

UNIVERSITIES 4.0

Ushering a New Age of Enlightenment

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Industry 4.0 and the Transdisciplinary Curriculum of the Future

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IRIS

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Curriculum

- ❖ The plan and guide for learning reflecting the academic content and teaching methodologies of courses/subjects in specific programs offered by schools/universities;
- ❖ Constitutes what a society elects to remember about its past what it believes about its present and what it hopes and desires for the future (Williamson)
- ❖ In the globalized world where metrics are increasingly shared by universities in the developed and developing world, the vision of the present and the future is that of a knowledge economy and society;

Curriculum: **The** operational tool for sustaining the development relevance of education systems

Knowledge economy, rapid technological changes underpin the Paradigm shift in Education

From education to learning

From learning to Lifelong Learning : the key for individuals

in the 21st century

❖ ***TO HELP individuals adapt to the evolving requirements of the labor market” and better master “the changing time-frames and rhythms of individual existence.”***

Quality Curriculum: Learning Outcomes/Competence Based

COMPETENCE

- ❖ **Developmental capacity** to interactively **mobilize** and **ethically** use information, data, knowledge, skills, values, attitudes and technology to engage effectively and act across diverse 21st century contexts to attain individual, collective and global good.
- ❖ **Capacity** to apply what they learned across fast-changing, unpredictable and often disruptive contexts including Industry 4.0 {and now, Industry 5.0} (UNESCO, IBE, 2017)

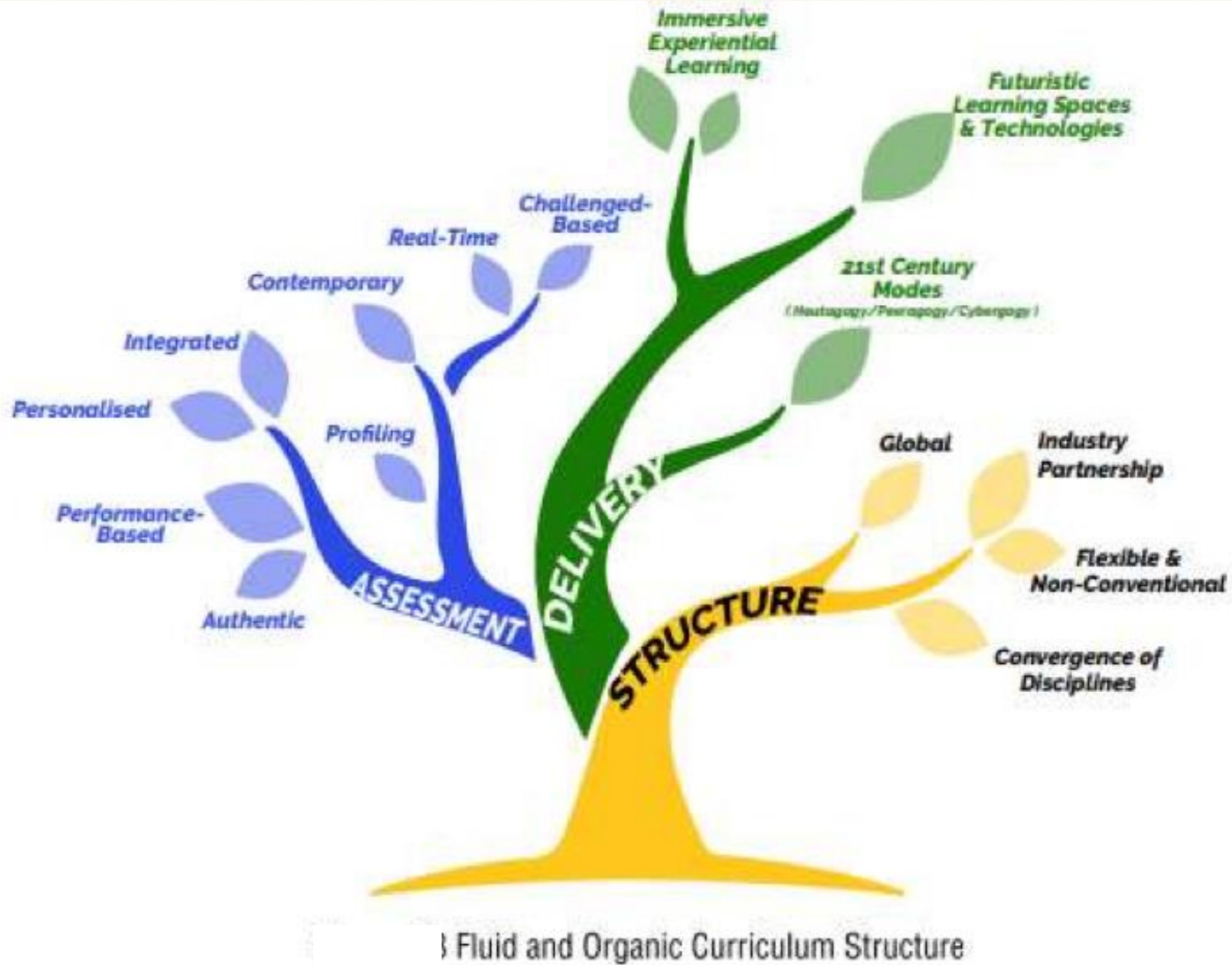
Quality Curriculum: Learning Outcomes/Competence Based

What competences?: Some recurring competences

- | | |
|--|---|
| <ul style="list-style-type: none">• Creativity, communication, critical thinking, problem solving, curiosity, metacognition;• Basic, media, information, financial, scientific literacies and numeracy,• Initiative, self-direction, perseverance, responsibility, accountability, adaptability; | <ul style="list-style-type: none">• Digital, technology, and ICTs skills;• Cross-cultural skills, leadership, global awareness;• Knowledge of disciplines, STEM mindset; transdisciplinary capacity |
|--|---|

Features of an Learning Outcomes- /Competence-Based Curriculum (UNESCO IBE, 2017)

- ❖ **Contextual grounding**
 - ❖ Learner centered
 - ❖ Learning contexts that enable learners to use what they learn
 - ❖ Emphasis on outcomes or impact (e.g. self agency, multiple literacies, techno-entrepreneurs)
- ❖ **Emphasis on transdisciplinarity**
 - ❖ Curriculum design for mastery of subject matter and other disciplines [NUS, UP]
- ❖ **Consideration of curriculum structure and sequence**



Source: Dato Mohamend Amin Embi, Gloing Global 2018

Synergy of Curricular Reforms and Other University Reforms

- ❖ Curricular reforms demand simultaneous changes in Universities

e.g

- ❖ Innovation hubs
- ❖ Technology Transfer office

Why the need for a more organic and fluid curriculum?

Learners: Millennials (Ages 22-38) [Villa et al, 2018)

12-second attention span

39% have global aspirations

Needs less frequent feedback than Gen Z

Future-focused

Multitasking (2 screens at a time)

Natural entrepreneurs

Volunteers

Makers, self-learners



Some Snapshots of Curricular Changes Outside the Philippines

[Presentation of Lim Lai Cheng, Exec Director of SMU Academy
at the EU SHARE Joint Conference on Qualifications
Frameworks and Quality Assurance, 31 October 2018]

The Case of Singapore and
Singapore Management
University

SUCCESS FACTORS IN SINGAPORE'S HRD STRATEGIES IN RESPONSE TO INDUSTRY 4.0

- Impetus from the Top
 - Clear Messaging
- Enablement through Frameworks and Institutional Support
 - Funding and Incentives
- Recognition of Continuing Education and Adult Educators

CHANGE IN PARADIGMS

- Traditional vs Open Systems
- Pre-Employment vs Continuing Education
(Pedagogy vs Andragogy)
 - Single vs multi-modal tracks
- Degree vs Micro-credentialing

UNCOLLEGE

The growing movement against the four-year degree



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HACK YOUR
EDUCATION

Dale Stephens, Founder

FUTURE OF CREDENTIALS

MICRO-
CREDENTIALING
DIGITAL
BADGING &
NANODEGREES

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SMU GRADUATE OUTCOMES

Disciplinary & multi-disciplinary knowledge

Intellectual & creative skills

- critical thinking & problem-solving
- innovative & entrepreneurial skills

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Interpersonal skills

- collaboration & leadership
 - Communication

SMU GRADUATE OUTCOMES

Global citizenship

- intercultural understanding & sensitivity
- sensitivity towards developments in Asia
 - ethics & social responsibility

Personal mastery

- self-directedness & meta-learning
- resilience & positivity

CORE CURRICULUM

Capabilities (2CU)

- calculus
- fundamental statistics

Modes of Thinking (1CU)

- computational thinking
 - critical thinking
- innovation & creative thinking
- judgement & decision making
- managing in a VUCA world

CORE CURRICULUM

Managing (2CU)

- business, government & society
- business modelling & analytics
- design thinking
- entrepreneurship & value creation
- leadership & team-building
- management communication

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Writing & Reasoning (1CU) Enhanced Internship
(1CU) Economics & Society (1CU)

CORE CURRICULUM

Technology & Society (1CU)

- artificial intelligence & society
 - digital media in society
- technologies, disruptive innovation & cities
 - technology & world change

Cultures of the modern world (1CU)

- foreign languages
- arts & humanities
- societal and civilisational cultures

Enchanced Community service(1CU) Big Questions(1CU)
Global Exposure

Concluding Notes

- ❖ A textured understanding of **contexts** that curricula should respond to, as well as change for the better is imperative;
- ❖ Such contexts inform the selection of competences to be reflected in curricula;
- ❖ The Philippine context is complex and nuanced;
- ❖ The IRIS Conference has brought together government and academe to help lay the groundwork for a coherent Higher Education roadmap to address Industry 4.0

Thank You
