drew upon theories of workplace learning that can be applied to any national context. The theories are developed as a means of conceptualizing both the nature of in-service teacher training and colleges as workplaces. In particular, it uses a framework to identify the extent to which colleges can be said



to provide appropriate learning environments for trainee TVET teachers. Finally, the findings of the research and their implications are presented and discussed.

In his conclusion, he mentioned that the challenges for TVET teachers in the English context is complex and is not just the failure of state regulation. One factor has been the relative weakness of senior college managers and TVET teachers themselves many of whom have been reluctant to be identified with school teachers and have defended their industrial past and differences with other sectors of education. This in turn reflects the diversity of further and adult education and the tensions between different subject and vocational specialisms and the divisions between the significant numbers of full-time and part-time teaching staff. Furthermore, all recent policy initiatives to regulate TVET teachers have taken place within a fragmented and impoverished professional culture, which often has a weak work-based culture of supporting trainees and the professional development of its TVET and other teachers. The findings from the research provides clear evidence of a gap between the rhetoric of recent reforms in England and the reality experienced by many in-service vocational and general teachers in FE colleges. The research shows that college managers need to reconceptualise learning as something that is central to the practices of their employees as much as it is for their students and to help colleges become more expansive learning environments.

## 2. GOOD PRACTICES AND EMERGING CHALLENGES FOR THE DEVELOPMENT OF TVET EDUCATORS IN KOREA

presented by **Prof. Dr. Heon Bae Jeong**,  
Professor, Chung-Ang University, Seoul, Korea



According to Prof. Dr. Jeong, marching into the 21st Century Korea has reached a crossroad where it has to decide to stay or to leave in terms of the current TVET system. During the last two decades, Korea has successfully completed various TVET programs to meet the growing industrial demand for skilled workers. Today,

however, Korea is facing tough social challenges such as youth unemployment and labor shortage among SMEs. This requires Korea to devise new measures within the TVET system. Unfortunately, lower-level technical positions are still non-attractive in the Korean society, which negatively influences fostering of qualified TVET educators. Many surveys point out the lack of a TVET educator fostering system in line with industrial needs as well as the paucity of field-oriented programs for skilled labors. Therefore, Korea is seeking solutions to foster more qualified TVET Educators and to bolster the scope of its TVET system including the quality of working life.

In his paper, Dr. Jeong enumerated some of the good practices in teacher education such as training courses, developing courses, completion training and developing courses, and reform measures. In the same vein, he stressed the emerging challenges for the development of TVET educators which are policy, social, industrial and institutional challenges and TVET Educators' Talents and Motivation.

Dr. Jeong stressed that the direction of national education should turn from obtaining academic degree to sustaining lifelong education. The greater our efforts in fostering eminent TVET Educators, the greater the number of opportunities that will emerge to develop a better society.

## 3. EMERGING CHALLENGES FOR TVET EDUCATORS' DEVELOPMENT

presented by **Atty. Teodoro Pascua**, Deputy  
Director General for Field Operations, Technical  
Education and Skills Development Authority  
(TESDA), Philippines



As the official representative of the Philippines, Atty. Pascua started his discussion by mentioning that the Philippines is currently undergoing changes in its basic education arm through increasing the number of years from 10 to 12 years (K+12). The scheme of kindergarten plus seven (7) years elementary/primary education and five (5) years secondary (divided into junior high and senior high school) has consequently presented a new challenge to

TVET in the Philippines since TESD or Technical Education and Skills Development will now be embedded in the secondary education where National Certificates (NC) I and II can be earned by students. This is a drastic change for up to the present, techvoc education as implemented by TESDA is primarily post-secondary.

This situation is an enormous challenge as, according to Atty. Pascua, there are insufficient number of TVET educators and infrastructure in the Philippines. At present, TESDA began training secondary education teachers and instructors in TVET to deliver and teach techvoc education in two (2) years of senior high school. The use of competency-based training is something not necessarily and easily understood in the basic education level and this adds to the challenge. The engagement of private TVET providers is another matter than needs to be factored in.

TESDA is now faced with the challenge of shifting to higher levels of technical and vocational education levels or NC III, IV, and V. The knowledge and skills needed in these higher levels must be developed at the same time that TESDA leads in training present secondary level teachers and instructors. Additionally, the expected emergence or shift to TESD or Technical Education and Skills Development in the work place is viewed as a concomitant challenge to this shift. DTS (dual training system) and apprenticeship programs would now be reviewed and expected to be further developed to adjust to this approach.

#### **4. NATIONAL VOCATIONAL QUALIFICATION FRAMEWORK (NVQF) OF SRI LANKA: CONCEPT, DEVELOPMENT AND IMPLEMENTATION**

*presented by Dr. H. Chithral Ambawatte,  
Director General, Department of Technical  
Education and Training (DTET), Ministry of Youth  
Affairs, Sri Lanka*



To start his presentation, Dr. Ambawatte provided a brief background about the TVET system in Sri Lanka which consists of several government networks of training institutions and individual training centers operated by public and private organizations. He pointed out that the emergence of free market economy and the growth of private sector

industry necessitated competent workforce to serve in modern technological environments.

The Sri Lankan government decided in 1997 to embark on a major TVET reform based on a Vocational Qualifications Framework with distinctly identified levels of competencies which satisfies the competency requirements of the industry and which will facilitate a unified assessment and certification system. All processes of competency standard development, course development and delivery and assessments are to be underpinned by a quality assurance system. Tertiary and Vocational Education Act, No. 20 of 1990 provided the legal provision for the establishment of NVQF. The implementation of the NVQF was officially launched in 2004.

He then proceeded to defining the NVQF of Sri Lanka which consists of 7 levels of qualifications; level 1 to 4 for increasing level of competencies at craft level awarding certificates, levels 5 and 6 for middle level technical qualifications awarding diplomas and level 7 at the Bachelor's Degree level. The qualifications are based on the Competency Standards developed with strong participation from the industry. The University of Vocational Technology (UNIVOTEC) was established in 2008 by a separate Act of Parliament to provide Higher Educational opportunities in the TVET sector. NVQs are now incorporated in the government recruitment schemes and in the salary structure providing necessary state recognition to the qualifications.

Dr. Ambawatte concluded by saying that the National Vocational Qualifications system has made the expected impact in improving the relevance and quality in TVET. Majority of training Institutions in the public and private sectors offer qualifications according to the NVQ unified system and hence the complexity and ambiguity of selecting a competent person by the industry has been largely reduced. Prospective trainees can select training courses from the standard courses offered in the NVQ system and receive quality training programs through accredited courses. Trainees see the qualification upgrading pathways and the facilities provided and it has raised the image of TVET sector in Sri Lanka. The system has also facilitated the skill upgrading of craftsmen and award of qualifications through Recognition of Prior Learning. NVQ as a qualification understood by other countries has

helped many to seek foreign employment. The system requires further innovation, improvement and consolidation.

## 5. GOOD PRACTICES AND EMERGING CHALLENGES FOR TVET EDUCATORS' DEVELOPMENT IN MONGOLIA

*presented by Ms. Bujinlkham Duger, Director, Observatory and UNEVOC Center of Mongolia*



Ms. Bujinlkham Duger provided brief information in line with the VET situation in Mongolia, country social and economic priorities, reasons of necessity to reform existing system based on the growing economy demand of skilled

labor, governmental policy, measurements, state institutions activities, stakeholders participation and role, donor investment, achievements, challenges and difficulties, and obstacles which is facing current reform process. Her presentation was focused on the TVET Educators' situation in the context of future needs and country social and economic priorities, best practices, curriculum and instructional innovations, teacher education and training on Competency Based Training methods, and interventions in educators development and capacity building in VET.

According to Ms. Duger, VET system shall shift from the present supply driven system towards a demand driven, competency based training approach. Essentially, this approach aims to improve the supply side through better communication and joint efforts with the private sector, thus improving curricula, teaching and training methods, equipment etc. In practice this will move VET away from too much theory towards more practical training in workshops, labs, and possibly in-company training. It will be useful to create international vocational teachers education and training standards, and support to deliver modern training materials.

## 6. SUMMARY OF TRACK A

To summarize the important points of the speakers, Dr. Lucas of England focused his presentation on the extent to which TVET and other teachers in colleges in England are supported by their

institutions during the time they spend on in-service teacher training programs. On the other hand, Dr. Jeongof Korea enumerated some of the good practices in teacher education in his country such as training courses, developing courses, completion training and developing courses, and reform measures. He further stressed that the direction of national education should turn from obtaining academic degree to sustaining lifelong education. Atty. Pascua underscored the need and importance of training TVET educators due to emerging reforms in Philippine education system. Dr. Ambawatte, representing Sri Lanka shared the National Vocational Qualifications system which has made the expected impact in improving the relevance and quality in TVET in his country. Mrs. Duger emphasized that the VET system shall shift from the present supply driven system towards a demand driven, competency based training approach. According to her, this will move VET away from too much theory towards more practical training in workshops, labs, and possibly in-company training.

The session reinforced the necessity to uplift TVET as it is still non-attractive to students in the countries represented. It is thus an imperative to seek solutions to foster more qualified TVET Educators for the benefit of students.

## GOOD PRACTICES AND EMERGING CHALLENGES FOR TVET EDUCATORS' DEVELOPMENT: REGIONAL EXPERIENCES (COUNTRY PERSPECTIVE PRESENTATIONS) - TRACK B

*Session Chair: Mr. Jim Madder, President, Confederation College, Thunder Bay, Ontario, Canada*





## 1. PREPARING TVET EDUCATORS' FOR NEXT GENERATION OF INDIA

presented by **Dr. Vijay Kumar Agrawal**, Director, National Institute of Technical Teachers' Training and Research (NITTTR), Bhopal, India



Dr. Agrawal briefly discussed the key issues and challenges in India's TVET system which include teacher shortage, skills mismatch in demand and supply, need for more engineering colleges and the need for training TVET

teachers in pedagogy and content on emerging technology. To address these concerns some of the major policy initiatives in the country's TVET system were provided by the Government of India which include: National Skill Development Policy, National Vocational Education Qualification Framework (NVEQF) and Right to Education Act.

The speaker also emphasized on the changing requirement of multi-skilled workforce that has posed challenges in the rapidly globalizing world economically, changing social mores and ethics in a multicultural-multiracial environment amidst modern and emerging technologies with an onslaught of chip revolution. The Educational and Training Enterprise in India which operates at all conceivable levels from pre-school to post-doctoral is of a monumental size. For TVET, it includes formal vocational education imparted by schools, vocational training formally imparted by ITIs and informally by Community Polytechnics and Jan Shikshan Sansasthan (JSS), technical education imparted by polytechnics and engineering colleges. As can be seen from the enrollment capacity in TVET at various levels, the requirement of adequately trained teachers at various levels is huge.

Various schemes and educator preparations schemes had been established in India such as Pre-Service, In-Service Trainings and Continuing Professional Development; Crafts Instructors Training; Training of teachers of Polytechnics and engineering Colleges in pedagogy, content, management through short, medium and long term programs; Quality Improvement Program of AICTE; schemes like CPDA etc.

The presenter concluded that teachers/educators remain to be the backbone of producing skilled

workforce for any economy, thus, active efforts must be vigorously taken to prepare TVET educators for the next generation.

## 2. INNOVATIVE AUTHENTIC LEARNING PRACTICES FOR TECHNICAL EDUCATION

presented by **Ms. Theresa Thang Tze Yan**, Deputy Divisional Director, Institute of Technical Education, Singapore

The Speaker imparted and explained the "Authentic Learning and Environment" program, that the Institute of Technical Education (ITE) has embarked which adopts the "Hands-on, Minds-on, Hearts-on" philosophy. The authentic learning framework aims to enable the "students to learn to be a professional in their trade through applying their knowledge and skills in an integrated manner in environments that are either real world or simulated" (Lombardi, 2007). To achieve this outcome, schools across ITE are encouraged to design their curriculum, learning activities and learning spaces to support technology enabled, project-based and team-based learning.



Two recent projects were undertaken by ITE namely: (1) IDEALab, and the (2) Mobile Device Technology Center. IDEALab or "Innovation & Design for Enterprise Applications" and "lab" was created by The School of Design & Media (SDM) at ITE College Central, to develop lecturer capability and student portfolio by immersing them in real-world projects. The rationale for IDEALab is to immerse students in the authentic workflow of industry practices, giving them an experiential understanding of the real workplaces and the opportunities to develop industry relevant portfolios. By working alongside their students, lecturers also have to deal with the complexities of real world problems such as deadlines and resource constraints. This process will develop in them technical competencies that will keep them updated with current industry practices and standard, as well as pedagogical competencies that will enhance their effectiveness in curriculum delivery.

The Mobile Device Technology Center, on the other hand, provides a World-ready Authentic

Assessment Methodology (WAM) framework that incorporates peer assessment and real customer feedback as part of the overall assessment of every student, replacing traditional assessment methods that are no longer suitable to equitably assess the competences of students. The WAM framework is applied to two specialization modules conducted within the Mobile Device Technology Centre (MDTC), namely, Mobile Devices Technology Module (MDT) and Mobile Devices Management Module (MDM). The MDTC, residing in the School of Electronics and Info-Comm Technology at ITE College East, was set up based on ITE's training specifications and incorporated the new authentic assessment metrics.

In the end, the Speaker concluded that authentic learning approaches are more holistic, enabling students to gain technical, methodological, social and personal competences. These competences will help ITE students to graduate successfully and be assured of employment and subsequent career upgrades through lifelong learning.

**3. REORIENTING TVET TOWARDS SUSTAINABLE DEVELOPMENT: THE ROLE OF TEACHER PROFESSIONALS AND THE UNEVOC NETWORK**  
*presented by Ms. Naing Yee Mar, Program Officer, UNESCO-UNEVOC, Germany*



Various strategic programs and approaches in strengthening TVET systems in the UNESCO Member States were shared by the presenter as UNESCO increasingly recognizes the vital role of TVET and skills development for the world of work, and recognizes the challenges in reaching the MDGs, Education for All (EFA) goals.

On reorienting TVET towards Sustainable Development she expounded on various activities the UNEVOC has undertaken in this regard, such as the International Consultation on ESD: TVET Teacher Education towards Sustainability held in Thailand and some UNEVOC publications on TVET Teacher Education.

She also highlighted that teacher education is among the priorities for action of UNESCO from 2012 to 2013. UNESCO states that: Without adequate numbers of professionally qualified

teachers, including female teachers, who are deployed in the right places, well-remunerated and motivated, adequately supported and proficient in local languages, we cannot offer the world's children quality education.

**4. TVET EDUCATION FOR GREEN SOCIETY AND ECONOMY: THE DEVELOPMENT OF TVET EDUCATORS IN AFRICA: GOOD PRACTICES AND EMERGING CHALLENGES**

*presented by Dr. Bonaventura Wanjaia Kerre, Full Professor, Moi University-Eldoret, Kenya*



Dr. Kerre described how the development of TVET in Africa came a long way from the dawn of independence to the early sixties until the present days. Today, Many African states have embraced TVET and despite the limitations confronted, they have structures in place to provide technical and vocational education in the school curriculum.

The most important aspects of TVET including: policy frameworks, financing, curriculum review, teacher education, links with industry and gender equity have to some extent been addressed in the country. While most TVET curricula in Africa are still traditional in content and in presentation, those in developed countries also face multifaceted challenges emanating from emerging technologies and the drive toward greening economies.

Unfortunately, for the most part of Africa, no meaningful attention has been given to the development and training of TVET teachers. National reviews of education and training reveal that almost 90% of vocational teachers and instructors working in the public vocational training system require continuous upgrading of training skills (Kerre, 1999). The lack of training of most TVET teachers in industrial experience was also noted.

Despite the many challenges encountered, the speaker pointed out that TVET has taken root through the establishments of legal frameworks and national strategies. Today, concerted efforts are once more focused on TVET teacher education and good practices are now evident in some countries which have established credible

TVET teacher education programmes for both lower and upper levels of learning and at tertiary and university levels.

## **5. GOOD PRACTICES AND EMERGING CHALLENGES FOR TVET EDUCATORS' DEVELOPMENT: EGYPT EXPERIENCE**

*presented by Prof. Khaled Mohamed Ahmed El-Saadany, Faculty of Agriculture, Alexandria University, Egypt*



In Egypt, the basic technical and vocational education and training (TVET) is provided through secondary education in technical and commercial schools while the post-secondary education is provided in training institutions. Recognizing the need to develop the country's industry and compete globally Egypt geared towards upgrading its vocational education and training through policy reforms in TVET.

The National TVET Reform Policy (Platform and Master Plan) was formulated to support the development of human and institutional capacities in the country. In line with this, Egypt established the Enterprise-TVET Partnership (ETP) to cater to three main sectors such as industry, construction and tourism. ETP includes improvement of the quality of local training providers and assist in establishing company training units.

The national government also currently deals with the improvement of the quality of TVET delivery in the country using participatory and de-centralised approaches to achieve success in piloting its reform activities. Still in line with the policy platform of the government of Egypt is the development of a national regulatory and support institutions for a decentralized and demand-driven TVET system.

To date the country has so far achieved major accomplishments through the said policy reform through establishment of various sectoral and local ETPs and sectoral training councils; producing Master Trainers and training 7,215 Trainers, Teachers and Tutors, detrainning packages and curriculum development with employers; and conduct of study visits to over 150 TVET

institutions in EU countries.

The Speaker also emphasized that Egypt also believes that TVET educators competence must be upgraded to be able to adapt to the changing environment of the next generation. Thus, he said that TVET-teacher training programs should be closely linked with the particular demands of local regional and national services, and the labor market and should also develop demand driven contents for its courses, programs, modules for the TVET programs.

## **6. SUMMARY OF TRACK B**

Track B described how each country represented struggled for their TVET systems to be in place and how they have faced such challenges for their TVET systems to fully benefit their industries and economies. All the speakers shared the various national policy reforms, strategies and approaches, programs and activities their governments had undertaken to address the quality delivery of the TVET systems including producing adequately-trained teachers for the next generation in response to the changing demands and needs of the labor market for multi skilled workforce. In the light of all these UNESCO-UNEVOC highlighted their programs and approaches in strengthening TVET systems in the UNESCO Member States and underscored teacher education as among the priorities for action of UNESCO from 2012 to 2013.



## Day 2 (December 13, 2011)

### PLENARY SESSION 2: USING ICT FOR TVET EDUCATORS DEVELOPMENT

*Session Chair: Ms. Noor Aidi Nadzri, Principal Assistant Director, Curriculum Development and Evaluation Division, Department of Polytechnic Education, Ministry of Higher Education - Malaysia*



#### Keynote Presentations

##### 1. EFFECTIVE USE OF DIGITAL INSTRUCTIONAL RESOURCES FOR TED: A SEAMEO VOCTECH EXPERIENCE

*presented by Awang Alias Haji Abu Bakar  
Director, SEAMEO VOCTECH, Brunei Darussalam*



This keynote presentation examined how the use of digital learning resources in harnessing competency of the 21st century teacher and learner to address the changing learning requirements of the changing society. Among

changing learning requirements mentioned by the speakers were emerging technologies for education delivery and content dissemination; and paradigm shift from classroom based teaching to learning anytime, anywhere.

In developing the 21st century learner, global trends imposes that future curriculum will be characterized by the enhanced communication skills, active learning, global learning experience and work integrated learning. Although online learning focuses on the interaction of the learner with the digital resources provided online and no face-to-face teaching is engaged, interaction between learner and the teacher however can be enabled asynchronously using self-learning resources prepared and hosted online such as video lectures and illustrated lectures .

Thus, utilizing digital resources' indicates major implications to teaching and learning which include paradigm shift from "teaching" to "facilitating learning"; learners will be provided with greater flexibility; wider use of hybrid-learning to enhance quality of learning; curriculum leaders and frontline classroom teachers need to change their approach to create student-centered, constructivist environments; and technology empowers students to be self-directed learners.

SEAMEO VOCTECH, in its efforts of supporting efficient use of online digital resources in learning has implemented a number of online solutions to its learner community. These include an interactive learning management system that is called EduNET which allows online access for course resources; and the conduct of yearly training programs for selected participants from SEAMEO and ASEAN countries. The institution also provides digital resources through the ITS (innovative Training Systems) Platform which provide rich online resources for reference such as online journals, digital publications, and EduNet and mobile learning resources.

With the digital learning resources the institution expanded their services by offering Distance Training Programme, Hybrid Training Programme, Mobile Training Programme and Home Study Training Programme.

##### 2. USING ICT FOR DEVELOPING NEXT GENERATION TVET EDUCATORS: CPSC EXPERIENCE

*presented by Prof. Dr. Rajesh P. Khambayat,  
Faculty Consultant, CPSC and Prof. TJ-Tesoro  
Gayondato, Manager, Projects and Consultancy  
Division, CPSC*



Dr. Khambayat underscored the current rapid advances in Information and Communication & Technology (ICT) that have created unique opportunities in the field of Technical and Vocational Education & Training (TVET)

and have profound effect on the way technical educators teach and how learners learn. Using ICT to create improved teaching and learning environment is of utmost importance to technical

teachers particularly in evolving a new learning culture. ICT-based teaching learning system plays a key role in this transformation process keeping in view pedagogy-technology integration in teaching and learning systems. However, the desired transformation requires committed action from all key TVET stakeholders. He further shared that the Colombo Plan Staff College for Technician Education (CPSC) believes that TVET educators are the central forces in utilizing and applying the learning opportunities created by ICT. TVET educators are pivotal in deciding how teaching and learning should take place in TVET system, in institutions as well as in the community. It follows that today's teachers need to be at the centre of educational change, using technology for teaching, learning and for development purposes. The paper presented the framework and context within which CPSC's developmental experiences were nurtured to promote ICT through its uniquely-developed web-based teaching learning system for more than ninety (90) courses and programs designed for TVET professionals. He also discussed the interaction of various areas in enhancing teaching learning in TVET and the specific challenges that come with mixed learning needs in the different contexts of development of countries which comprise the Asia-Pacific region. He also further discussed CPSC's developmental experiences in promoting ICT for shaping the current TVET system of Asia-Pacific region in view of the future learning paradigms in the knowledge era that is currently being entered. The speaker also highlighted the changing perspectives on the impact and role ICT in the context of TVET in the near future.

### **3. ENHANCING TEACHING AND TEACHER EDUCATION: A SCIENCE OF LEARNING APPROACH INCORPORATING ICT**

*prepared by Mr. Dennis Sale, Senior Education Advisor, Singapore Polytechnic*



Mr. Sale summarized a range of research and implementation experiences that centre on improving the quality of teacher education through the establishment of a sound pedagogic literacy, key professional teaching competencies and the

integrated use of information-communication technologies (ICT). He firstly identified the central role of quality teaching in student learning and attainment, and the importance of enhancing teacher's professional development if they are to meet the needs of diverse students in increasingly challenging work. Then, he addressed what he referred to as an 'Educational Jurassic Park'; a situation in which much of the practice of teaching has been governed more by paradigmatic considerations rather than empirically grounded research in human learning, leading to confusion as to what constitutes good pedagogy. The Speaker then outlined the components of a pedagogic framework, which may come to constitute a core 'pedagogic literacy' for teaching professionals as the basis for the design of learning experiences. Key professional competencies were further suggested as a core curriculum for teacher development. The role of ICT in teaching and learning was also appraised from the standpoint of 'good pedagogy', not technology per se. A blended learning design framework was then presented as a means for infusing the emerging 'science of learning' and the affordances of ICT to create effective and efficient learning experiences for students. Finally, the implications for teacher education and ongoing professional development were identified and aligned with the overall pedagogic framework.

### **4. SUMMARY OF PLENARY SESSION 2**

Plenary session 2 focused on the impact of ICT revolution in the teaching and learning systems and processes creating major implications in the education systems such as paradigm shifts, active learning, constructivism, change in approach and curriculum. However, the discussants also emphasized that technology must not replace a good pedagogy and that the focus of learning should be on the learning of that information rather than on the delivery of information.

## PANEL DISCUSSION 2: TVET EDUCATORS FOR GREEN ECONOMY

Session Chair: **Mr. Steve McKee**, President, Labtech International

### 1. GREEN PROGRAMMING OF GREEN CAMPUSES: A CANADIAN PERSPECTIVE

presented by **Dr. Jim Madder**, President, Confederation College Canada



Dr. Madder discussed a survey of the 150 members of the Association of Canadian Community Colleges (ACCC) which indicated that green programming is delivered at all Canadian colleges and institutes. This programming

ranges from stand-alone environmental and green energy programs to the infusion of green curriculum and values into a wide array of existing programs. Green campuses have been developed to support green programming, to reduce the environmental impact of campuses and act as exemplars, as well as to provide applied research platforms to further develop green technologies. Canadian colleges and institutes play a significant and growing role in the development and implementation of green technologies as well as the training of personnel necessary to support green technologies throughout Canada.

### 2. TEACHER/LECTURER EDUCATION FOR SUSTAINABLE DEVELOPMENT

presented by **Assoc. Prof. Dr. Wahid Razally**, Dean, FPTek UTHM



Dr. Razally imparted how the Sustainable Development (SD) program of Universiti Tun Hussein Onn Malaysia (UTHM) was officially noted and mapped into the big picture of the university development, in which the vision of the

university was realigned to have sustainable development objective into it and thus stating; The world Class university in Engineering, Science, and Technology for Sustainable Development. However, before the realignment of the vision, there have been activities and initiatives on SD at

every level of the University. As early as the year 2000, UTHM communities have been delving into the issues of SD in its curriculum, but in an individual courses and capacity. The initiative on SD was a wide campus issue itself as the location of the University is neighboring the Parit Raja Industrial Estate, which occasionally becoming a cause of concern on the quality of air and water to the University.

The Speaker further shared that in addressing the Education for Sustainable Development (ESD) issues in the campus, the University established Sustainable Campus Unit (SCU) in 2010 to become the lead office in the over-all issues on ESD. Being a cross discipline office, but led by the Faculty of Civil and Environmental Engineering, the unit has been actively involved in the campus wide campaign for greener campus and technology. The function of Sustainable Campus Unit is to initiate, support, coordinate, and evaluate campus operational and academic issues related to sustainability and to work closely with the faculties and students on the issues of SD.

In this paper, the issues of ESD implementation at two levels; campus-wide and particularly at faculty level is elaborated and mapped against the generic framework of ESD Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability, of United Nations Decade of Education for Sustainable Development (2005-2014). The comparative analysis demonstrates that while the issue on ESD is widely accepted as pertinently important to teachers' education, there are still a lot of initiatives to be done with respect to the section

Dr. Razally concluded that supported by the desire of the wide-campus initiative and the faculty's further initiatives in ESD, the TVET teachers' education at UTHM will be able to move on in the right direction with respect to ESD.

### 3. KOREA TVET EDUCATORS FOR GREEN ECONOMY

presented by **Dr. Heon Bae Jeong**, Professor, Chung Ang University, Korea

Dr. Jong's paper focused on how Korea is gearing up for the Green Economy. He discussed that among Korea's core strategies for Green growth and developing infrastructure that will support Green manpower is the creation of





a major human resources development program. Within this program, Green manpower and Green jobs are regarded not just as industrial employees, but as workers in the Green industry who work to improve the environment and waste reduction.

In view of this, the government, society, industry, and the academia work together in fostering green TVET educators' system in the country. However, the Speaker pointed out several concerns and challenges Korea is currently experiencing due to the changing demands of the industry. The presenter cited the following weaknesses in pursuing green TVET educators' system: weaknesses in the green Research and Development (R&D) Program and Planning; lack of a database on green technology and industrial manpower; and a weak system to foster green manpower.

To address these concerns Korea came up with the 2nd Comprehensive Plan for fostering green industry manpower programs which incorporates strategies that are more globalized in content and which are more focused on TVET-oriented industrial fields. Furthermore, Korea operates the "Green Policy & Education study groups" and "Green Education Centers" throughout its provinces. The country also runs special green education programs for primary and secondary teachers, and the country develops their teaching materials. Moreover, Korea is supporting more than 900 NGOs that are conducting green education.

Korea has been trying to strengthen and to promote green technology strategically and systematically at the national level. The intensive fostering of Green TVET educators is a key issue with regards to accomplishing these goals.

**4. TVET EDUCATION FOR GREEN SOCIETY AND ECONOMY: INTERNATIONAL PERSPECTIVES ON REORIENTING CURRICULUM FOR A SUSTAINABLE FUTURE**

*presented by Prof. Dr. Bonaventura Wanjaia Kerre, Full Professor, Moi University, Kenya*

Prof. Dr. Kerre stressed the need to reform TVET systems and institute regular curricula review



processes in order to keep abreast with the changing demands of the workplace and remain competitive in the global village. However, he pointed out that the challenges of advanced scientific and technological development have the tendency to usher in new occupations and jobs which have knowledge, skills and methodologies that constitute a moving target that we must aim at in the education and training programmes.

He said that TVET Teacher education curriculum, henceforth, must reflect the teachers' role in education and training which prepare learners for further education and training at tertiary level, and also prepare learners/trainees for the world of work.

The next generation of TVET teachers have greater responsibilities to prepare and produce a workforce that will not only have knowledge and skills for specific occupations but widely adaptable for vertical and horizontal movements in related occupations through lifelong learning and training. Furthermore, it is important that new knowledge and skills be explored for greening society and economy to ensure a more sustainable future for humanity. This is a millennium challenge for TVET teachers and professionals.

**5. SUMMARY OF PANEL DISCUSSION 2**



The session focused on initiatives, innovations, programs, strategies and practices on TVET Teacher education integrating education for sustainable development in the education systems. The speakers also imparted on the reorientation of their countries perspectives, policies, programs, and activities towards the Green Economy. However, all the presenters pointed out that it is still a long way to go to reach

their objectives, a stronger, more focused system and programs must be established to achieve the ideals and full benefits of ESD and Green Economy.

### **PANEL DISCUSSION 3: RESEARCH AND NEW INITIATIVES IN TVET EDUCATORS' DEVELOPMENT**

presented by **Dr. Norman Lucas**  
Head, Lifelong and Comparative Education  
Department, Institute of Education  
University of London, England

#### **1. NEW INITIATIVES FOR QUALITY ASSURANCE IN TVET EDUCATORS' DEVELOPMENT**

presented by **Atty. Teodoro Pascua**, Deputy-Director General, Field Operations, TESDA, Philippines



The Speaker discussed the great challenges posed by the rapid changes and realities of the 21st century for educators as facilitators of learning. In order to keep abreast with the challenges posed by the changing national development agenda, industry requirements for work force and the rapid emergence of new technologies, educators' continuous development initiatives are imperative.

He shared that the Technical Education for Skills Development Authority of the Philippines, in acknowledging the significance of assuring quality assurance in TVET educators' development, and in pursuit of continuous development, initiated the reformed National TVET Trainers Certification. At present, continuous trainings are conducted among the TVET trainers/instructors in the different regions throughout the country to ensure implementation of this new policy.

#### **2. NEW INITIATIVES FOR QUALITY ASSURANCE IN TVET EDUCATORS' DEVELOPMENT - POLYTECHNIC INITIATIVES**

presented by **Ms. Noor Aidi Binti Nadzri**,  
Principal Assistant Director, Curriculum  
Development and Evaluation Division,  
Department of Polytechnic Education, Ministry  
of Higher Education - Malaysia



The paper Presenter discussed the four major thrusts of the Polytechnic Transformational Plan in order to achieve targeted outcome which include: preference of enrollees for polytechnics as the preferred institution; for graduates to have high employability and enterprising skills and positive perception amongst public towards polytechnic education. These thrusts are: 1) Enhancing polytechnics towards becoming the students' choice and preferred institution that is at par with universities; 2) Development of programs and research in niche areas representing the different strengths of each polytechnic; 3) Equipping polytechnic teaching personnel and support staff with high skills and competency; and 4) Development of an excellent work culture and image. In equipping polytechnic teaching personnel and support staff, various initiatives have been undertaken in elevating academic qualifications of lecturers, improving their skills and competency, their professionalism and capturing best talents from the industry.

The Speaker also highlighted the Polytechnic educators' development under the 10th Malaysian Plan which include: Career Path Competency Matrix (CPCM), Skills Development Programmes; Lecturers Industrial Attachments; English Enhancement Programmes; Internationalization Programmes; Androgogy Instructional Leadership Programmes and Teaching Methods; Associate Coach Programme; Professional Industry Certification; and Multi Skilling Programmes which are geared to enhance generic, technical, industrial and English proficiency skills of educators an gain industrial certification.

She proposed in the end that in addressing the challenges in educators' development: trainings must be prescribing to sets of criteria and standards towards quality assurance of educators development; exhaustive training needs analysis must be carried out to identify the adequate trainings required; trainings must be properly planned, structured and executed; impact and effectiveness of the trainings must be continuously evaluated so that desired outcomes of the trainings are achieved.

### 3. RESEARCH IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) EDUCATORS' EDUCATION AND DEVELOPMENT

presented by **Dr. Abdul Rahim Amad**, Director, Research and Development, DPE-MOHE, Malaysia



Dr. Amad pointed out in his presentation that the major challenges for TVET educators and professionals is understanding and keeping up with the changes and reforms affecting their profession, as well as working

in new and more flexible ways and continued commitment to adapt to the dynamics of the teaching profession. He said that endeavors and initiatives to improve teaching and learning practices are at the center of any high-quality TVET system, thus, this will require TVET educators to test new approaches in an environment of active experimentation through Action Research. His presentation also identified common themes and issues for education and development of TVET educators focusing on the aspects of TVET modernization that have impacts on the TVET educators. The Speaker presented the potential contributions of Action Research approach in the development of TVET educators. He concluded that TVET educators must be partners and key actors in change and transformation; and also as change agents or innovators at ground level in the context of action research. Thus, Action Research seems to be particularly adapted and should be used as a tool to empower TVET educators in their endeavors and initiatives for professional self-development and local innovation.

### 4. VOCATIONAL TRAINING TEACHER SYSTEM AND EDUCATIONAL CASE IN KOREA

presented by **Prof. Dr. Su Won Kim**, Associate Research Fellow, KRIVET, Korea



The paper gave a brief background on vocational competency development training teachers in Korea, who designs educational contents, for classes on technology and theory for vocational competency

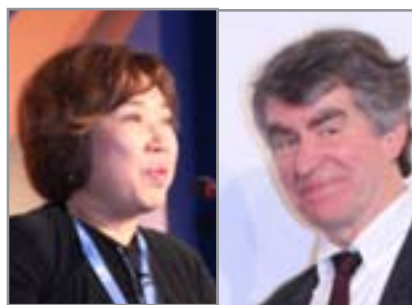
development training jobs, performs training implementation based on the training standards, and on the training accomplishments, evaluation as well as job counseling and career guidance in a vocational training institute, vocational competency development training facility and business.

The following are some of the qualifications and standards of the vocational competency development training teacher: qualification job class of vocational competency development training teacher is of 101 jobs in 23 fields, and one job is classified into 3 grades; basically, engineer or technician with teaching profession competency, and a certain period of educational training or hands-on-background; although the training teacher has to basically complete a course of study determined by Ministry of Labor with respect to the teaching profession competency, a certificate for secondary school teacher or more is permitted for fields of service in related offices.

He also shared how the government of Korea established vocational training teacher education training course to educate the vocational competency development training teacher which include: an educational training course, a teaching profession training course and an improvement training course based on enforced regulation of the Laborer Vocational Competency Development Act.

### 5. ACTION RESEARCH IN VET TEACHERS' EDUCATION AND TRAINING AND COMPARATIVE STUDY ON TVET TEACHERS' TRAINING IN ASIA - RESULTS OF JOINT RESEARCH PROJECT

presented by **Dr. Sirilak Hanvatananukul**, Lecturer, Faculty, RMUTT, Thailand, **Prof. Dr. Peter Dehnbostel**, Professor, Friedrich Alexander University Erlangen Nurnberg, Carl von Ossietzky University Oldenburg, Germany, University of Basel, Switzerland and University of Klagenfurt, Austria



Prof. Dr. Dohnbostel presented the paper during the conference and shared about the importance



of standardization for improving the quality of vocational teacher education. He described the National Qualifications Frameworks (NQFs) and its implication on the vocational teacher education which is covered by the European Qualifications Framework (EQF). The speaker also highlighted the interest of institutional members of Regional Cooperation Platform (RCP) on educational frameworks and related standards affecting the quality of vocational teacher education. He discussed lengthily on the RCP Joint Research on the “Comparative issues on TVET teacher education and training in China, Germany, Thailand and Vietnam” undertaken in the year 2010.

The Research came up with proposals such as: to reform TVET teacher training through Quality Assurance system and national planning of resources to avoid mismatch between demand and supply; to build and promulgate professional competency standards of vocational teachers through policies, regulations and strategic projects; to improve selection process in finding qualified TVET teachers, to establish teaching license system through certification and assessment for other professionals aspiring to be TVET teacher; to set framework of TVET teachers’ qualification through national or regional competency-based standards in order to recognize prior learning and transfer credits among providers; to encourage training not only in TVET teacher education institutions but also in companies; to regulate TVET teacher students and obtain some kind of technical certificates or vocational qualifications before graduation, such as dual-degree program; and to formulate and promulgate professional competency standards of vocational teachers as core-standard of professional development.

### 6. SUMMARY OF PANEL DISCUSSION 3

The session delved on new initiatives, institutional thrusts and research projects, undertaken to improve TVET educators’ development. The Speakers shared various proposals on transforming TVET teacher training through quality assurance systems and enhancing policies and regulations to improve professional competency standards of vocational teachers.

## GOOD PRACTICES AND EMERGING CHALLENGES FOR TVET EDUCATORS’ DEVELOPMENT: REGIONAL EXPERIENCES (COUNTRY PERSPECTIVE PRESENTATIONS) - TRACK C

*Session Chair: Prof. Vijay K. Agrawal, Ph.D., Director, National Institute of Technical Teachers’ Training and Research, Bhopal, India*

**1. PREPARING TVET TEACHERS FOR THE NEXT GENERATION: RESPONDING TO THE CHALLENGES, UNEVOC CENTER PHILIPPINES INITIATIVES**  
*presented by Prof. Dr. Renato M. Sorolla, Head, UNEVOC Center in Western Visayas, Philippines/ College Professor, Western Visayas College of Science and Technology*



Dr. Sorolla focused his presentation on how the Western Visayas College of Science and Technology, a UNEVOC Center in Western Visayas Philippines, responds to the issues and challenges of preparing TVET teachers for the next generation.

The efforts are centered in in-service training of teachers, curriculum development, researches, and recently transforming the college into green institution to improve the over-all efficiency of the institution. These initiatives are anchored on enhancing the role of teachers especially on meeting the challenges, responsibilities and accountability of the teachers for the future generation.

To begin his presentation, he explained the tri-focalized education system in the Philippines, with agencies such as the Department of Education, Technical Education and Skills Development Authority, and Commission on Higher Education interlinked and interdependent in their functions to assure effective implementation of education program. He then explained the Philippine TVET Qualification Framework, Major Issues and Challenges in Teaching TVET, and WVCST’s responses to the challenges of preparing TVET teachers for the next generation.

As the major challenges in TVET in the country are the need for quality TVET teachers and learners, WVCST initiated innovative solutions to address

the same such as offering of vertically articulated curricula in industrial technology, Project Intel, eSkwela Project which include development of Alternative Learning System and Livelihood Project and converting instructional materials into interactive module, the I-Schools Project, Linkages with associations such as the Philippine Association of Colleges and Universities of Industrial Technology, and establishment of Patent Libraries to strengthen local institutional capacity to access patent information and make use of the patent system.

## 2. STATUS OF TVET INSTRUCTORS AND THEIR PREPARATION FOR TVET REFORMS IN BHUTAN

presented by **Hon. Dasho Pema Wangda**,  
*Permanent Secretary, Ministry of Labour and Human Resources, Bhutan*



Bhutan is a small country with very less population and still currently facing challenges in terms of economic progress. However, although the country strives for material development and change, it considers the happiness (Gross National Happiness)

of the members of the society as the main objective and ensures that pursuit for economic development must lead to happiness. Realizing the important role of Technical and Vocational Education & Training (TVET) to address labor and employment issues in the country, the government is vigorously undertaking policy measures and development plans focusing on TVET including TVET education interventions to address shortage of skilled workers in the country, and thus, create an impact in the economic needs of the country.

To start his presentation, the representative from the Kingdom of Bhutan, Hon. Dasho Pema Wangda provided a brief background about his country and TVET as a whole. Despite the advocacies, TVET remains the last choice both by instructors and students. Instructors have inadequate training and industrial experience. As such, the Bhutanese government started to adopt remedial measures to address these issues. The government introduced teaching allowance as financial incentive to attract and retain

instructors, initiated training of trainers program, started upgrading the qualification of instructors, started building ICT Learning Centers in Technical Institutes to develop ICT skills of instructors and trainees, and initiated revision of curricula to incorporate environment friendly methodologies.

## 3. TRAINING AND DEVELOPMENT OF TVET EDUCATORS: PROSPECTS AND CHALLENGES IN THE CONTEXT OF NEPAL

presented by **Dr. Bhawani Shankar Subedi**,  
*Executive Director, Training Institute for Technical Instruction (TITI), Nepal*



According to the presenter Dr. Subedi, the extent of quality delivery of programs and services depends upon the demonstrated ability and willingness of the trainers and training institution managers. Professional expertise does not just

happen, it has to be developed. Commitment of the trainers determines the extent of success in providing training and job placement of the program-graduates. It is because the efficiency and effectiveness of TVET programs is measured by the extent of employment or self-employment of the graduates, quality of Technical Vocational Education and Training (TVET) programs and services depends upon the access, equity, efficiency and relevance of such programs and services. Training is a means to an end. It is not an end in itself. Prospects and challenges of preparing adequately skilled and motivated TVET educators for the present and also for the future are immense and need attention. The purpose of skill-based TVET is to prepare individuals for livelihood with potentials of earning for their living by being engaged in specific occupation/s in the formal or informal sector of economy.

The presentation highlighted the efforts made and approaches followed by the Training Institute for Technical Instruction (TITI) Nepal with reference to training and development of TVET educators. It includes range of services, customer bases, program areas and contexts of institutional operation. In addition to Trainer Orientation Program Individualized (TOPI) and Induction of new trainers on Training Delivery Standards and

Instructional Assessment Form (IAF), a Trainer Development Model specifically designed for TITI has been a powerful tool for the training and development of TVET educators in Nepal. Another model that works well is the definition of customer base for TITI as an institution.

Although programs and services as they currently exist illustrate good practices, they are still inadequate. The emergence of TITI in 1991 and the innovative training practices during the past two decades have gained momentum but more is yet to be done in this direction.

#### 4. INSTITUTIONAL DEVELOPMENT OF VOCATIONAL TEACHER EDUCATION IN LAO PDR, CHALLENGES AND PERSPECTIVES

*presented by Dr. Rolf Gennrich, Lecturer and Consultant, Lao German Program on Human Resource Development for Market Economy Regional Cooperation Platform for Vocational Teacher Education and Training (co-authored with Prof. Dr. Boualin Soysouvanh, Dean of Faculty Engineering, National University of Laos)*



The paper by Dr. Gennrich was presented to support the enhancement of Lao PDR's Technical and Vocational Education and Training System in general which has significant linkages to successfully achieve the development goals of

the 7th and 8th SEDP by 2015 and to leave the LDC status of the country by 2020. Efficiency of Vocational Teacher Education is seen as a crucial element in this socio-economic development process until 2020 onwards. VTE development of policy, institutional and implementation level will play a major role in providing the next generations of teaching and managing personnel for the TVET system in Lao PDR. His presentation supports and promotes existing potentials and institutions and streamlines ongoing and future activities and projects of VTE in Lao PDR. Some important reflections about major demands as well as institutional backgrounds and reform requirements of VTE development in Lao PDR were likewise presented.

#### 5. USE OF ICT FOR PROFESSIONAL DEVELOPMENT OF EDUCATORS OF TVET

*presented by Dr. Sunil Dutt, Associate Professor, National Institute of Technical Teachers' Training and Research, Chandigarh, India (co-authored with Dr. Krishna Mohan Rastogi, Director and Dr. Rakesh K. Wats, Associate Professor)*



Dr. Dutt described the potential of ICTs as well as the issues and barriers to their implementation in TVET based on review of literature. Many success stories of ICT from across the world are available. He mentioned that two of the

most used technologies in instruction are video and computer assisted instruction and their use in teaching – learning and training is increasingly being seen in India. The paper also sought to answer the question: Which instructional method (i.e., CAI, Video and Lecture) will produce the greatest amount of immediate recall.

According to him, teachers should make best use of technology in education and to provide access to a large number of eligible groups without compromising quality. Since technology has brought in revolutionary changes world over in every walk of life and has an important role to play in social transformation by disseminating knowledge to the society, ICT enabled education should focus on all disciplines. Technology can act as a powerful vehicle for achieving excellence in education through better administration and management. However, it certainly cannot be thought of as the replacement of teacher.

In conclusion, Dr. Dutt mentioned that a forum may be formed to look at the possibility of using Information and Communication Technologies (ICT) as a tool in the TVET system. ICT can play a vital role to reform the education and training process by way of professional development of educators of TVET. If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and skills that will empower educators for facilitating lifelong learning among students. A pilot project may be taken up for this purpose and then, based on its success, scaled up at all levels.



## 6. SUMMARY OF TRACK C

To summarize the session, the first presenter Dr. Sorolla explained the innovative solutions of his institution to develop TVET educators such as offering of vertically articulated curricula in industrial technology, Project Intel, and eSkwela Project. The representative from Bhutan, Hon. Sec. Pema Wangda shared the government's remedial measures to overcome the challenges being faced by TVET in Bhutan. The presentation of Mr. Subedi of Nepal highlighted the efforts made and approaches followed by the Training Institute of Technical Instruction (TITI) Nepal with reference to training and development of TVET educators which includes range of services, customer bases, program areas and contexts of institutional operation. The presentation of Dr. Gennrich supports and promotes existing potentials and institutions and streamlines ongoing and future activities and projects of VTE in Lao PDR. Some important reflections about major demands as well as institutional backgrounds and reform requirements of VTE development in Lao PDR were likewise presented. Lastly, Dr. Dutt of NITTTR, Chandigarh, India stressed that ICT can play a vital role to reform the education and training process by way of professional development of educators of TVET. If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and skills that will empower educators for facilitating lifelong learning among students.

As TVET is still unattractive to majority of students in the countries represented, the session reinforced the necessity to elevate the quality of TVET education and in the process, the level of training of TVET educators.

## GOOD PRACTICES AND EMERGING CHALLENGES FOR TVET EDUCATORS' DEVELOPMENT: REGIONAL EXPERIENCES (COUNTRY PERSPECTIVE PRESENTATIONS) - TRACK D

*Session Chair: Dr. H. Chithral Ambawatte, Director General, Department of Technical Education & Training [DTET], Ministry of Youth Affairs, Sri Lanka*

### 1. EMERGING CHALLENGES FOR DEVELOPING TVET EDUCATORS IN INDIA

*presented by Dr. Rakesh K. Wats, Associate Professor, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, India (co-authored with Dr. Krishna Mohan Rastogi, Director and Dr. Sunil Dutt, Associate Professor, NITTTR)*



Dr. Wats presented some important challenges for developing competent and highly skilled manpower in India with a special emphasis on development of TVET educators. He provided a background of the National Skill Development Policy

which had been formulated and approved by the Government in the year 2009. He also presented some issues which this policy addresses which are the formulation of National Qualification Framework, expansion of outreach, equity and access, quality and relevance, skill development for the unorganized sector, benchmarking of skill deficit, setting up of Sector Skill Councils etc.

The Skills and Training requirements for TVET Educators in India (Principal/Director, Head of Department, and Lecturer) was presented. Likewise, the essential skills and competencies upgrading mechanisms were provided such as pre – service and continuing teacher education through formal and open learning systems, more broad-based and flexible teacher – training curriculum replacing skills – specific training programs, integration of training and education in cooperation with industries and private sectors, life-long and flexible learning to enable the teachers to meet the higher and varying demands of the teaching job, knowledge and skills of using

new technologies of training and education (ICT applications), development of multi-lingual and communication skills; and increased emphasis on development of work ethics, teamwork, human values and other non-technical competencies like leadership, time management, environmental awareness, among others.

The presenter provided three (3) important means to provide quality training for TVET educators which are: Distance and Open Learning, Modularized Open Learning and ICT Applications, and Industry – Institute Partnership. In conclusion, he stressed that efforts need to be restructured, curricula and procedures redesigned and processes rescheduled to provide flexible entries and exits to the students/trainers/educators.

## 2. THE MALDIVES PERSPECTIVES ON PREPARING TVET EDUCATORS FOR NEXT GENERATION

*presented by Mrs. Mariyam Nordeen, Executive Director, Technical and Vocational Education and Training Authority, Ministry of Education, Republic of Maldives*



In her presentation, Mrs. Nordeen shared current strategies of the Maldives in preparing TVET Educators in the context of future needs of the country based on social and economic priorities. In particular, the paper highlighted current thematic or teaching priorities, best practices, instructional innovations, teacher education and training systems and interventions in developing content in harnessing the capabilities of educators of TVET in the Maldives. Educational policy measures in place and supporting role in TVET Educator's Development are as follows: Enactment of Employment Sector Councils, Introduction of Occupational Standard for Skills Training, Independent Assessment Process, Introduction of National Certificates (Trade Certificates), and Introduction of trade testing system. Development interventions in educating and training TVET educators were also presented.

In conclusion, Mrs. Nordeen emphasized that demand - driven education and training brought with the implementation of the new TVET system

brings new concepts and strategies that are not only new for educators but for enterprise and learners as well. The shift of focus from what students should learn (curriculum) to what graduates must be able to do and at what level (competency standards), is not easily accepted as it contradicts the experience of wider academic community including those engaged with the long time vocational education and training in the Maldives.

## 3. PREPARING TVET EDUCATORS FOR NEXT GENERATION COUNTRY PERSPECTIVE - FIJI

*presented by Mr. Tomasi Naborisi, Senior Education Officer (Vocational) TVET Section, Ministry of Education, Fiji*



Mr. Naborisi provided a brief background about his country Fiji, TVET in Fiji, challenges being faced by TVET in Fiji at present, TVET teacher training institutions in Fiji, TVET teacher training opportunities and providers, best practices in TVET in Fiji, and future directions.

According to Mr. Naborisi, technical and vocational education and training (TVET) has emerged as one of the most effective human resource development strategies that Fiji needs to embrace in order to train their technical workforce for rapid industrialization and national development. Three major areas in which the TVET section of the Ministry of Education is focussing on are: upgrading of equipment and infrastructure, developing a relevant and industry driven curriculum and upgrading teacher qualifications so that we have competent teachers who deliver skills and knowledge effectively. In order for technical and vocational education to effectively support industrialisation, economic growth and poverty eradication, skills training must be of high quality and competency-based, incorporate the use of modern information and communication technologies, be relevant to the needs of industry, efficient, and adaptable to the changing technological work environment.

Best practices in TVET include 1) imparting entrepreneurial skills for vocational students with support from ILO: Training of Vocational

Teachers in Start Your Own Business processes (SYOB), Development of SYOB Teachers Guide and Students Workbook, and Printing of resources and delivered free to schools and 2) consultation meetings with Industry (Hospitality) and signing of MOU.

In conclusion, Mr.Naborisi mentioned that the challenge before us now is how to ensure that our most important resource for economic development – our people, become better instrument for sustainable development rather than liabilities to our countries and territories.

#### **4. THAI VOCATIONAL TEACHERS IN THE SECOND DECADE OF EDUCATIONAL REFORM**

*presented by Dr. Kanchana Pasurapan, Director, Lampang Vocational College, Office of the Vocational Education Commission, Kingdom of Thailand*



Dr. Pasurapan presented some key issues and challenges during the first decade of education reform in Thailand (1999 – 2008). These include less quality of learners and small schools, lack of skilled teachers, less flexible in education

management for operation units, non-readiness in local education management, among other challenges. She then presented the Cabinet Concession to the Proposal of Education Reform in the second decade (2009 – 2018) initiated by the Office of Vocational Education Commission, Ministry of Education – the Vision, Goals, and approaches of education reformation. It is interesting to note that the vocational approach and the rest of national education approach of education reformation are quite similar. According to Dr. Pasurapan, in order to develop vocational teachers, it is important to promote their continued education, develop teaching skills, develop living skills, develop researching skill, and develop technological skills.

To conclude, she stressed that the present is the time for teaching and learning system to change. Teachers must have the skills consisting of diagnostic skill, rapport with students, project based learning, persuasion skill, as well as proper working attitude such as critical thinking, creative

thinking, team work, multicultural understanding, and ICT abilities.

#### **5. GOOD PRACTICES AND EMERGING CHALLENGES FOR TVET EDUCATORS' DEVELOPMENT IN MYANMAR**

*presented by Dr. Aye Myint, Rector, Technological University (Mandalay), Department of Technical and Vocational Education, Ministry of Science and Technology, Union of Myanmar*



To start his presentation, Dr. Aye Myint, presented the TVET situation in Myanmar. The best practices and major challenges of TVET in Myanmar were also presented by the speaker. According to him, Myanmar is facing the same problem as other developing countries in the world. Since 1989, the government of Myanmar formulates long term and short term plans to achieve the gains from Human Resource Development of Technical and Vocational Education.

He presented best practices which include cultivating higher competitive engineer and skilled manpower for public and private economic sector and offering advanced science and technical subjects in native language. Some of the challenges include difficulty in sending people to remote areas for teaching and delivering laboratory equipment, the occupation concept is very complicated with long time tradition, and the country could not legitimate dual style structure.

#### **6. SUMMARY OF TRACK D**

To summarize the session, the representative from NITTTR India, Dr. Wats shared three (3) important mechanisms to provide quality training for TVET educators which are Distance and Open Learning, Modularized Open Learning and ICT Applications, and Industry – Institute Partnership. Mrs. Nordeen representing Maldives talked about educational policy measures in place and supporting role in TVET Educators' Development such as Enactment of Employment Sector Councils, Introduction of Occupational



Standard for Skills Training, Independent Assessment Process, Introduction of National Certificates (Trade Certificates), and Introduction of trade testing system. The representative from Fiji Mr. Naborisi shared best practices in TVET in Fiji including imparting entrepreneurial skills to vocational students through “Start Your Own Business” (SYOB). The Cabinet Concession to the Proposal of Education Reform in the second decade (2009 – 2018) initiated by the Office of Vocational Education Commission, Ministry of Education, Kingdom of Thailand was shared by Dr. Pasurapan. She further mentioned that in order to develop vocational teachers, it is important to promote their continued education, develop teaching skills, develop living skills, develop researching skill, and develop technological skills. Lastly, Dr. Myint from Myanmar presented best practices which include cultivating higher competitive engineer and skilled manpower for public and private economic sector and offering advanced science and technical subjects in native language.

The session also concluded that there are various challenges being faced by TVET at present and one such solution to overcome these is through cooperation and collaboration with regional and international organizations for TVET such as UNESCO UNEVOC, CPSC, and GIZ.

## LAUNCHING OF THE HQF BOOK



*Dr. Mohammad Naim Yaakub, CPSC Director General hands over CPSC's newest publication "Harnessing Qualifications Framework towards Quality Assurance" launched during the Conference, to Mejj (K) Md. Nor Yusoff, Director General, DPE.*

Another highlight of the conference was the launching of its newest publication entitled “Harnessing Qualifications Framework towards Quality Assurance”. The book is a compilation of 32 papers presented during the International Conference on Harnessing Qualifications Framework towards Quality Assurance in TVET. The book highlighted thematic areas discussed during the conference namely qualifications framework and quality assurance in the global and

regional contexts, innovative practices of NQF in TVET, skills standards and quality initiatives and many others.

## CPSC's 39th ANNIVERSARY AND MVP AWARDS



*Slicing of the 38th Anniversary Cake of CPSC with Conference Joint Organizers and MVP Awardees, which symbolizes "living in prosperity together"*

The Conference was also held in commemoration of CPSC's anniversary as it marks 38 fruitful years of delivering quality programs and services for the benefit of the region and as it expands its horizons in reaching out not only to other parts of the region but also to the world by holding such kind of conferences. In line with CPSC's anniversary, the College heralded institutional partners who have continuously worked with CPSC in strengthening TVET through collaboration and participation in the conduct of various CPSC programs and projects through the maiden awarding of the Most Valuable Partner Award (MVP Award). UNESCO-UNEVOC, GIZ Germany, Technical Education for Skills Development Authority (TESDA), Philippines, Ministry of External Affairs, Government of India, Ministry of Higher Education, Malaysia and Toyota Motor Philippines Foundation comprised the first batch of recipients of the CPSC MVP Awards. The award highlighted the significance of partner institutions and the promotion of public-private partnership for the advancement of HRD in the Asia Pacific Region. CPSC believes that this step will improve understanding and agreements with member/potential member countries and for continued strengthening of partnership and networking with various organizations.



A cultural dance celebration with audience participation during CPSC's 38th Anniversary Dinner

## CONFERENCE EVALUATION

The organizers of the International Conference on Preparing TVET Educators for the Next Generation (EDUCON 2011) are pleased to announce the very satisfactory evaluation results attained by the Conference. About 200 participants from 25 countries contributed to successfully achieving the goals of the international conference.

A post-conference evaluation had been undertaken which obtained responses from fifty one (51) participants. Based from the evaluation, the international conference generated a very satisfactory score of 89.3% as average of different parameters seen in the table below.

**Table 1: Evaluation of different parameters**

Parameters	Participants' Rating
Location and Venue	93%
Food and refreshments	90.6%
Efficiency of on-site organizing staff members	91.8%
Information value of the conference	89.8%
Quality of Resource Speakers	87%
Quality of Papers Presented	84.7%
Efficiency of conference organization	87.8%
Conference as venue of inter-organization networking	89.4%
<b>AVERAGE</b>	<b>89.3%</b>

It can be concluded, based from the scores computed from the answers in the questionnaire, that the Conference fulfilled its objectives and attained a very satisfactory rating from its customers in all respect. It has met the expectations of 52% of the respondents and exceeded the expectations of 35.5% of the respondents.

**Table 2: Responses to the level of meeting expectations**

The conference has exceeded my expectations	17/48 respondents = 35.5%
The conference has met my expectations	25/48 respondents = 52%
The conference has somewhat met my expectations	6/48 respondents = 12.5%
The conference has not met my expectations	0

On the qualitative side, very good impressions and wishes have been extended by the delegates on the Conference's professional handling, management and organization. Like in any other programs, the organizers, with the help of the conference participants, have identified some areas for improvement to scale up the quality benchmarks for future activities.

Major suggestions for improvement highly welcomed by the Organizers are as follows:

1. Consider reducing the number of speakers per session to allow more time for meaningful discussions as planning on further directions of VTE development (agreements and declarations);
2. Provide complete compilation of papers and PowerPoint presentations;
3. Increase participation in exhibition;
4. Increase the variety of food to include requirements of vegetarian delegates;
5. Improve the overall operational strategies of such events.



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