Preparing Quality TVET Students for the Future

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TVET Transformation

Vocational Institutions: One of Key Success for Economy
Technological advances have driven dramatic increases in industrial productivity since the dawn of the Industrial Revolution.

Now, though, we are in the midst of a fourth wave of technological advancement: the rise of new digital industrial technology known as Industry 4.0.
Preparing The Students for Upcoming Technology Trend: Data Scientist
How long it will take for your job to be automated? - BBC

The world is widely considered to be on the cusp of a **fourth industrial revolution** – one where **machines will be able to do many of the jobs currently performed by humans**, and perhaps even do them better. It is a future that promises greater efficiency and cheaper services, but one that also could herald widespread job losses.

http://www.bbc.com/capital/story/20170619-how-long-will-it-take-for-your-job-to-be-automated
# Three Trends

## Transparenly Immersive Experiences
- Human Augmentation
- 4D Printing
- Brain-Computer Interface
- Human Augmentation
- Volumetric Displays
- Affective Computing
- Connected Home
- Nanotube Electronics
- Augmented Reality
- Virtual Reality
- Gesture Control Devices

## Perceptual Smart Machine Age
- Smart Dust
- Machine Learning
- Virtual Personal Assistants
- Cognitive Expert Advisors
- Smart Data Discoverer
- Smart Workspace
- Conversational User Interfaces
- Smart Robots
- Commercial UAVs (Drones)
- Autonomous Vehicles
- Natural-Language Q & A
- Personal Analytics
- Enterprise Taxonomy and Ontology Management
- Data Broker PaaS (dbrPaaS)
- Context Brokering

## Platform Revolution
- Neuromorphic Hardware
- Quantum Computing
- Blockchain
- IoT Platform
- Software-Defined Security
- Software-Defined Anything (SDx)
Ten-year-old coder of Indonesian descent amazes Apple CEO – The Jakarta Post (June 2017)

Yuma Soerianto, reportedly impressed Apple CEO Tim Cook during the Worldwide Developers Conference (WWDC) in San Jose, United States.

Among the several apps Yuma has created, Cook was particularly impressed with an app that he developed to help his parents shop for souvenirs on a trip.

Prior to this, Yuma also developed five apps that are currently available from the App Store, namely Let’s Stack, Hunger Button, Kid Calculator, Weather Duck and Pocket Poke.

https://twitter.com/peterwells/status/871463571355426817
Boy, 7, becomes world’s youngest computer programmer – Metro.co.uk (September 2016)

Muhammad Hamza Shahzad, whose been talented on computers since he was still in nappies, is a child prodigy for the 21st century.

Muhammad became the world’s youngest Microsoft Office Professional last year, aged six. Candidates need 700 points to get the coveted certificate, Muhammad scored 757. He had spent six months preparing for the exam.

Three other Microsoft exams have followed. In all, Hamza is now proficient in Software Development Fundamentals, MS Word, MS PowerPoint and MS Excel.

http://metro.co.uk/2016/09/09/boy-7-becomes-worlds-youngest-computer-programmer-6119766/
Why Data Science?

We are now have abundant amount of data, all we need to do is to extract the meaningful information from it.
To Become A Data Scientist

To Become A Data Scientist

Data Science is all about extracting knowledge from data, either structured or unstructured, and incorporates many diverse skills such as:

- mathematics,
- statistics,
- artificial intelligence,
- computer programming,
- visualisation,
- image analysis, and
- much more.

http://www.7wdata.be/
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SEA-TVET Plan 2016-2018
on Harmonisation and Internationalisation

2015 - 2016
- Strengthening cooperation among countries through High Officials Meeting and other policy forums
- Developing partnership and commitment among TVET institutions in the region through student and teacher development activities, exchanges, internship placement
- Developing SEA-TVET Consortium in SEA region and polytechnic network
- Capacity building for TVET leaders

2016-2018
- Harmonising curriculum, quality assurance and occupational mapping
- Capacity building for Leaders, administrators, teachers, students
- Improving innovation in TVET
- Improve involvement of industries and associations
- Expand SEA-TVET partnership with other regions such as Japan, China, Korea, Australia, Germany
A Total

26 Regional Events

40,499 Participants

15,066 Organisations
High Officials Meetings for TVET Policy Makers

1st HOM on SEA-TVET, 2015, Thailand

2nd HOM on SEA-TVET 2016, Indonesia

3rd HOM on SEA-TVET 2017 Malaysia

SEA-TVET Workshops for Directors/Teachers

SEA-TVET Activities for Students

1st Young SEA-TVET Symposium, 2016, Thailand

Future Farmers, 2017 Thailand
SEA TVET Agreements in Actions
During Oct 2015-May 2017 (From our record among Southeast Asian countries)

App. 270 participants joining “Management Visits” and “Benchmarking Programmes” between Thailand-Malaysia; Malaysia-Brunei; Indonesia-Vietnam; Myanmar+Cambodia – Thailand; Thailand-Lao PDR; Indonesia-Thailand; Indonesia-Cambodia

App. 180 Teacher Exchange/Cross Country Training between Indonesia-Vietnam; Indonesia –Thailand; Cambodia-Thailand; Myanmar-Indonesia; Indonesia-Cambodia; Vietnam-Thailand

App. 150 Student Visit/Exchange between Indonesia-Thailand; Thailand –Myanmar; Vietnam-Thailand; Lao PDR-Thailand
Tentative Activities of SEA-TVET from July 2017-July 2018

1. Preparation Workshop on SEAMEO-China TVET Cultural Twinning Programme, 30-31 July 2017, Guiyang, PR China (TODAY)

2. SEA-TVET Young Future Farmers Forum, 31 August-2 September 2017 in Chonburi, Thailand

3. Inter-Country Student Exchange with Industry, 2017, Thailand and Indonesia

4. Entrepreneurship For TVET: From Concept to Practices, October 2017 in Indonesia,

5. 4th High Officials Meeting on SEA-TVET, May 2018 in Philippines, hosted by TESDA

6. Southeast Asia-China Consortium in Hospitality and Tourism, Agriculture, Mechatronic, Engineering, ICT – Online Meetings

5. **SEA-TVET Scholarship** (Form to request info of scholarship will be distributed tomorrow)
Thank you

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