The New Face of TVET

“Virtual TVET”

INDUSTRY 4.0 READY

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THE FUTURE IS CHANGING, WE MUST TOO!

• Technologies are changing
• Jobs are changing
• Skills are changing
• How about EDUCATION?
• 35 to 50% of the current jobs will be replaced over the next 15 years
• Young people will face perhaps 3 to 5 career changes during their working life
• Education must prepare students for jobs that do not yet exist. How do you do that?
• Rise of workforce in the service industry and decline in agriculture and manufacturing can “deskill” a country
• However education sector and professional services are a counterbalance
• How will education evolve to rise to these challenges?
WHAT IS VIRTUAL TVET

• Using technology for teaching and learning
• 3D modeling, animations, and simulation to visualize technical processes
• Delivered through standard 2D facilities, VR, AR and blended and braided with practical hands-on
• Delivering learning through an LMS system that can provide info to the schools and educational managers
• Learning off campus and on campus
• Schools networked together to form functional clusters with COEs at the center.
“VIRTUAL TVET” IS NOW A POSSIBILITY

Making Technology Visible
Targeting the areas that students have difficulty understanding

Improving comprehension of the foundational Knowledge of technology and its applications

To develop and prepare them in advance of practical training tasks in the lab

Thereby reducing workshop time or increasing student throughput

Teachers have more time to develop student hands on skills and mentor them
WHY NOW AND NOT BEFORE?

- Convergence of technologies is making this approach more powerful than before
- Better platforms and wider use of LMS systems
- New lower cost graphical 3D animation and simulation engines for development
- Development of interactive content is becoming available
- Schools have better ICT infrastructure
- Better broadband and 4G access (5G coming)
Schools can transform by using the new technologies for the benefit of:

- Teaching
- Learning
- Administration

CONVERGING TECHNOLOGIES WILL CHANGE EDUCATIONAL CAPABILITIES
BLENDED LEARNING: RE-THINKING TVET

VIRTUAL: Creating the Right Balance between Theory and Practical Hands-on Learning

Psychomotor | Affective | Cognitive
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Practical | Practical | Theory

Making Technology Visible

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IMPACT: WHAT CAN VIRTUAL TVET DO?

• Technology can have a greater impact on TVET than compared to academic subjects
• Major cost reductions over traditional methods – by over 50 percent or more
• 10% of traditional budget can achieve 50% of the educational program. High impact with low cost
• Easily Scalable on a local, state or national level
• Can be implemented in a much shorter time
• Enables new monitoring and feedback methods
IMPACT: WHAT CAN VIRTUAL TVET DO?

- Can double the student throughput in Labs.
- Improvement mass access to quality training materials
- Enables frequent updating
- Uplifts education system nation-wide for consistent higher quality delivery
- Allows teachers to teach above their own skill level
- Potential to reach remote rural areas
- Provides Platform to update learning materials nationwide easily and quickly
• Enhanced Quicker Learning
• Differentiated & Deeper Learning
• Flexible Learning Pathways
• Strengthens Fundamental Concepts
• Skills Cluster Approach
• Formative Assessment Tools for Competency
• Learning on Demand: Anywhere and Anytime
• Learning Process More Similar to Work
• Moving to Performance or Competency Based.
To monitor school, teacher and student performance
To enable differentiated learning to tailor learning to the individual needs and styles (slow, medium, fast learners)
Adaptive learning: learning that can adjust as the student progresses and offer more choices for exploration
Learning is characterized by feedback and interactive learning and formative assessment
Cloud Based Knowledge Platform:
- LMS & Content
- Learning Objects
- Coordination & Communication

Connecting Schools
Showing the Clustered Relationship With a Technology Diffusion Model
SMK = Senior Vocational High School
INTEGRATED HOLISTIC PROJECT APPROACH

- Curriculum
- Inclusion of Digital Learning, Implementing Pedagogy 3.0
- Virtual Delivery Systems and Content
- School Design Learning Spaces
- Physical Training Equipment
- Teacher Development: Pre-Service In-Service

Integrated Approach and Continuous Support

Making Technology Visible
VIRTUAL TVET: BENEFITS AND IMPACT

1. Cost Savings
2. Quicker Learning
3. Competency
4. Increased Student Output
5. Differentiated Learning
6. Deepening Knowledge
7. Strengthens Fundamental Concepts
8. Learning Anytime, Anywhere
9. Scalability and Quick Deployment
10. Updates Older Labs
11. Keeping Courses Up-to-Date
12. Cluster School Approach
13. Reduces Teachers Time
14. Transitional Learning
Potential for Virtual Learning on a National Scale

- Can quickly adapt to changing situations
- Consistent delivery nationwide
- Scalability for national reach
- Improvement in access to quality training materials
- Allows teachers to teach above their own skill level
- Potential to reach Remote areas
- Potential to lower costs of educational delivery
- Provides Platform to update learning materials nationwide easily and quickly
Labtech International is all about HELPing teachers and students develop life skills that are relevant to industry now and be Industry 4.0 READY. This means not only equipping our teachers and students with technical skills but also the relevant soft skills.
VIRTUAL TVET – EMBEDDING TECHNOLOGY INTO TEACHING AND LEARNING

THANK YOU!

Knowledge Engineering
www.labtech.org
ISO 9001, ISO 14001, OHSAS 18001

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