Adapting Universities for the future of the learning

Transition from Education 1.0 to 4.0
Case Study of Chula Engineering

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CU Vision

- The oldest university in Thailand (founded 1917)
- Public and autonomous research university
- 19 faculties/23 colleges and research institutions
- Over 38,000 students
  - Undergrad -24,951
  - Grad – 13,391 (Master’s 10,881 / Ph.D. 2,150)
- Over 2,800 faculty members
Faculty of Engineering, Chulalongkorn University
www.eng.chula.ac.th

Impact #1
Next Generation of Learning

Teaching Techniques
Research Grants
Authentic Assessment & Evaluation
Community & Global Network

Impact #2
Digital Learning Experiences

Smart & Interactive Classroom
Media, Instructional Technology & VDO
e-Learning & LMS across campus
Big data, Business Intelligence & Stats

Impact #3
University Anywhere Anytime

Open Education Resource (OER)
Massive Open Online Courses (MOOCs)
Nano & Micro degree, Certifications, etc.
Virtual University
Faculty of Engineering,
Chulalongkorn University
www.eng.chula.ac.th

Launched Sept 8, 2016
27 Courses
50,000 registered students
Education 1.0  Traditional learning
Education 2.0  + E Learning
Education 3.0  + Knowledge creation
Education 4.0  + Innovation
Engineering Education 4.0

Conceive & Design
Design & Implement
Implement & Operate

Efficient Graduate: Conceive-Design-Implement-Operate

Jigsaw technique
Efficient Graduate: Conceive-Design-Implement-Operate
A) *iSCALE* (i-Student-Centered-Active-Experience)
Mantra of the Innovators:  
*Fail early, Fail often*

Mantra of the i-DW: 
*Failing with styles*
B) iDesignWorkspace

Quick realization of student’s DREAM
Prompt self FEEDBACK & LEARNING
ACTIVE LEARNING

• Concept Inventory
• Small group activity
  • one-minute papers
  • think-pair-share
• Flipped classroom

SOFTWARE

C) Lecturer to review task

Pre-class Task = Evidence of their preparation + Indicator of level of understanding
Task assessed. Issue identified.

Active Learning
Experiential Learning
• Discussion
• Experiment/Projects
Towards higher-level cognition

Experiential Engagement

D) Lecturer to provide in-class activities.

In class

Jigsaw technique
COURSEVILLE – the social LMS

www.mycourseville.com

I AM DIGITAL NATIVE

- Around-the-clock access
- Instant feedback
- Social network
CDIO framework
Thinking behind innovation

Blended Learning
Delivery of Knowledge, Skills & Attitude – Think like an engineer

iSCALE & iDesignWorkspace
Maker’s space – Failing with styles
To adapt to the future of the learning

Universities
Lay out strategic vision
Provide new platforms, programs, incentives

Teachers
Mindset
Adapt teaching styles and acquire new skill sets

Learners
Require to think flexibly and adapt to new ways of learning, communicating, and technology-enhanced environments