

## **REPORT ON the Training on NFTC Forum on Engineering Personnel Registration**

The 2-Day Training on Outcome-based Engineering Education was held on **September 24<sup>th</sup> and 25<sup>th</sup>, 2021** virtually on Zoom. The training was hosted by NPU-FEIAP “Belt and Road” Engineering Education Training Center (NFTC) and supported by CAST, China Association of Science and Technology. Speaker of this training is Academician Professor. Ir. Dr. Chuah Hean Teik, Chairman of FEIAP Standing Committee on Engineering Education. A total of 103 participants attended the training on the first day, and 94 on the second day, with participants from China, Malaysia, Singapore, Myanmar, Philippines, Pakistan, Nigeria, Cambodia, and Central Asian Region etc., attended the training.

### ***Objectives of the training:***

The objectives of the training are:

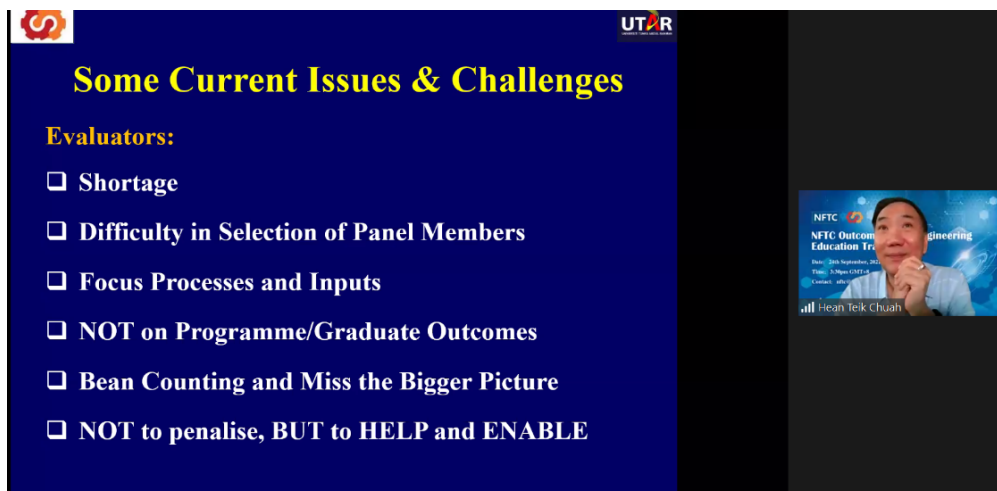
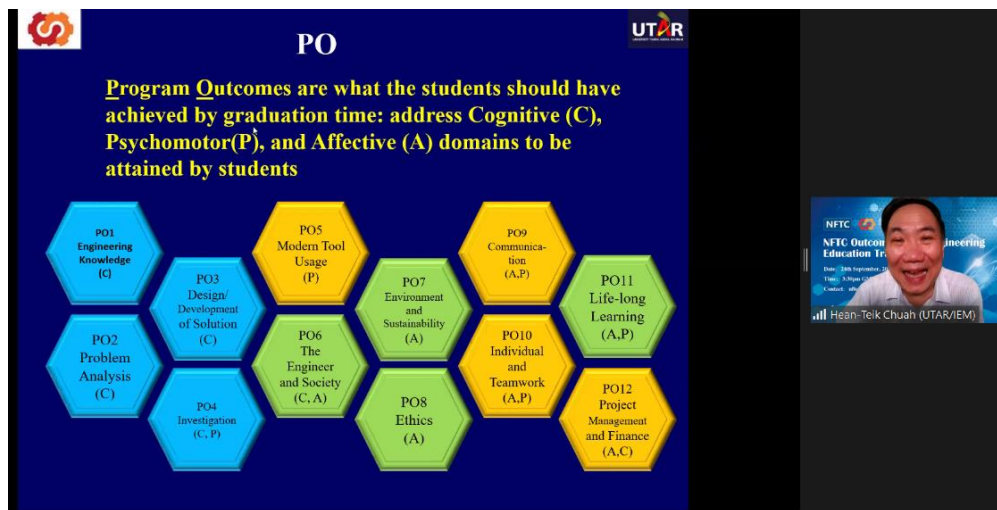
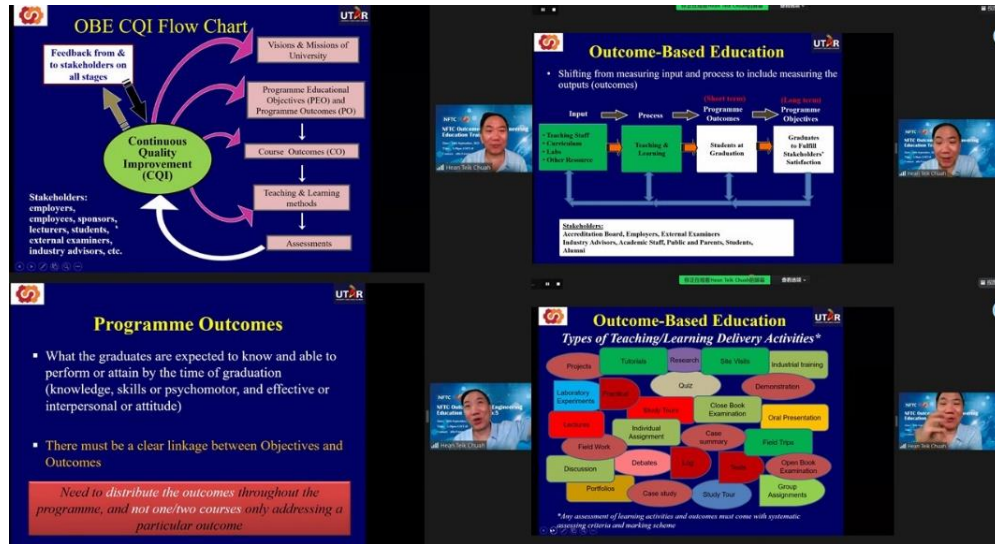
- 1) to explore attainments of engineering team graduate attributes via outcome-based engineering education;
- 2) to facilitate participants to have understanding of graduate attributes for engineering team; Outcome-based education (OBE); programme education objectives (PEO'S), programme outcomes (PO's), course outcomes (CO) and performance indicators; Bloom's learning taxonomy; Assessment and evaluation methods, and continual quality improvement process, the current issues and challenges that educators face were also mentioned;
- 3) to help participants understand constructive alignment for PEO/PO/CO in engineering education;
- 4) to have in-depth discussion with participants.

### ***Day I:***

In the first day, Professor Chuah Hean Teik explained the differences between Input-Based Education and Outcome-Based Education at the beginning, which is a frequently asked question by some participants. Prof. Chuah then introduced the roles of engineering personnel and the types of engineering problems via various examples. Prof. Chuah then illustrated some engineering activities and knowledge profiles for engineering technician education. Prof. Chuah also demonstrated graduate attributes and related information including engineering knowledge, problem analysis and so on. Later, Prof. Chuah introduced OBE, PEO'S, PO's, CO, and performance indicators, respectively. With many good examples, Prof. Chuah explained each aspect in detail. He then introduced assessment and evaluation methods and continual quality improvement. Some current issues educators are facing were discussed later. Prof. Chuah finally made some suggestions for review of engineering curriculum.

In the end, Prof. Chuah had a Q&A session where participants asked questions about Prof. Chuah's recommendation of the duration for a first-degree training of engineering in the university, the limit

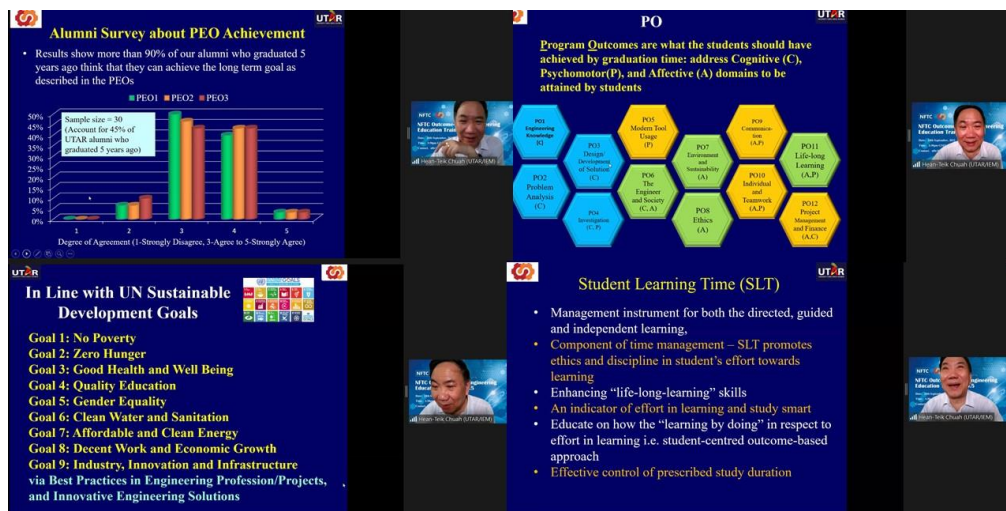
on the number of courses addressing complex engineering problems in undergraduate engineering program, etc. Prof. Chuah answered all questions and interacted with participants.

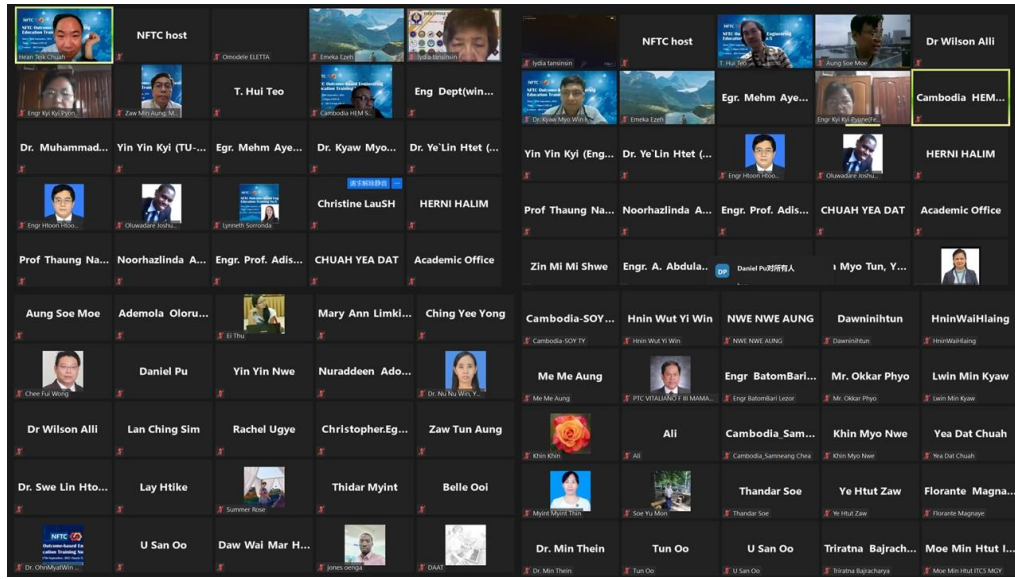


## Day II:

Prof. Chuah extended topics of the first day and answered a few questions from participants at the beginning. He then introduced constructive alignment for PEO/PO/CO in engineering education through a real example of Universiti Tunku Abdul Rahman. Prof. Chuah explained PEO, PO, and CO, respectively, with many examples and personal experiences in order to let participants had deeper understanding of today's topic. Prof. Chuah also mentioned complex engineering problems and solutions. Besides, he shared his experience with his master supervisor to encourage participants. In the end, Prof. Chuah stated that "education profession is the most rewarding profession" and expressed his love to education.

During the Q&A session, Prof. Chuah answered questions about how to measure the entrepreneurial skills of students, how to make the adoption of OBE policy, etc. Prof. Chuah also had discussion with participants. All participants expressed their gratitude and presented their interest to join in future trainings.





## Visions and Objectives

### NPU-FEIAP B&R Engineering Education Training Center (NFTC)

#### Visions

1. To have a unified and inclusive Engineering Education Standards which promotes mutual recognition of the Engineering Education Programs (Engineer, Engineering Technologist and Technician programs) among Economies in the B&R Initiative region and FEIAP member economies.
2. To facilitate and to promote mobility of the Engineers, Engineering Technologists and Technicians among the economies in B&R Initiative region and FEIAP member economies.
3. To provide continuous professional development to increase the number of competent Engineers, Engineering Technologists and Technicians who will help the economies to develop into developed nations
4. To promote understanding of civilization in B&R Initiative region and FEIAP member economies via cultivation of cultural intelligence in engineering education.
5. To promote students exchange programs among universities in the B&R Initiative region and FEIAP member economies.

#### Objectives

1. The NFTC is set up in NPU, Xian, China.
2. To conduct Engineering Education Accreditation Training (EEAT) based on established

FEIAP Engineering Education Guidelines, FIEAP Engineering Technologist and Technician Education Guidelines

3. The Engineering Education Accreditation Training (EEAT) will cover training of Assessors, Academics and Accreditation Agencies of the economies in the B&R Initiative region and FEIAP member economies.
4. To facilitate and promote of mutual recognition of Engineering Education Programs among the Universities in the B&R Initiative region and FEIAP member economies, which is keystone for the mobility of Engineering Personnel (e.g. Engineers, Engineering Technologists and Engineering Technicians).
5. To facilitate and promote students exchange program among the Universities in the B&R Initiative region and FEIAP member economies.
6. To facilitate and promote the mobility of engineering personnel (e.g. Engineer, Engineering Technologist and Technician) who has fulfilled the FEIAP Engineering Education Standards in the economies of the B&R Initiative region and FEIAP member economies.
7. To conduct Professional Development courses for Infrastructure Development and Maintenance for the Engineers, Engineering Technologists and Technicians.
8. To facilitate and promote the networking of the engineering personnel (e.g. Engineer, Engineering Technologist and Technician and Academics) to share knowledge, experiences, business opportunities and friendship for closer ties among the engineering fraternity in the economies of the B&R Initiative region and FEIAP member economies.
9. To improve and keep up to development of the world on the Engineering Education and Training to benefit the economies of the B&R Initiative region and FEIAP member economies.
10. To be a platform for exchange of academics and engineering students in B&R and FEIAP member economies.