Outline

- What is an ecosystem?
- Higher education ecosystem
- Why ecosystem?
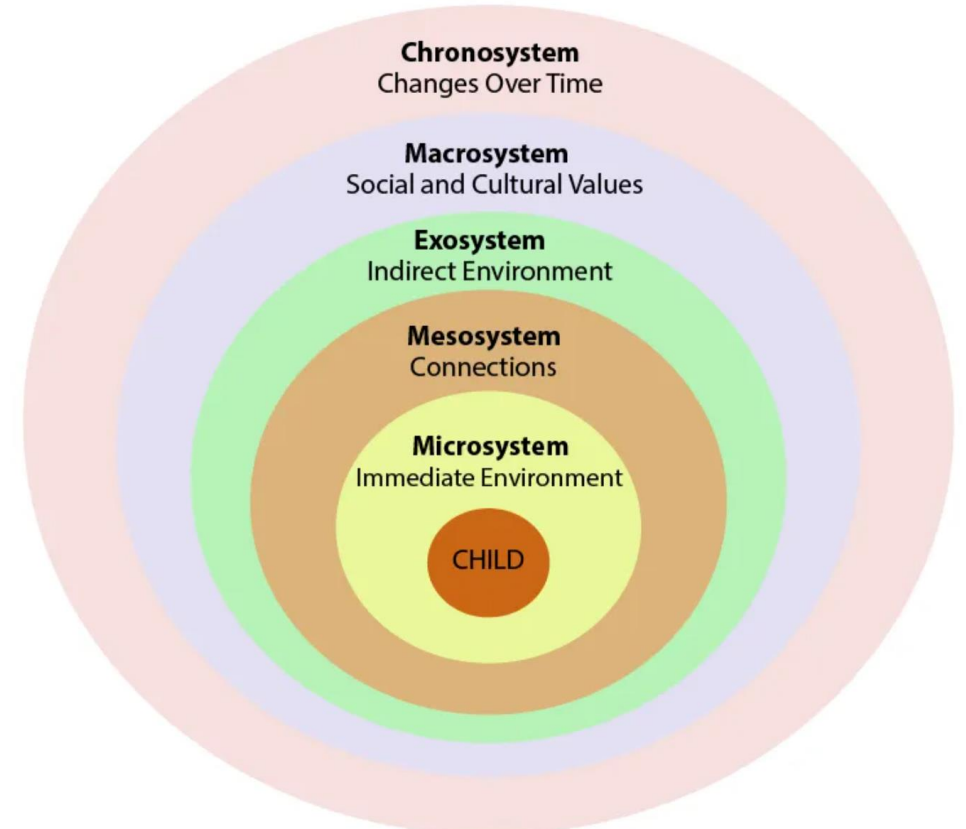- The Ecosystem of curriculum (re)design

What is an Ecosystem?

"An <u>ecosystem</u> is the set of living and non living components related to each other at a particular time in a specific space."

Evans et al (1989)

Urie Bronfenbrenner formulated the Ecological Systems Theory to explain how social environments affect children's development. The model organizes contexts of development into five nested levels of external influence: **Microsystem**, **Mesosystem**, **Ecosystem**, **Macrosystem**, and **Chronosystem**.

Source: What is Bronfenbrenner's Ecological Systems Theory?. (2019, May 3). The Psychology Notes Headquarters. https://www.psychologynoteshq.com/bronfenbrenner-ecological-theory/

Bronfenbrenner's Ecological Systems Theory

- **Chronosystem** — Changes Over Time
- **Macrosystem** — Social and Cultural Values
- **Exosystem** — Indirect Environment
- **Mesosystem** — Connections
- **Microsystem** — Immediate Environment
- CHILD

(C) The Psychology Notes Headquarters https://www.PsychologyNotesHQ.com

Higher Education Ecosystem

- A network of interdependent organisations and people in a specific environment with partly shared perspectives, resources, aspirations and directions.

- The higher education ecosystem is dynamic and intricately related, change in one element creates change in the other elements and the overall environment.

- The alignment of various elements in the higher education ecosystem towards achieving the purpose of education is crucial.
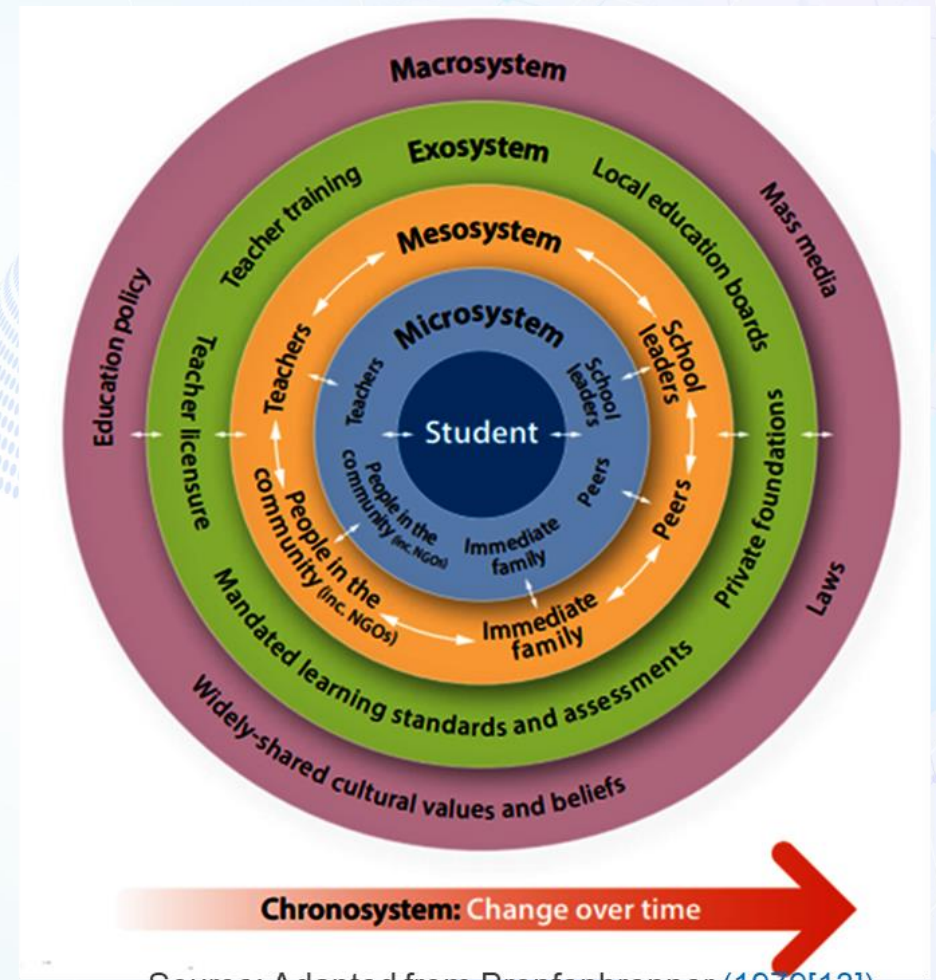
Source: Adapted from Bronfenbrenner (1979[13]), developed by the OECD Education 2030 team (OECD, 2020[12]).

Higher Education Ecosystem

University Ecosystem (UE) – a <u>community</u> of personnel (professors, researchers, students, external practitioners, etc.) that interacts with one another and with other personnel from the external environment, who are pulled into its sphere of influence. The <u>flow of knowledge</u> is the medium that links all the personnel. In the university, knowledge is attained through study and practice, observation, and experimentation. <u>Discovery</u> (the act of observing or finding something unknown) and <u>invention</u> (the process of creating a new technology), which are products of science, are turned into <u>entrepreneurial innovation</u> (the process of effectively bringing discovery and invention to market). This is the knowledge <u>value chain</u> through which the UE achieves truly meaningful success.

Source: University Ecosystems and the Entrepreneurial University, Prof Martin Curley and Prof Piero Formica, 2012.
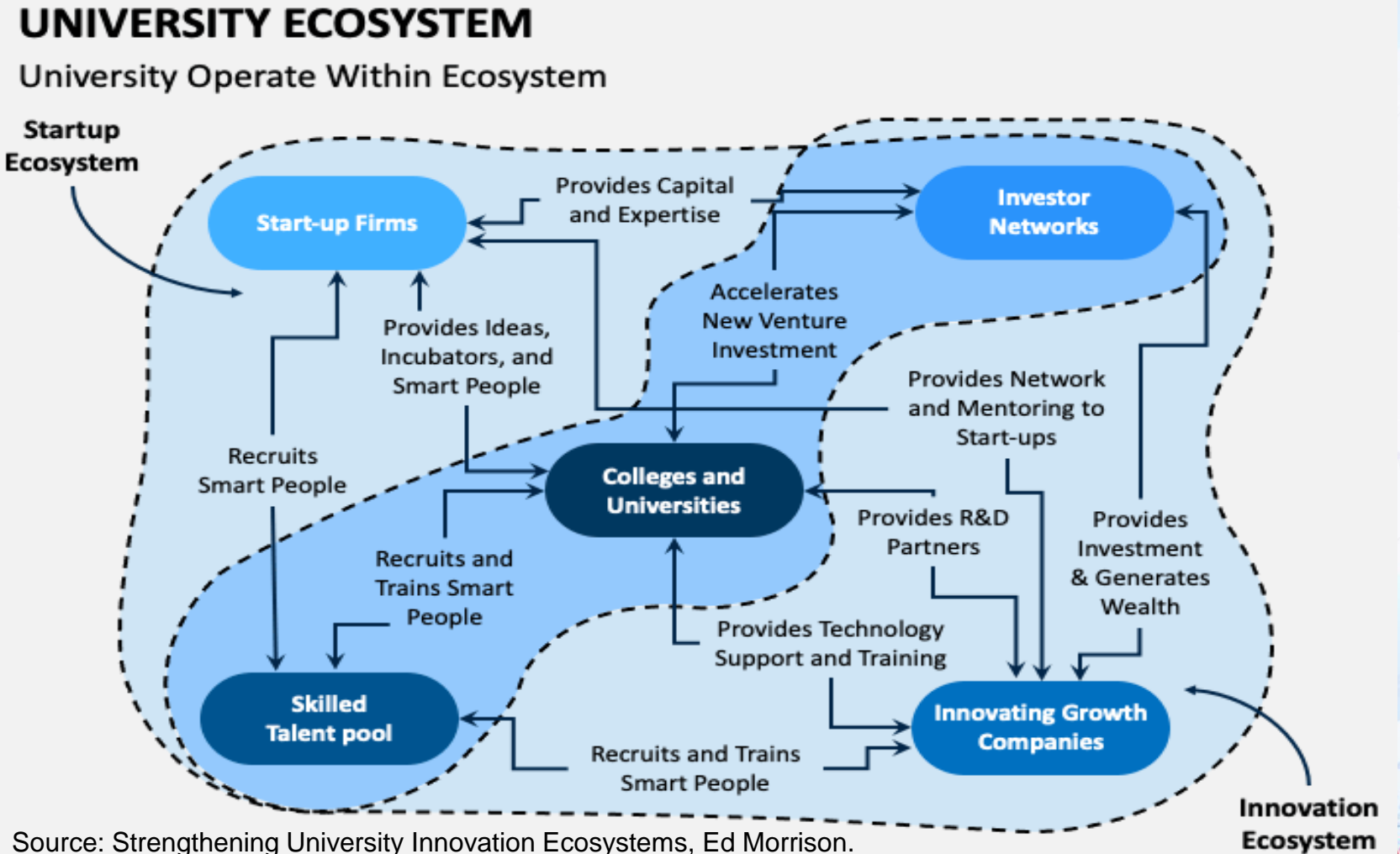
Higher Education Ecosystem

Source: Strengthening University Innovation Ecosystems, Ed Morrison.
Image from https://images.app.goo.gl/CHksjeNPgRgDht7w7

Higher Education Ecosystem

Table 2. The "new normal" in education

Features	Traditional education system	An education system embodying the "new normal"
Education system	Education system is **an independent entity**	Education system is **part of a larger eco-system**
Responsibility and stakeholders engagement	**Decisions made based on a selected group of people** and thus they become held accountable and responsible for the decisions made	**Decision-making and responsibilities shared among stakeholders**, including parents, employers, communities, and students
	Division of labour (Principals manage schools, teachers teach, students listen to teachers and learn)	**Shared responsibility** (everyone works together and assumes responsibility for a student's education and students also learn to be responsible for their own learning)
Approach to effectiveness and to quality of school experience	**Outcomes most valued** (student performance, student achievements are valued as indicators to evaluate systems for accountability and for system improvement) **Focus on academic performance**	**Valuing not only "outcomes" but also "process"** (in addition to student performance and student achievements, students' learning experiences are in and of itself recognised as having intrinsic value)
		Focus on not only academic performance but also on holistic student well-being
Approach to curriculum design and learning progression	**Linear and standardized progression** (the curriculum is developed based on a standardised, linear learning-progression model)	**Non-linear progression** (recognising that each student has his/her own learning path and is equipped with different prior knowledge, skills and attitudes when he/she starts school)
Focus of monitoring	**Valuing accountability and compliance**	**System accountability as well as system improvements** (e.g. continuous improvement through frequent feedback at all levels)
Student assessment	**Standardised testing**	**Different types of assessments used for different purposes**
Role of students	Learning by listening to directions of teachers with emerging student autonomy	Active participant with both **student agency and co-agency** in particular with teacher agency

Source: OECD Future of Education and Skills 2030

Why Ecosystem?

Nine organizational imperatives will separate future-ready companies from the pack.

Legend:
- Who we are (black)
- How we operate (dark blue)
- How we grow (light blue)

Radically flatten **structure**

Take an **ecosystem** perspective

Build data-rich **tech platforms**

Take a stance on **purpose**

Sharpen your **value agenda**

Use **culture** as your "secret sauce"

Treat **talent** as scarcer than capital

Turbocharge **decision making**

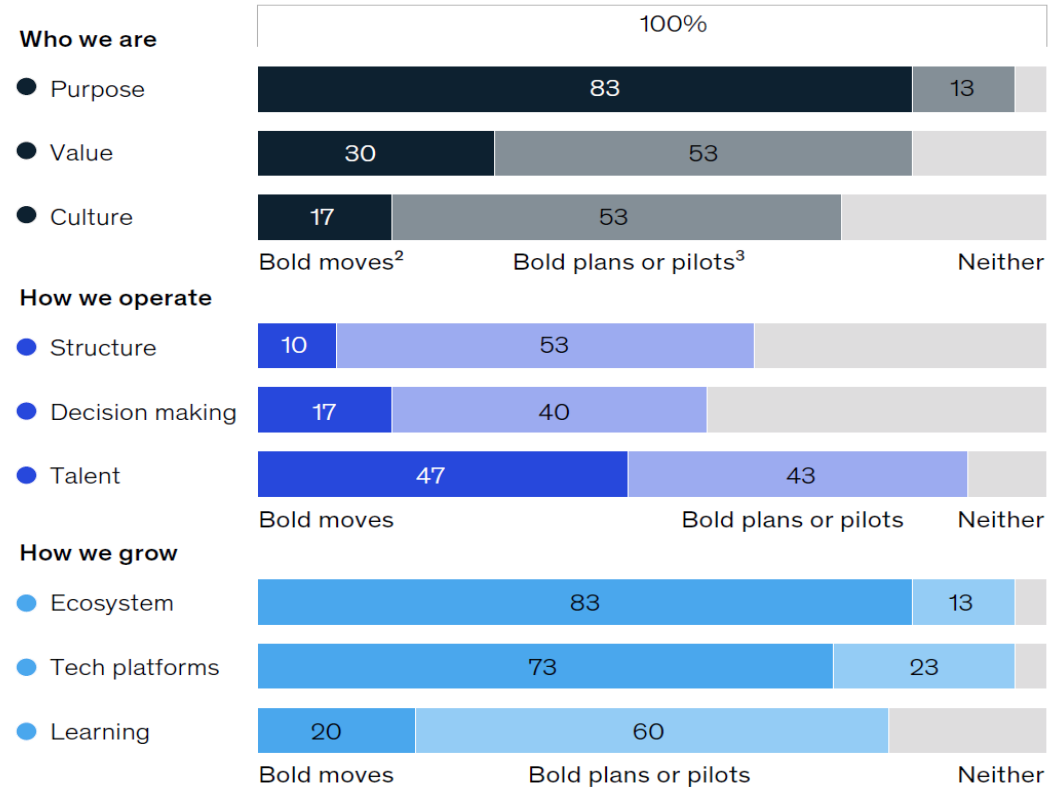Accelerate organizational **learning**
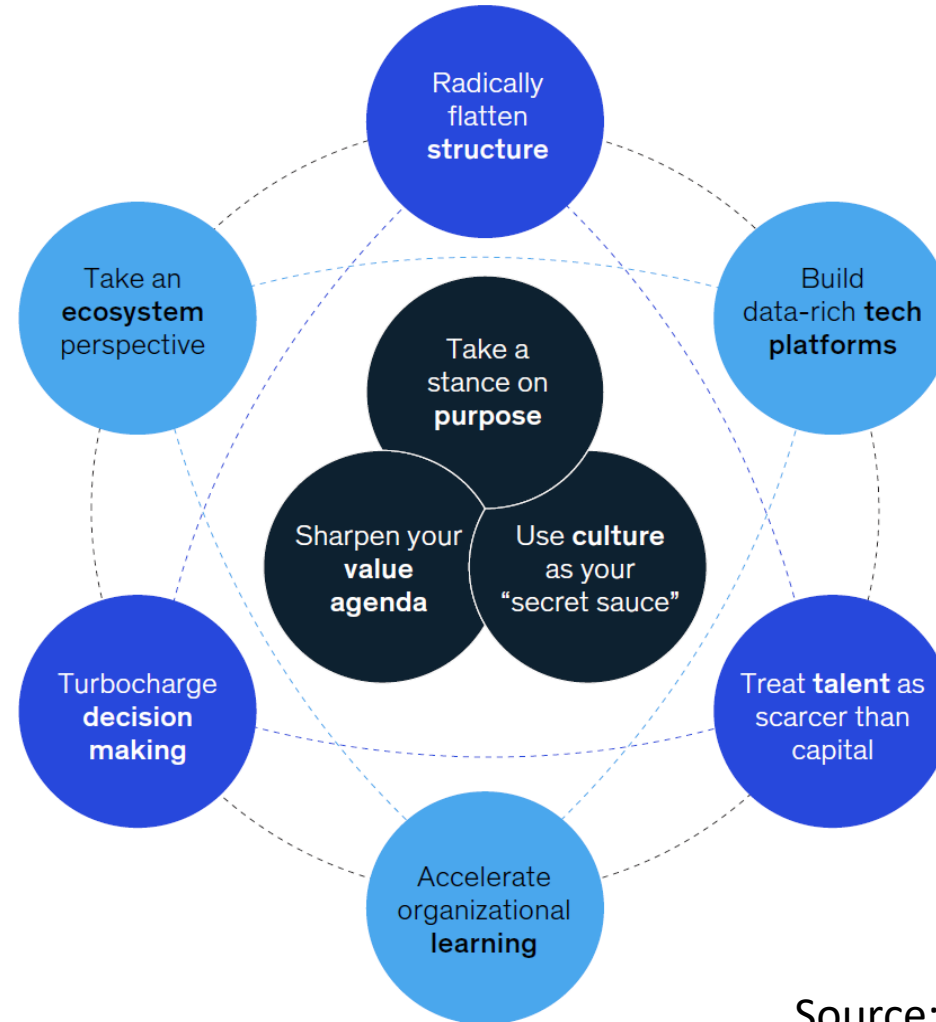
Source: Mckinsey

Why Ecosystem?

Exhibit 3

Top-performing companies are taking bold action across all nine imperatives.

Share of 30 top companies making,[1] and considering,
bold moves against the 9 organizational imperatives, %

	100%
Who we are	
● Purpose	83 / 13
● Value	30 / 53
● Culture	17 / 53

Bold moves[2] Bold plans or pilots[3] Neither

How we operate	
● Structure	10 / 53
● Decision making	17 / 40
● Talent	47 / 43

Bold moves Bold plans or pilots Neither

How we grow	
● Ecosystem	83 / 13
● Tech platforms	73 / 23
● Learning	20 / 60

Bold moves Bold plans or pilots Neither

[1]To acknowledge that industries have different market fundamentals and face different headwinds and tailwinds, we selected the top 10 industries as measured by their average economic profit between 2015–19. We then selected the top 3 companies from each industry by the same metric.
[2]Bold moves defined as: 1) Company among the first to adopt a given practice; 2) the practice is unique and not copied elsewhere; or 3) the practice has been scaled across >50% of the company.
[3]Bold plans defined as: Company is actively planning or piloting a bold move as defined above.
Source: McKinsey Organization Practice; McKinsey Strategy & Corporate Finance Practice

Why Ecosystem?

Exhibit 1

New ecosystems are likely to emerge in place of many traditional industries by 2025.

Ecosystem illustration, estimated total sales in 2025,[1] $ trillion
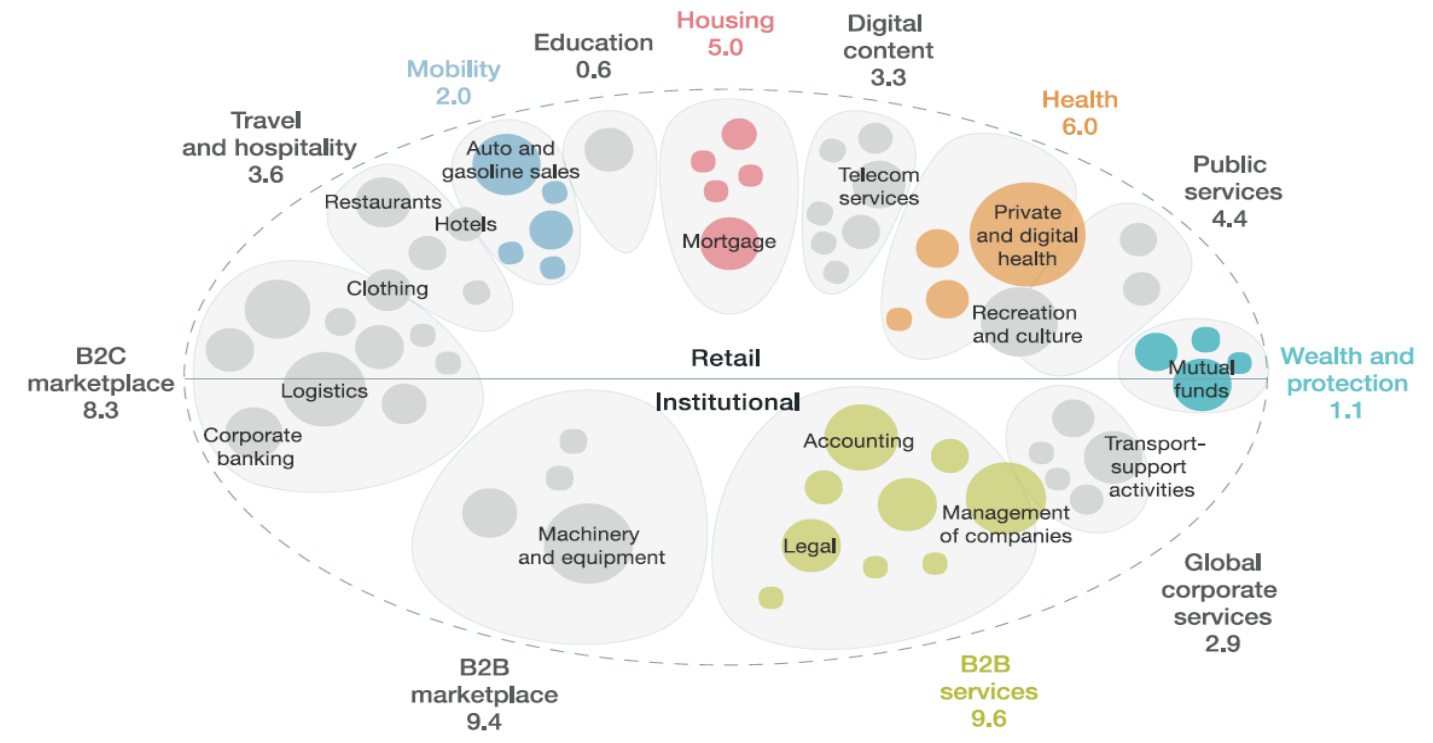
[1]Circle sizes show approximate revenue pool sizes. Additional ecosystems are expected to emerge in addition to those depicted; not all industries or subcategories are shown.

McKinsey&Company | Source: IHS World Industry Service; Panorama by McKinsey; McKinsey analysis

Why Ecosystem?

The VUCA World

HOW WELL CAN YOU PREDICT THE OUTCOMES OF YOUR ACTIONS?

Adapted from Kosh & Platte (2017)

VOLATILITY

The nature, speed, volume and magnitude of change is not predictable, causing consistent turbulence.

Easily Understood | Unpredictable

UNCERTAINTY

Lack of predictability in issues and events make it difficult to see future outcomes or make decisions.

May be understood | Unpredictable

COMPLEXITY

Many difficult-to-understand and interconnected variables make individuals feel overwhelmed and confused.

Fuzzy | Predictable

AMBIGUITY

Lack of clarity on the causes behind what's happening leads to frustration and an abundance of "unknown unknowns"

Fuzzy | May be predicted

ATL in a VUCA world

By @alohalavina This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.

HOW MUCH DO YOU KNOW ABOUT YOUR SITUATION?

Why Ecosystem?

Wicked Problems

- Problems are never completely solved
- Every problem is unique
- Can take a *long* time to evaluate solutions
- There is no clear problem defintion
- Solutions are not right/ wrong, but better/worse
- Are multi-causal multi-scalar & inter-connected
- Every solution ramifies throughout the system
- Multiple stakeholders with conflicting agendas
- Every wicked problem is connected to others
- Straddle organizational & disciplinary boundaries

Based upon Rittel and Webber (1973)

Impacts of VUCA world on higher education

VOLATILITY
- Shorter lifecycle of knowledge, skills and attitudes
- Disruption in education & pedagogy
- Displacement of accreditation processes

UNCERTAINTY
- New technologies
- New skills
- New start-ups & businesses
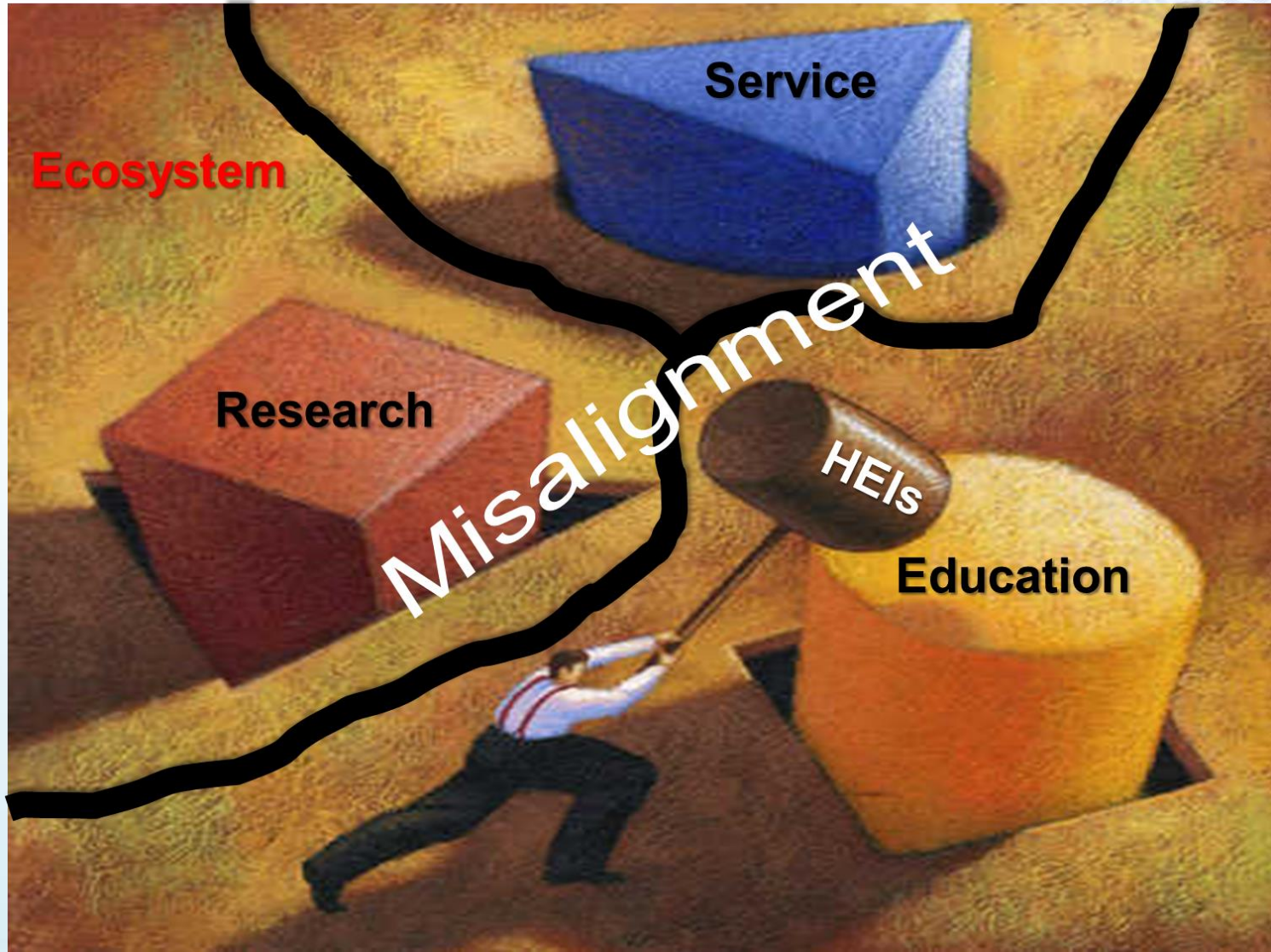- New "normal"
- Rise of ecosystem intelligence

COMPLEXITY
- The digital world
- Complex networks of interconnectedness
- Demographic & cultural diversity & inclusiveness

AMBIGUITY
- Blurred boundaries between disciplines
- Wicked problems
- Rise of design education and design thinking
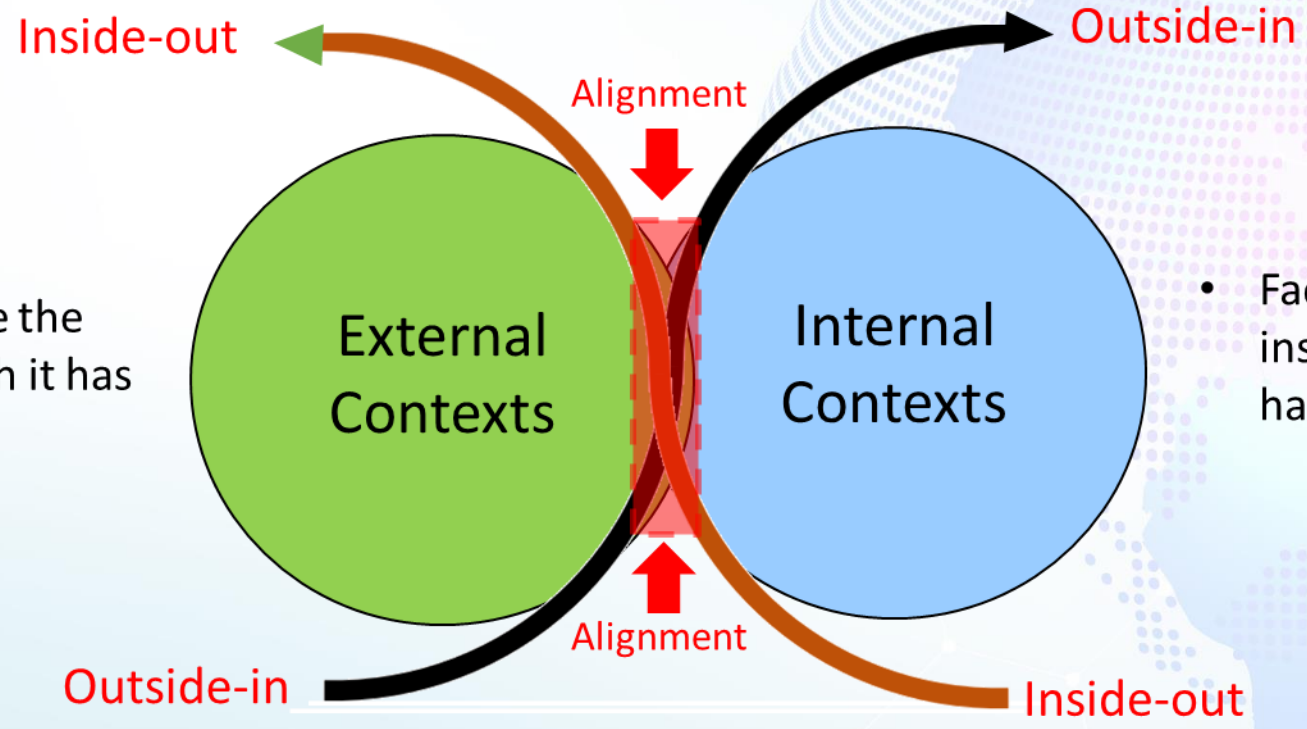
Why Ecosystem?

The Ecosystem of Curriculum (Re)design

- The IQA system design at both institutional and programme level is depended on the contextual factors of the ecosystem.
- The approach to design an IQA system requires an outside-in (ecosystem) approach

©Education Quality International

Quality for Purpose
Quality in fulfilling a requirement, specification, standard or intended outcome.

Quality of Purpose
Quality is aligned to the organisation's vision, mission, culture & goals, and the larger ecosystem

The Ecosystem of Curriculum (Re)design

Inside-out

Outside-in

Alignment

- Factors fall outside the institution in which it has little or no control

External Contexts

Internal Contexts

- Factors fall within the institution in which it has full control

Alignment

Outside-in

Inside-out

International Conference 2022
INNOVATIVE LEADERSHIP AND MANAGEMENT IN HIGHER EDUCATION:
GLOBAL TRENDS AND PRACTICES IN THE POST COVID-19 PANDEMIC
SEAMEO RETRAC, July 07-08, 2022

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The Ecosystem of Curriculum (Re)design

Figure 11. **Design principles**

1 **Design principles within a discipline**
1. Focus
2. Rigour
3. Coherence

2 **Design principles across disciplines**
4. Transferability
5. Interdisciplinary
6. Choice

3 **Design principles beyond school**
7. Authenticity
8. Flexibility
9. Alignment

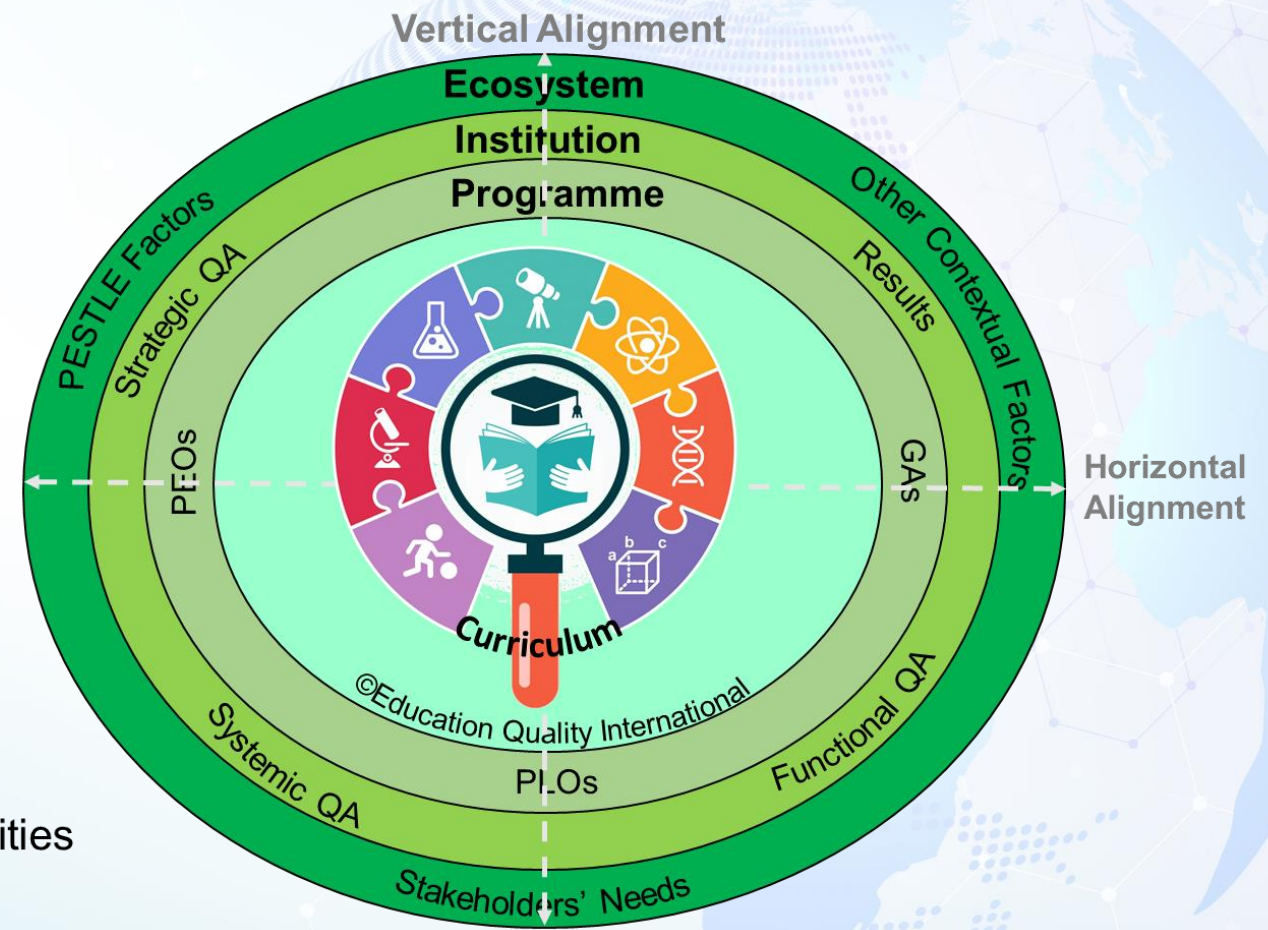4 **Design principles for processes**
10. Engagement
11. Student agency
12. Teacher agency

Source: Adapted from OECD position paper, https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf.

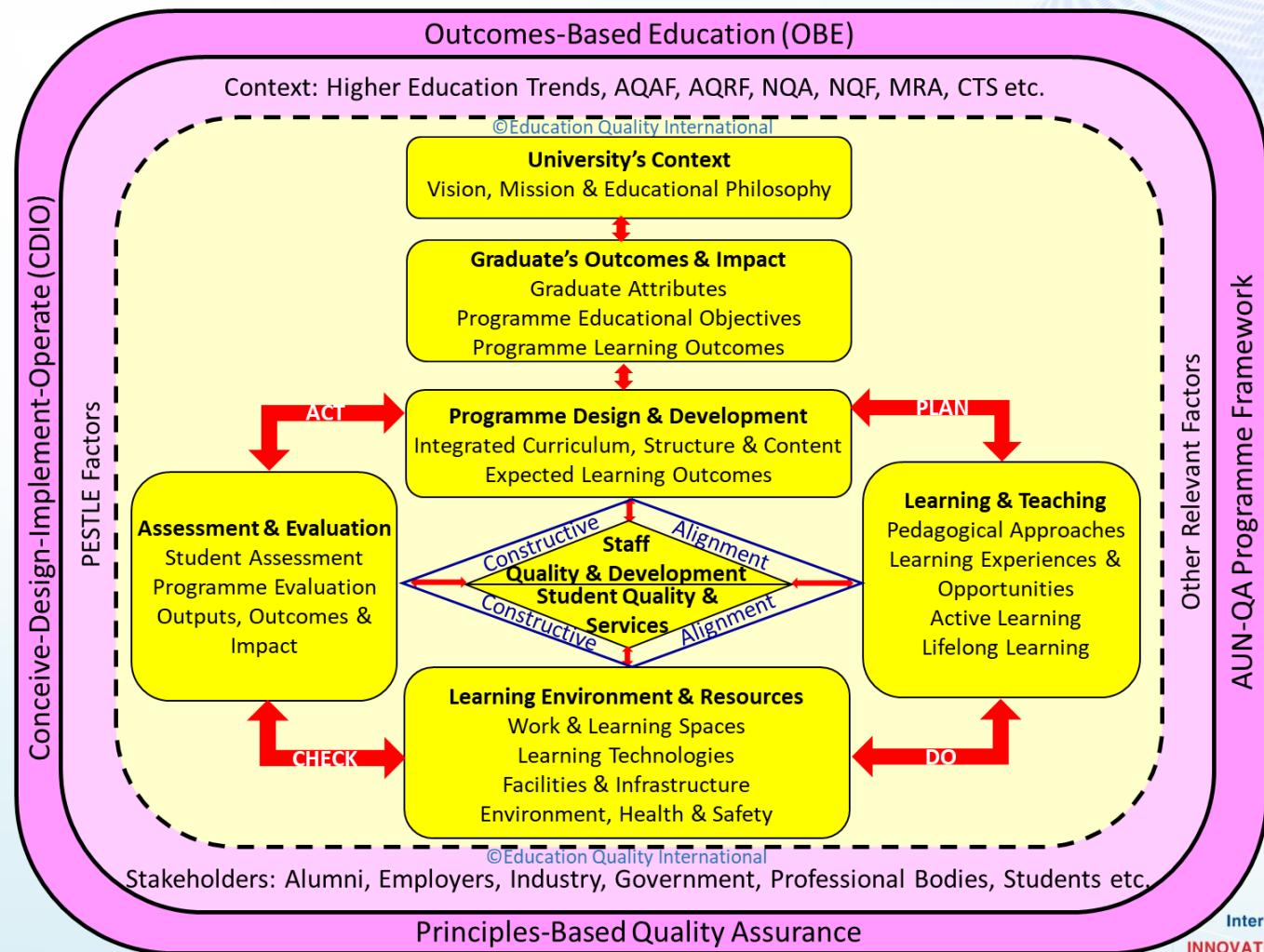# The Ecosystem of Curriculum (Re)design
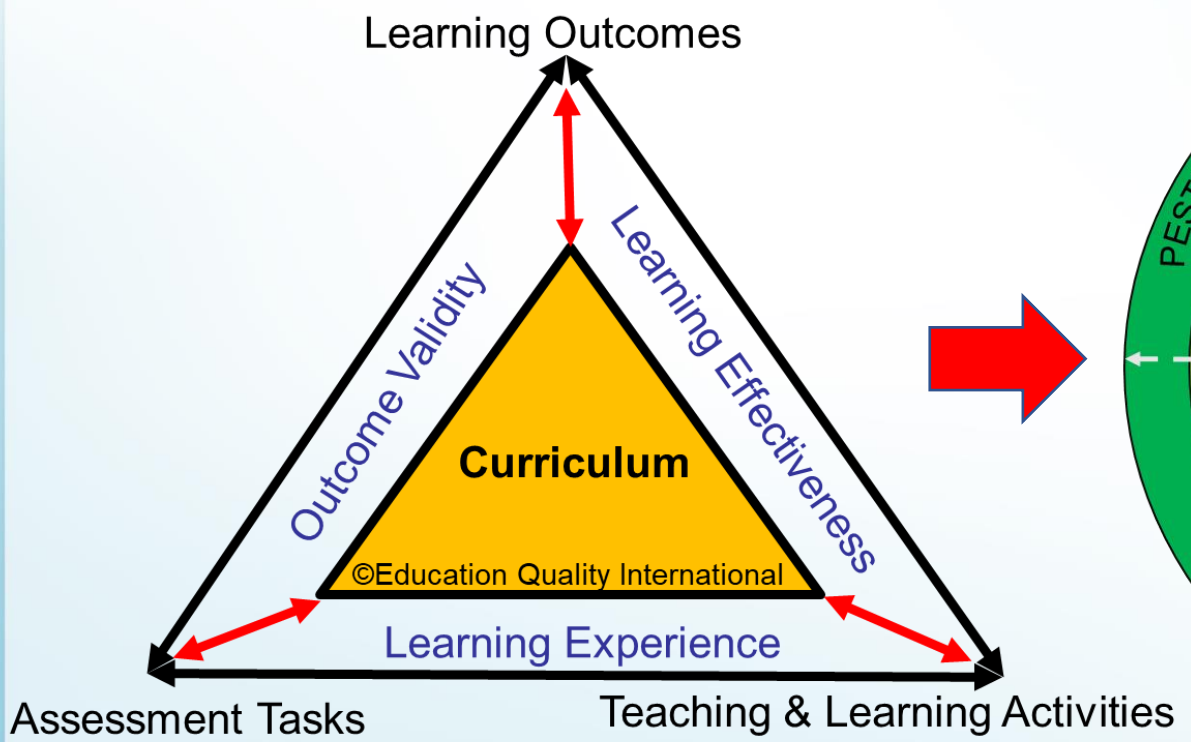
Constructive Alignment (Basic)

Constructive Alignment (Ecosystem)

The Ecosystem of Curriculum (Re)design

An Outside-in Approach OBE Framework ©eqi

About Education Quality International

- Education Quality International (eqi) is a Singapore's registered business founded with the mission of uplifting the quality and quality assurance higher education with a strong conviction in **"Quality Education Quality Life".**
- It provides training and consultancy services to higher education institutions in quality assurance, curriculum (re)design, outcomes-based education (OBE), assessor's training, institutional and programme QA.
- A key partner of the AUN-QA Network in providing AUN-QA training and community projects in CLM Countries