Future Readiness for an Ever-Changing Workplace
裝備未來 — 應對瞬息萬變的職場

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高科院 Thei

10 ANNIVERSARY

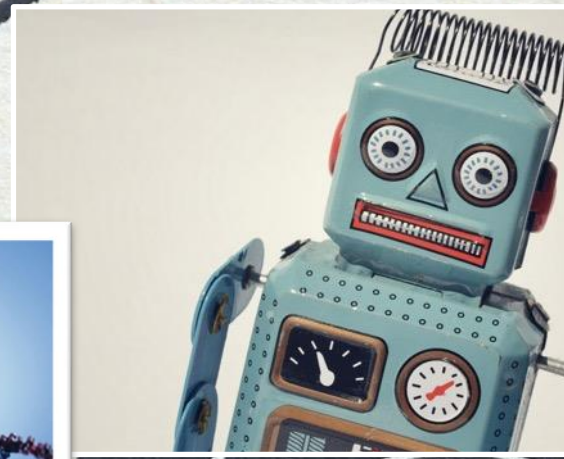

AI

Preparing Students for the Uncertain Future

" We live in a fast-changing world, and producing more of the same knowledge and skills will not suffice to address the challenges of the future. A generation ago, teachers could expect that what they taught would last their students a lifetime. Today, because of rapid economic and social change, schools have to prepare students for jobs that have not yet been created, technologies that have not yet been invented and problems that we don't yet know will arise."

Andreas Schleicher

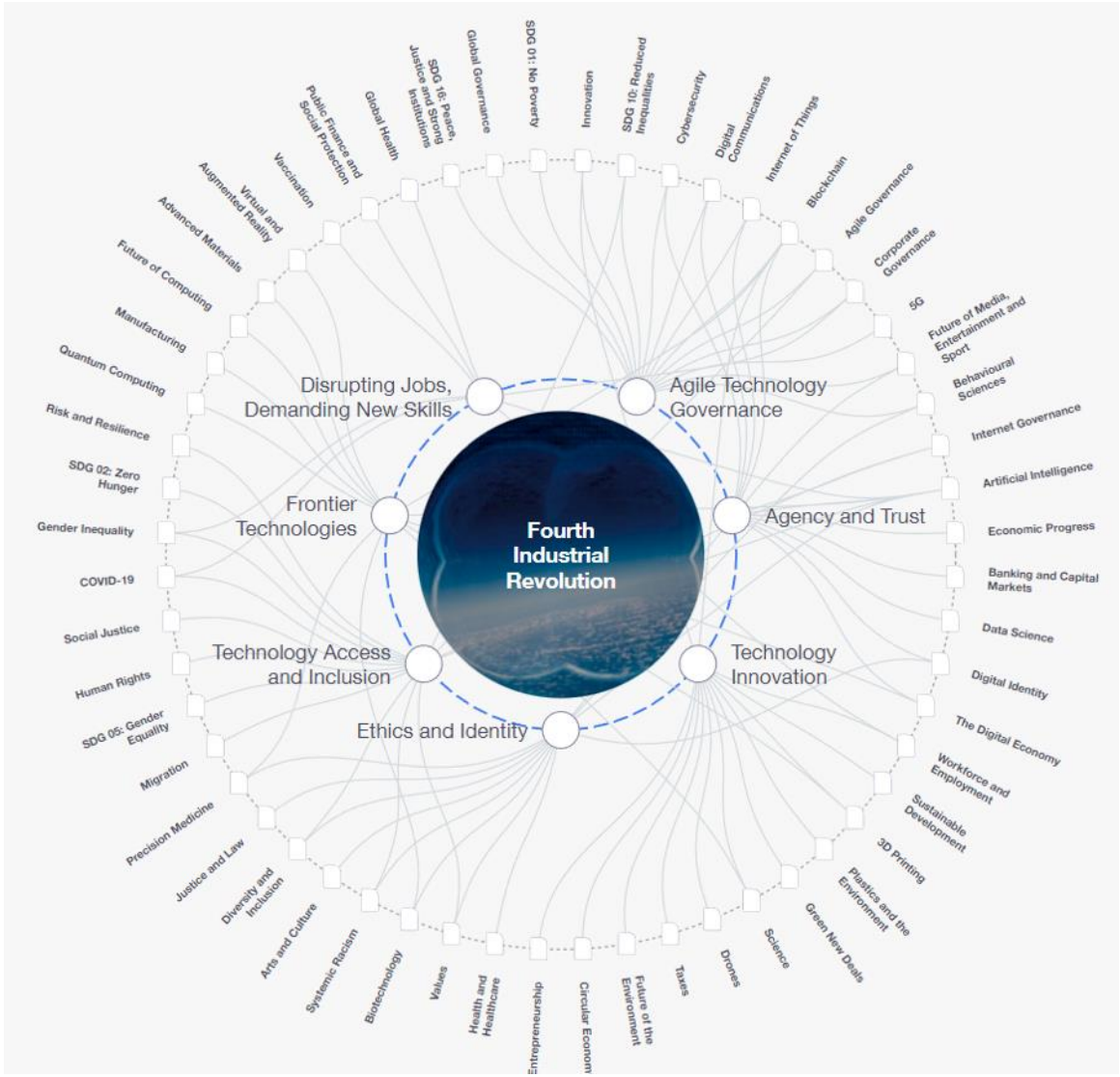
OECD Education Directorate



Industry 4.0

" The Fourth Industrial Revolution represents a fundamental change in the way we create, exchange, and distribute value. It is a technological shift merging our physical, digital, and biological worlds into one. The fast-developing technologies pushing it forward, such as artificial intelligence, genome editing, augmented reality, robotics, and 3-D printing, are promising smart solutions for intractable challenges. But this revolution also calls for governing these solutions in ways that empower, foster collaboration, and help build a more sustainable foundation for social and economic development."

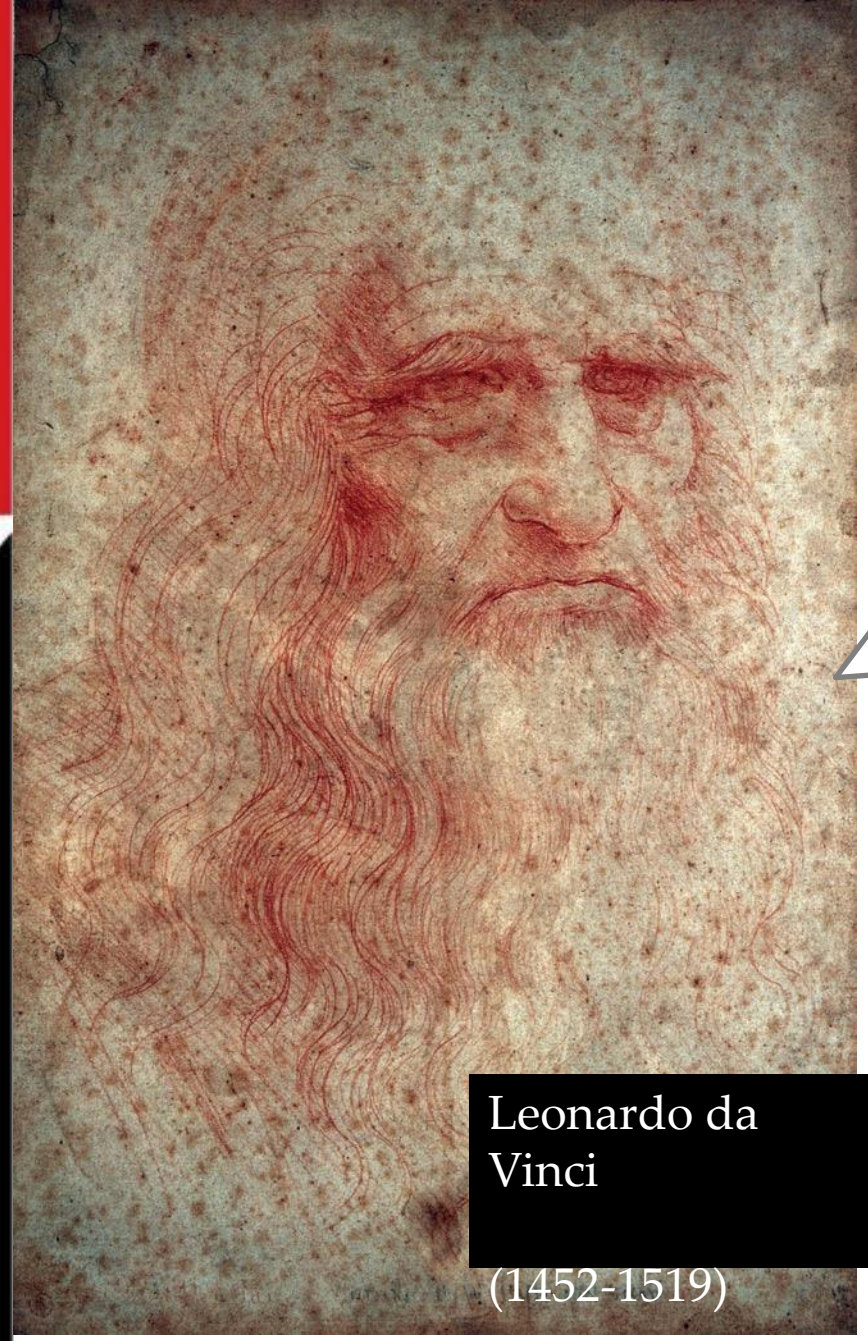
– 2022 World Economic Forum



Renaissance Man

A man can do all things if he but wills them.

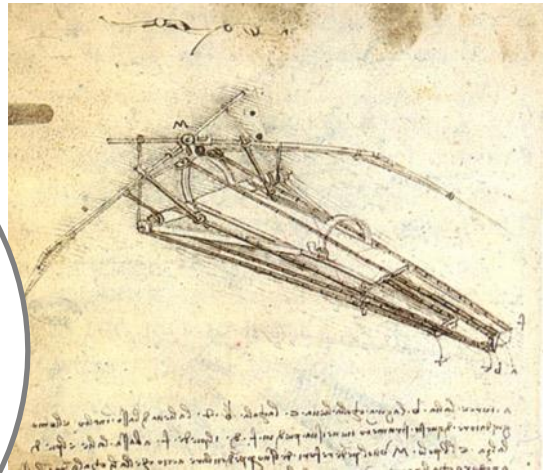
Leon Battista Alberti (1404–72)

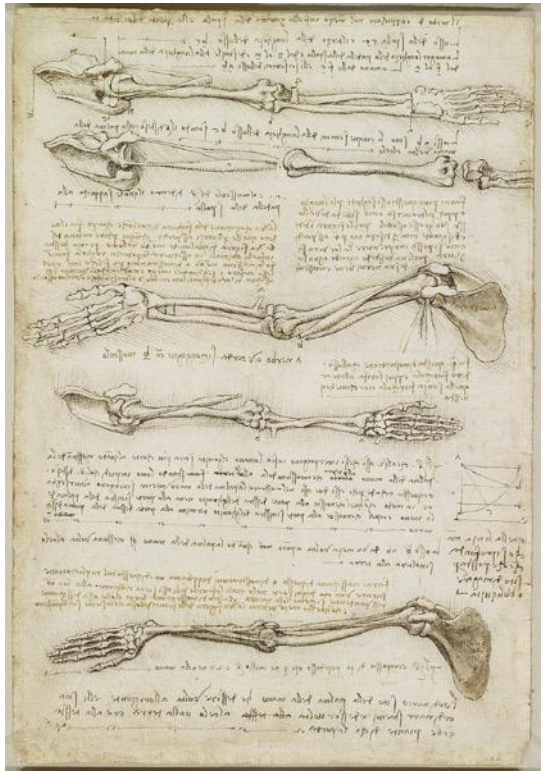


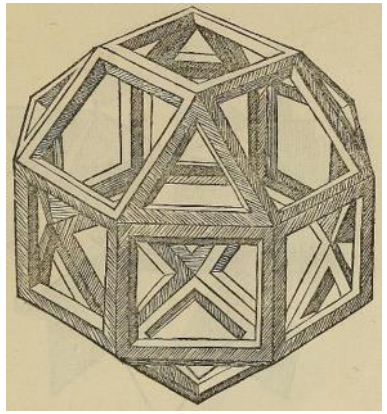
Leonardo da Vinci

(1452-1519)

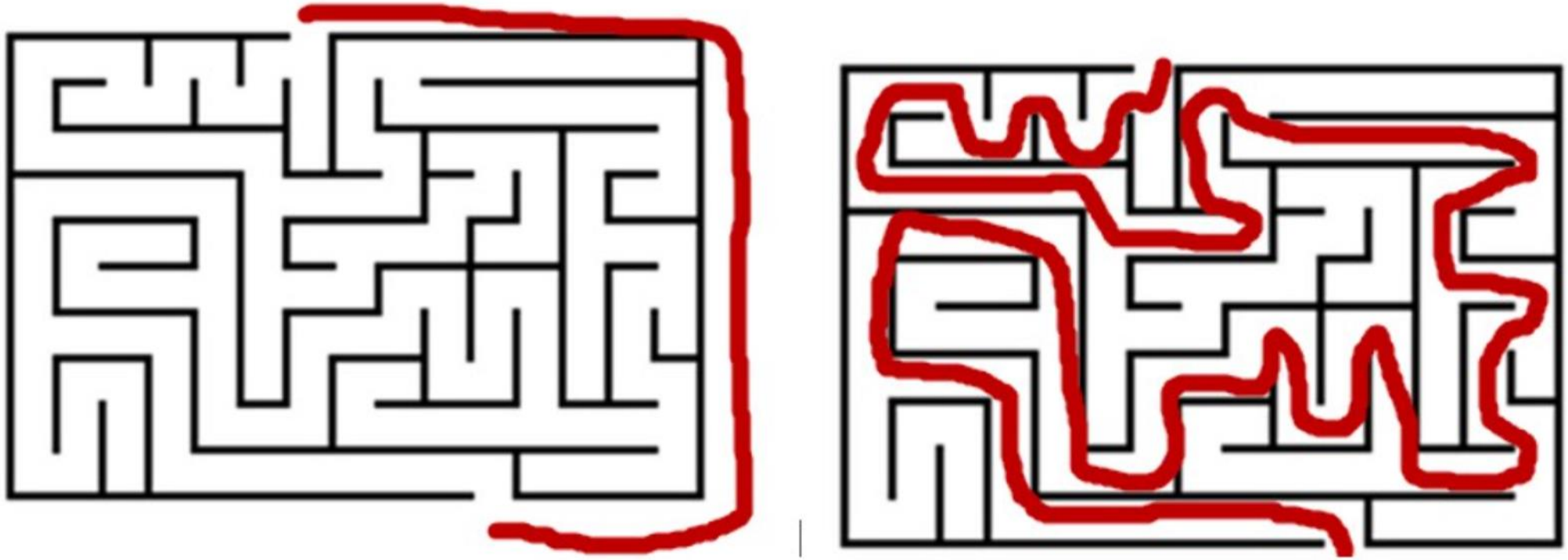
I am a painter, an inventor, and an engineer..... Btw I am also pretty good at geometry and physiology. Learning never exhausts the mind.







Lateral Thinking

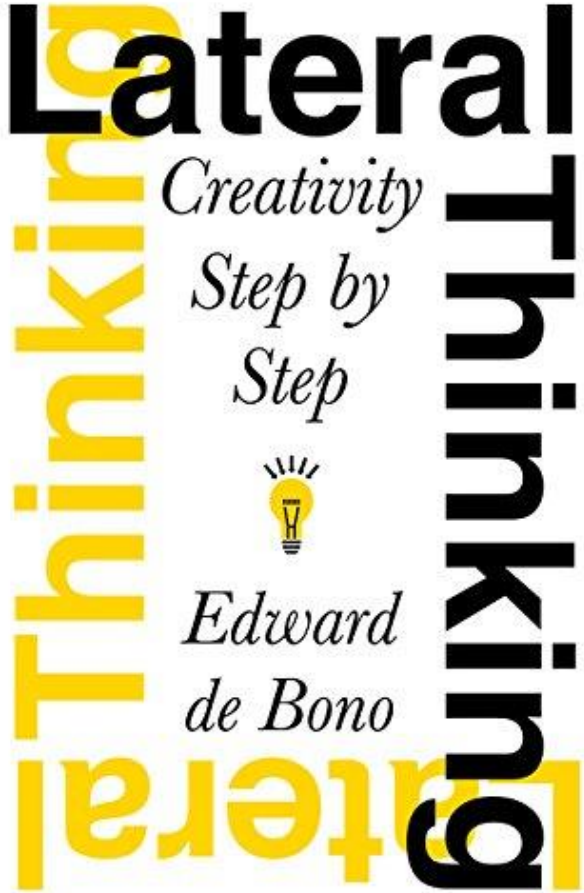


Judgement of Solomon

Lateral Thinking

Everyone has the right to doubt everything as often as he pleases and the duty to do it at least once. No way of looking at things is too sacred to be reconsidered. No way of doing things is beyond improvement.

- Edward de Bono



Grow your ‘GROWTH MINDSETS’

When exploring new things, making mistakes is inevitable and you should give room for mistakes.

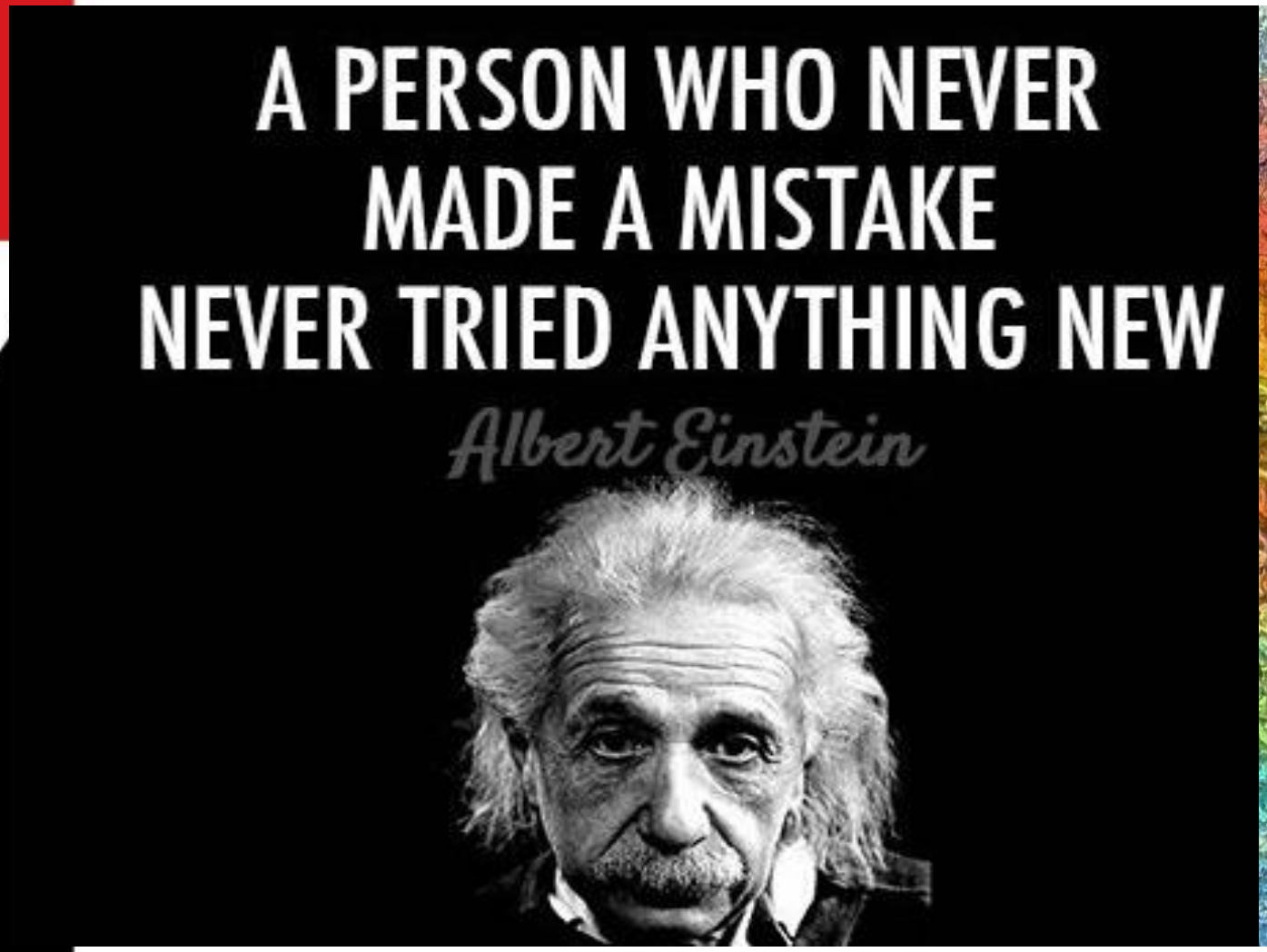
When exploring new things verify the most important assumptions first – the faster you know you are wrong, the better you can adjust yourself and learn.

You can grow fast!

- 'No need to avoid mistakes'
- You need to **be able to measure mistakes and learn from them**
- ***EQ + AQ (Build Resilience)***

Make Mistakes, make them early

See the essence, acquire the wisdom, sometimes details could be forgotten

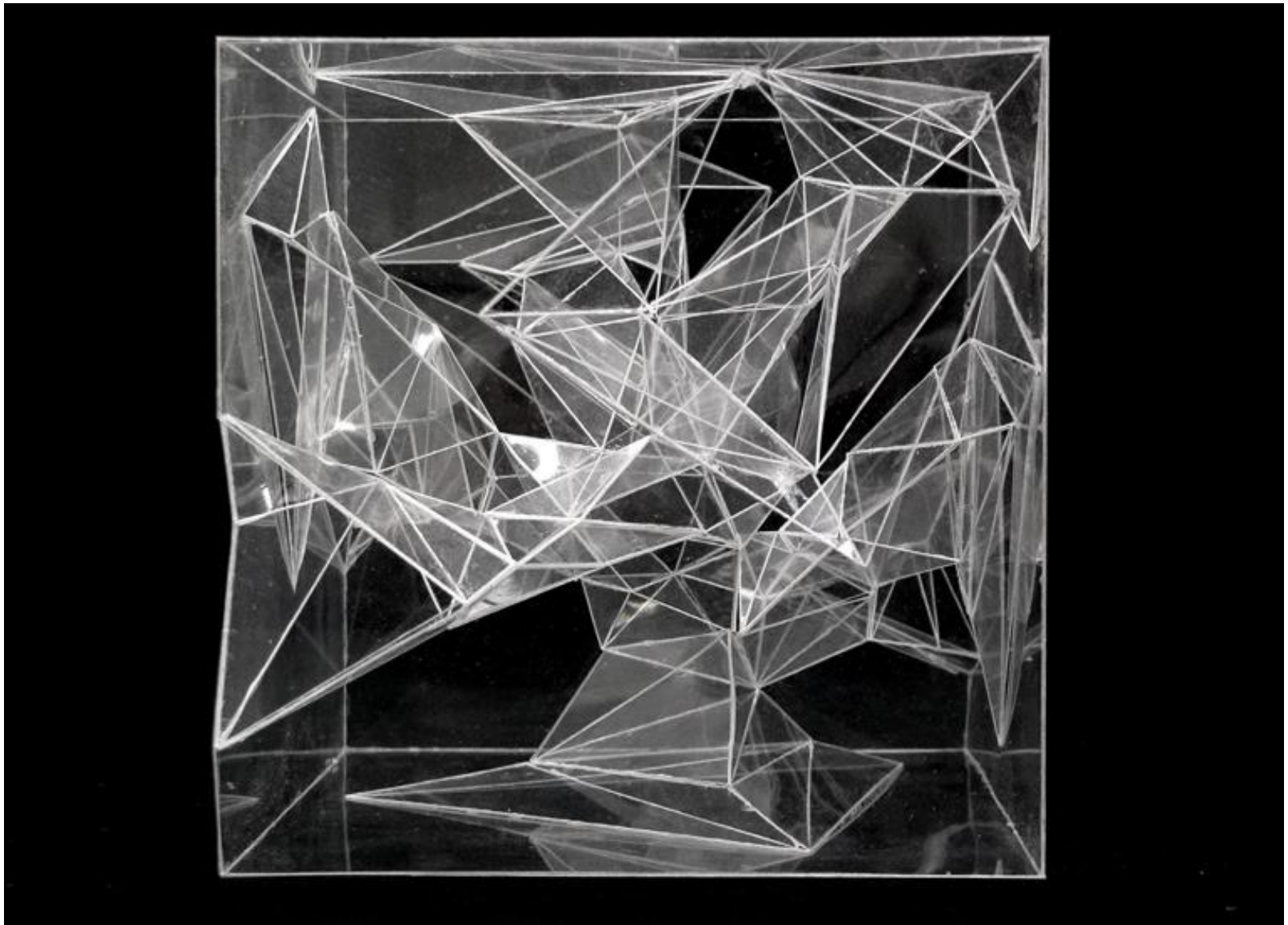

A PERSON WHO NEVER
MADE A MISTAKE
NEVER TRIED ANYTHING NEW
Albert Einstein


Mistakes
are
the
portals
of
discovery.
James Joyce

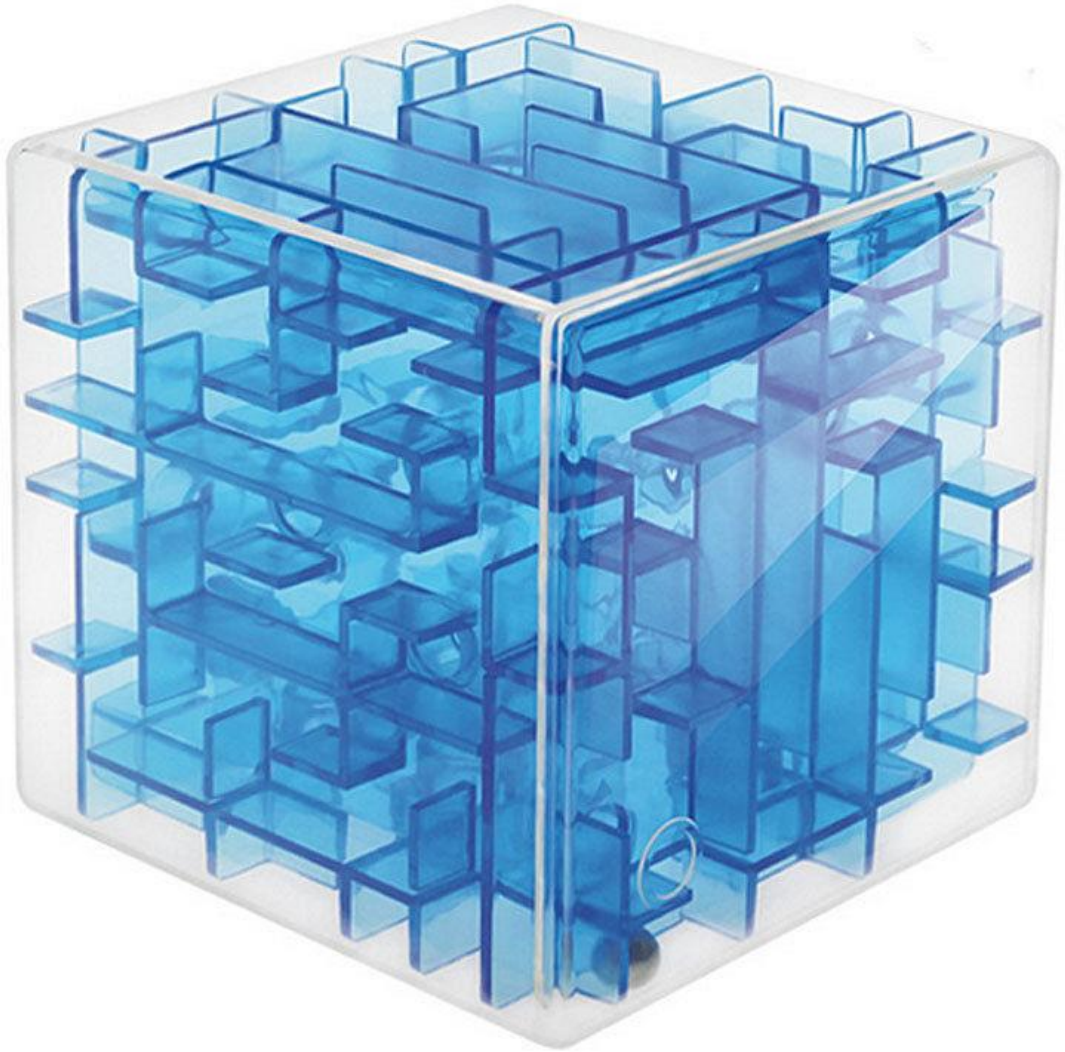
Think outside of the box, Look inside the box (from outside)

Think outside of the box

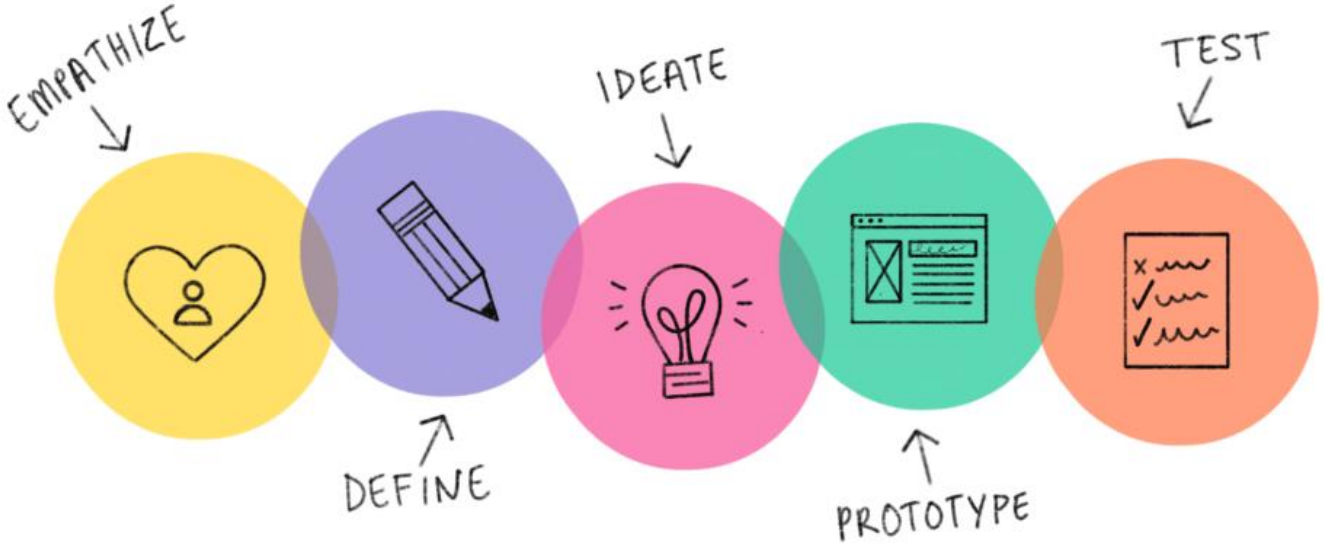
Look inside the box



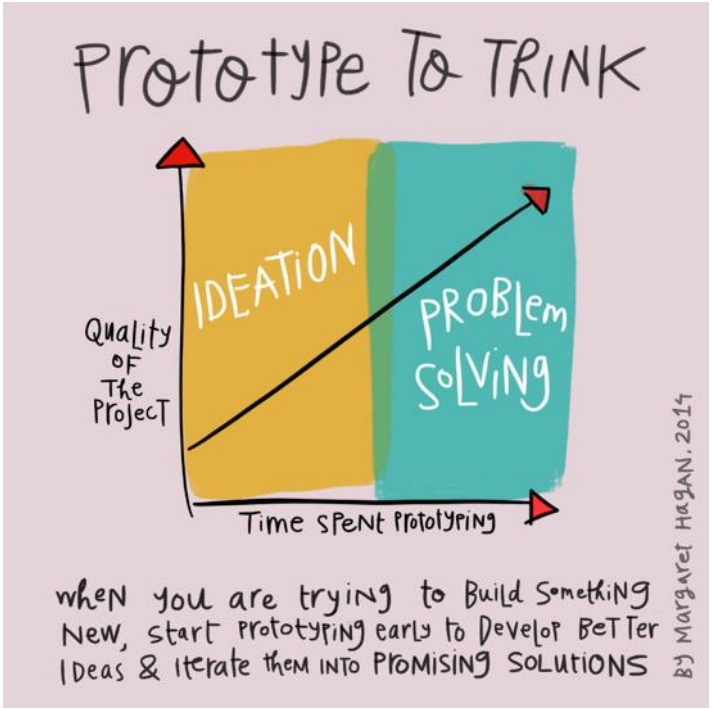
Look inside the box



Design Thinking



Embrace your failures,
Learn to build your confidence

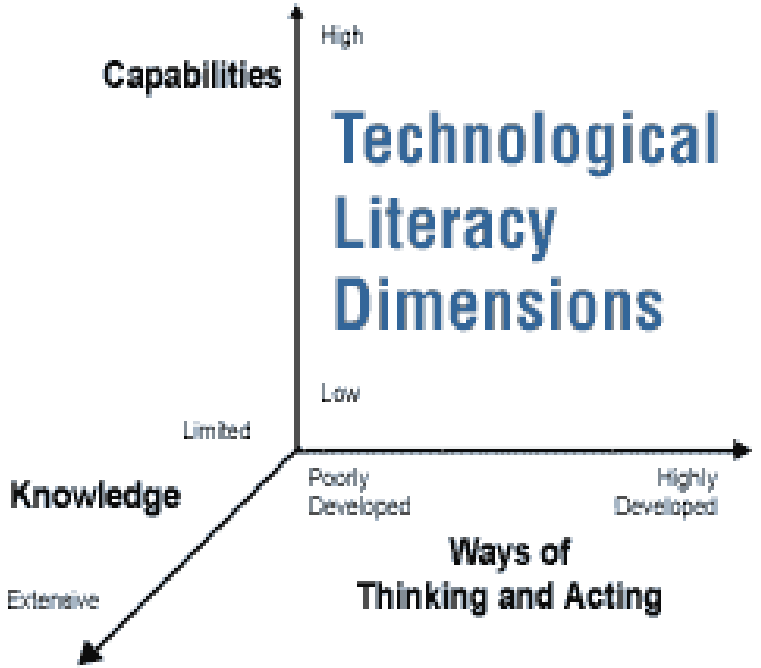


“Design Thinking is a human centred approach to innovation that draws from the designer’s toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.”

Tim Brown

Knowledge is Action, Action is **knowledge**

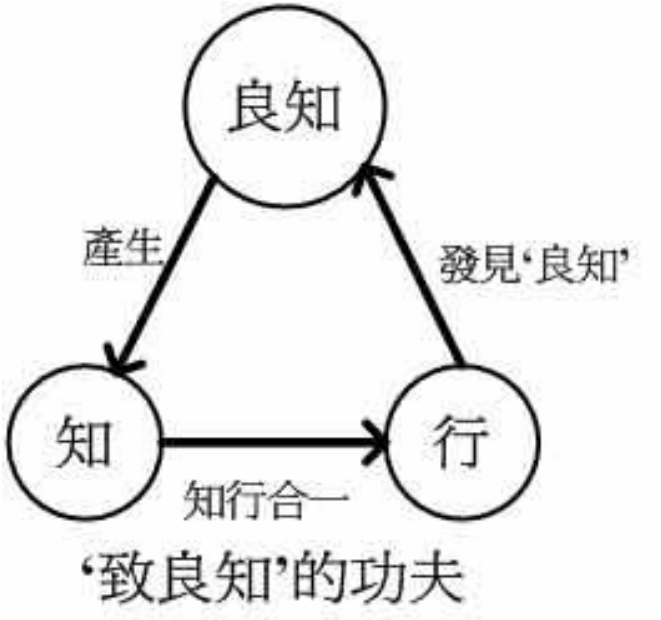
Technological Literacy is of utmost importance:



Knowledge is Action
Action is Knowledge

‘知行合一’

Knowledge is Action, Action is Knowledge
Learning by Doing
Practice with Knowledge



I hear and I forget.

I see and I remember.

I do and I understand.

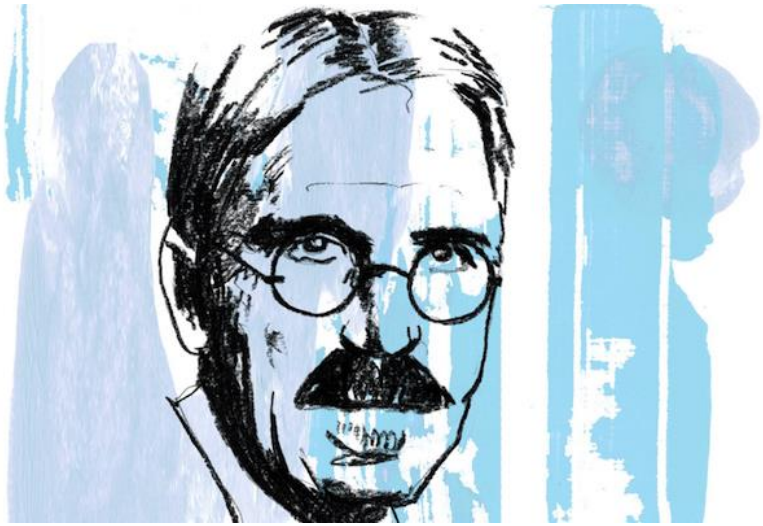
Confucius

王陽明認為, 不僅要認識 (“知”), 尤其應當實踐 (“行”), 只有把 “知” 和 “行” 統一起來, 才能稱得上 “善” 。 ”致良知, 知行合一”, 是陽明文化的核心, 先有致良知, 而後有 ”知行合一”。

Learning by Doing

Give the pupils something to do, not something to learn; and the doing is of such a nature as to demand thinking; learning naturally results.

- John Dewey

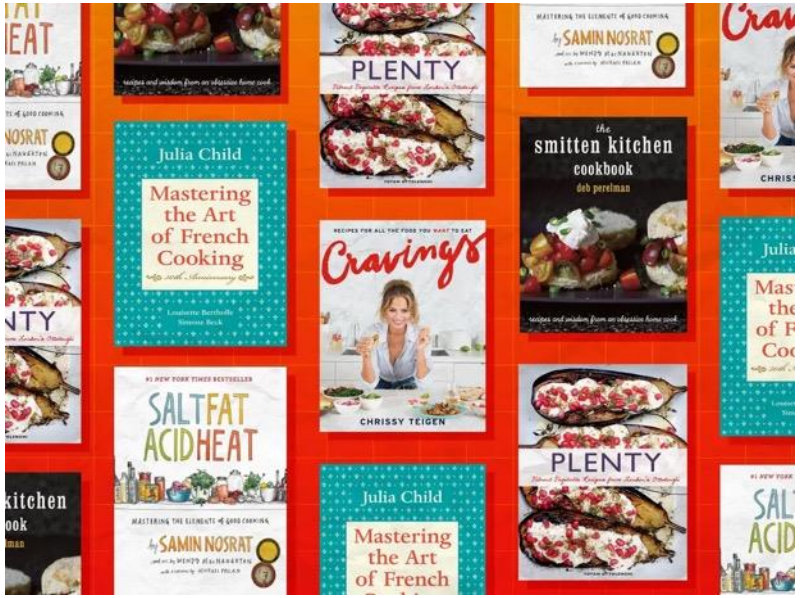


Tell me and I forget, teach me and I may remember, involve me and I learn

Not having heard something is not as good as having heard it; having heard it is not as good as having seen it; having seen it is not as good as knowing it; knowing it is not as good as putting it into practice.

- Xunzi

不聞不若聞之，聞之不若見之，見之不若知之， 知之不若行之， 學至於行之而止矣。行之，明也。-《荀子·儒效》


PLENTY
Julia Child
Mastering the Art of French Cooking
the smitten kitchen cookbook
deb perelman
Cravings
CHRISSY TEIGEN
SALTFAT ACIDHEAT
by SAMIN NOSRAT
PLENTY
Julia Child
Mastering the Art of French Cooking


We cut them well
without mincing them
3:41 / 11:26

Education 4.0

- Focus on **real-world integration of theory and practice**
- Learning responsibilities shift from instructors to learners, **students have to take learning initiates and plan their own learning**
- Instead of didactic instructions in traditional classrooms, integrates **new teaching and learning approaches** e.g. work-based learning, service-based learning, project-based learning, problem-based learning, experiential learning etc.
- Penetration of **new technologies** in the education process

Equilibrium between Skills Supply and Demand

Vocational and Professional Education and Training (VPET)

Applied Learning in Higher Education

- Addressing skills shortages
- Fixing the skills mismatch
- Closing the gaps between university graduate outcomes and employability requirements

Work-integrated Learning (WIL)

Integration of Theories and Practices

Links knowledge to real life!

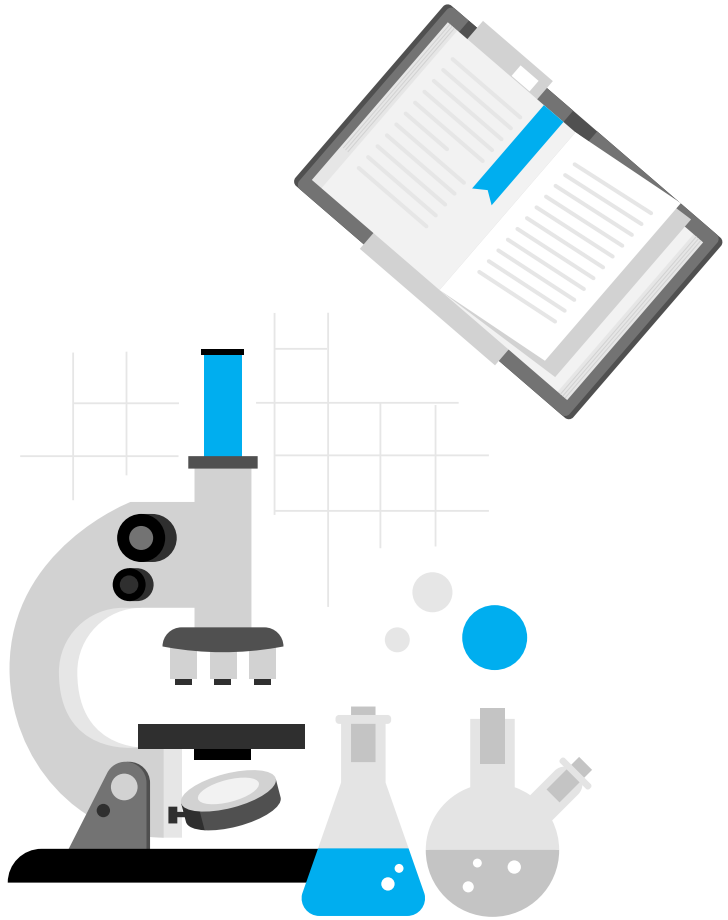
Close Collaboration with Industrial Partners & Professionals

Project-based Learning

Applied Learning in Higher Education

Universities of Applied Sciences (UAS)

- Educating a highly skilled & professional Workforce
- Connecting and supporting workforce needs and capabilities development
- Undertaking applied-oriented, practice-based research
- Industry demand driven, collaborative and multidisciplinary



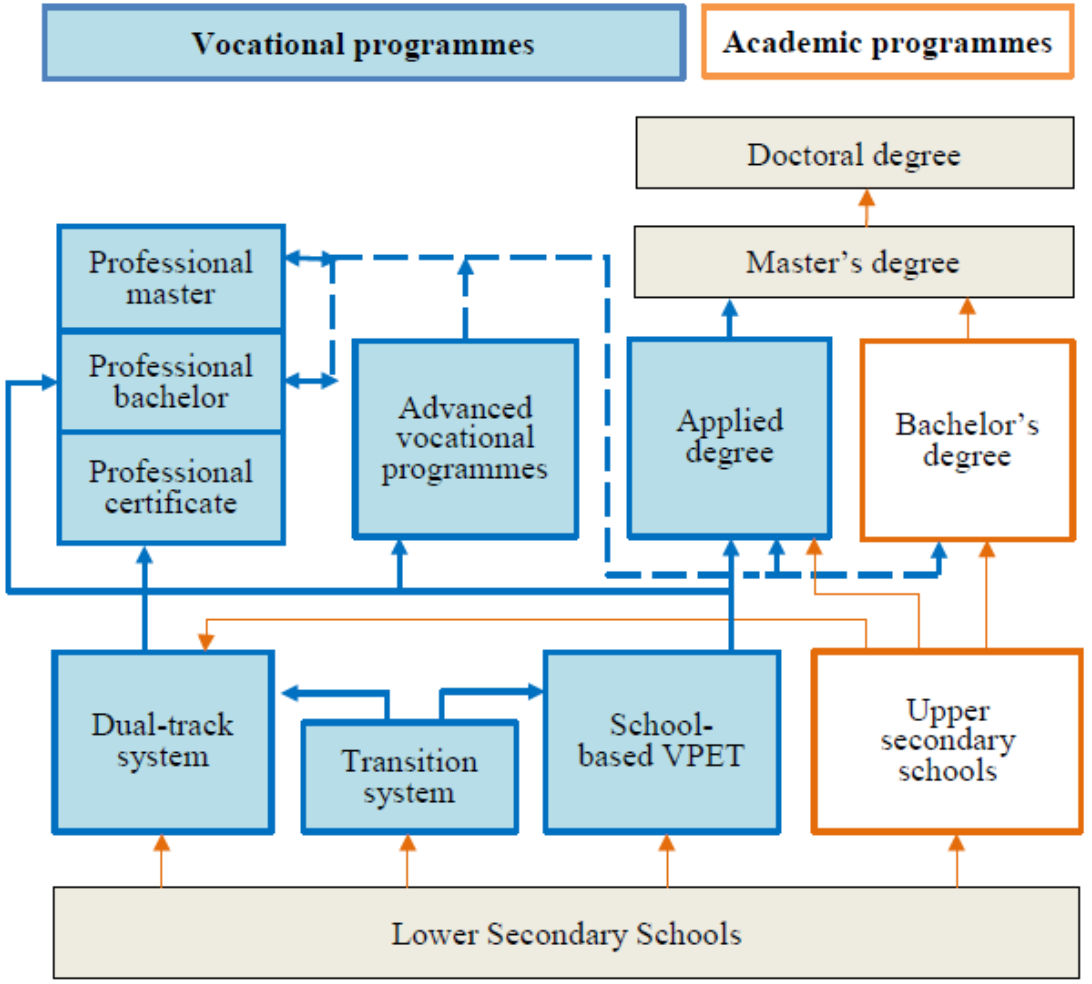
VPET in Germany

- Strong tradition in applied learning – Dual-track system combining school-based and work-based learning
- Established around 50 years ago, previously known as “Fachhochschulen” (Technical Colleges)
- Now - Hochschule für Angewandte Wissenschaften (HAW)
- More than 200 HAW/FH accounts – an important part of the German higher education
- Internships or practical semesters tend to be compulsory
- Around **40 %** of all students in Germany currently enrolled at an HAW/FH (Yr 2021)
- ~**137,000** international students were doing a course at an HAW/FH


HAW Hamburg


Hochschule Aalen - Technik und Wirtschaft

Education System in Germany



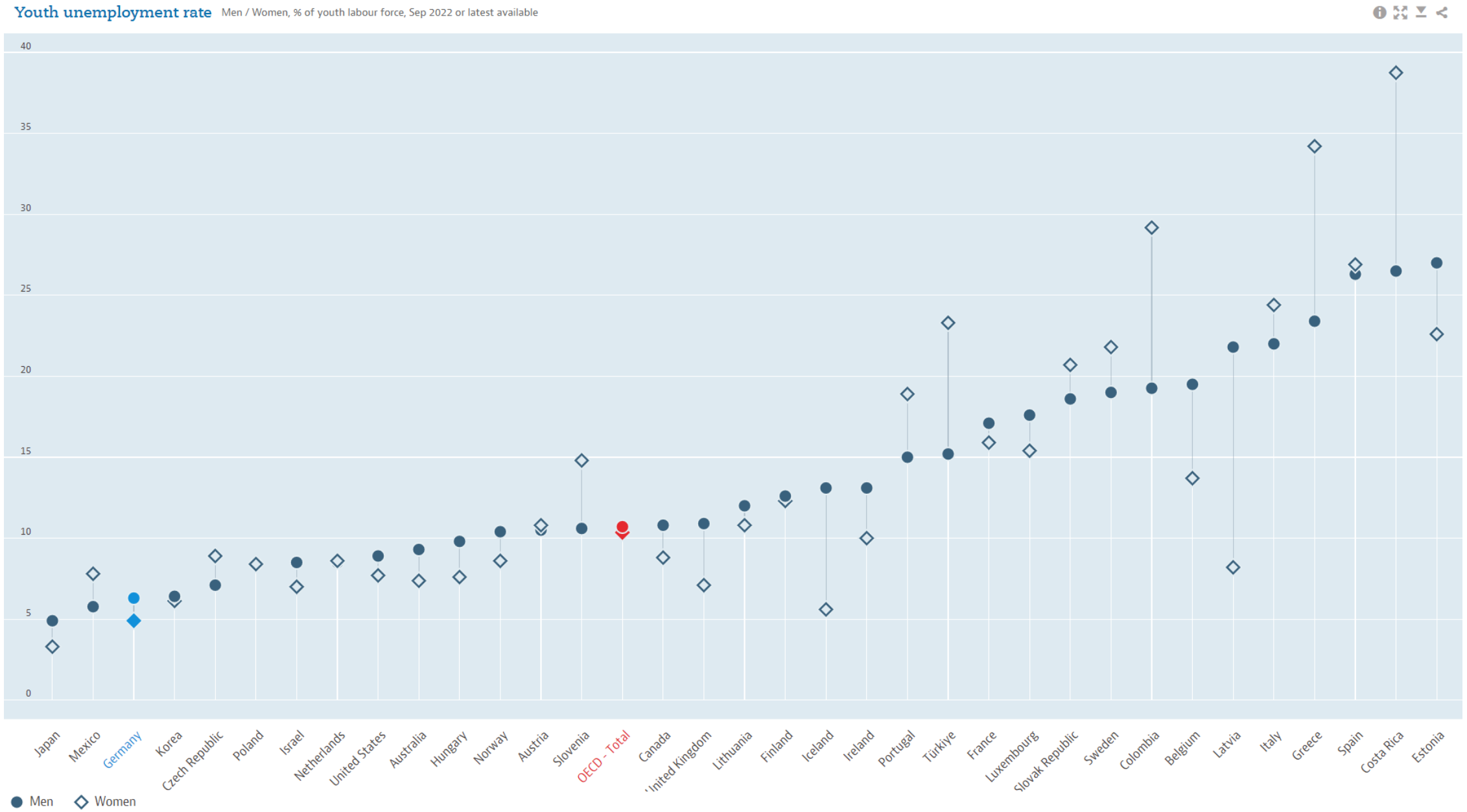
Sources: Autorengruppe Bildungsberichterstattung (2020) and CEDEFOP (2020a).

Germany - Universities of Applied Sciences (HAW/FH)

- Vocational focus
- Prioritize application relevance
- Students routinely engage in practical exercises, such as lab experiments or work in project groups
- Covers 324 occupation
- Strong involvement of enterprises in offering suitable training positions
  - 19% of German companies participated, offering a total of 527,400 apprenticeships for new students
- Applied research with local companies

An engine for regional development and innovative capacity

Hochschule für Technik Stuttgart


Youth unemployment rate
Men / Women, % of youth labour force, Sep 2022 or latest available
40
35
30
25
20
15
10
5
0
Japan
Mexico
Germany
Korea
Czech Republic
Poland
Israel
Netherlands
United States
Australia
Hungary
Norway
Austria
Slovenia
OECD - Total
Canada
United Kingdom
Lithuania
Finland
Iceland
Ireland
Portugal
Türkiye
France
Luxembourg
Slovak Republic
Sweden
Colombia
Belgium
Latvia
Italy
Greece
Spain
Costa Rica
Estonia
Men
Women

- After completion of the 4-year secondary education, the vast majority of students (74% in 2020) would pursue VPET
- Two of the six public universities were established as “University of Applied Learning” in 2009 and 2017 respectively (17% of overall university intake)

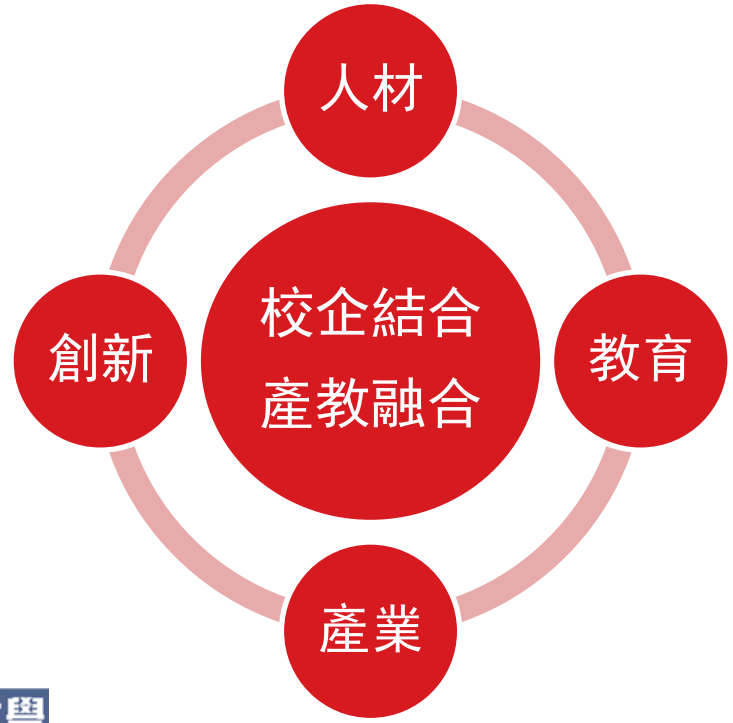
- Created in response to industry demand for graduates, the curriculum is often developed in consultation with employers
- Approximately 40 colleges, universities and university colleges in Canada offering applied degree programs across a broad spectrum of fields

Helsinki Metropolia University of Applied Sciences

- 24 private Universities teaching applied science and technology in Finland
- One of the largest Universities of Applied Sciences in Finland
  16,836 students (Year 2021)

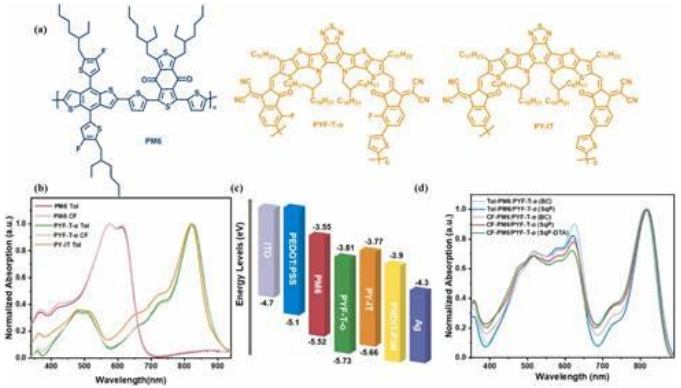
VPET in China

- Transform undergraduate colleges and universities to Application-oriented undergraduate colleges and universities (應用型本科高校) (13th five-year plan)
- More than 300 colleges and universities joined the pilot scheme
- School-enterprise combination
- Integration of production and education
- Create an ecology of education, talent,
- Deepening the integration of production and education and promoting the organic connection between the education chain, the talent chain, the industrial chain and the innovation chain
- E.g. Shenzhen Technology University



深圳技術大學
SHENZHEN TECHNOLOGY UNIVERSITY
SZTU

Shenzhen Technology University



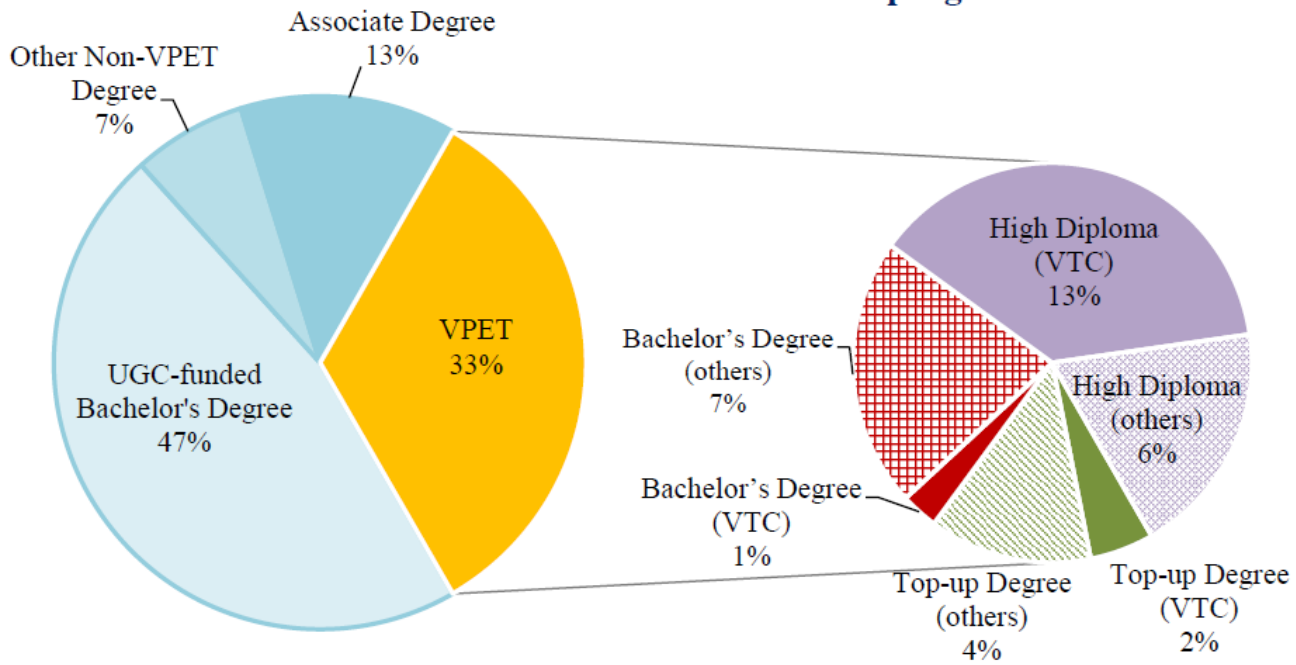
- Set up specialties and courses according to the needs of the industrial chain and innovative chain
- Implement a modern apprenticeship system in teaching
- Meet the demand of pillar industry, strategic emerging industry and future industry in Shenzhen
- Promote cooperation between university and enterprises
- Extensive cooperation with universities of applied sciences over the world

VPET in Hong Kong

- Long history of providing VPET-type programmes
  - Milestones:
    - Establishment of Vocational Training Council in 1982
    - Introduction of Qualifications Framework (‘QF”) in 2008
    - Introduction of the Training and Support Scheme (TSS) in 2014 (regularized in 2019)

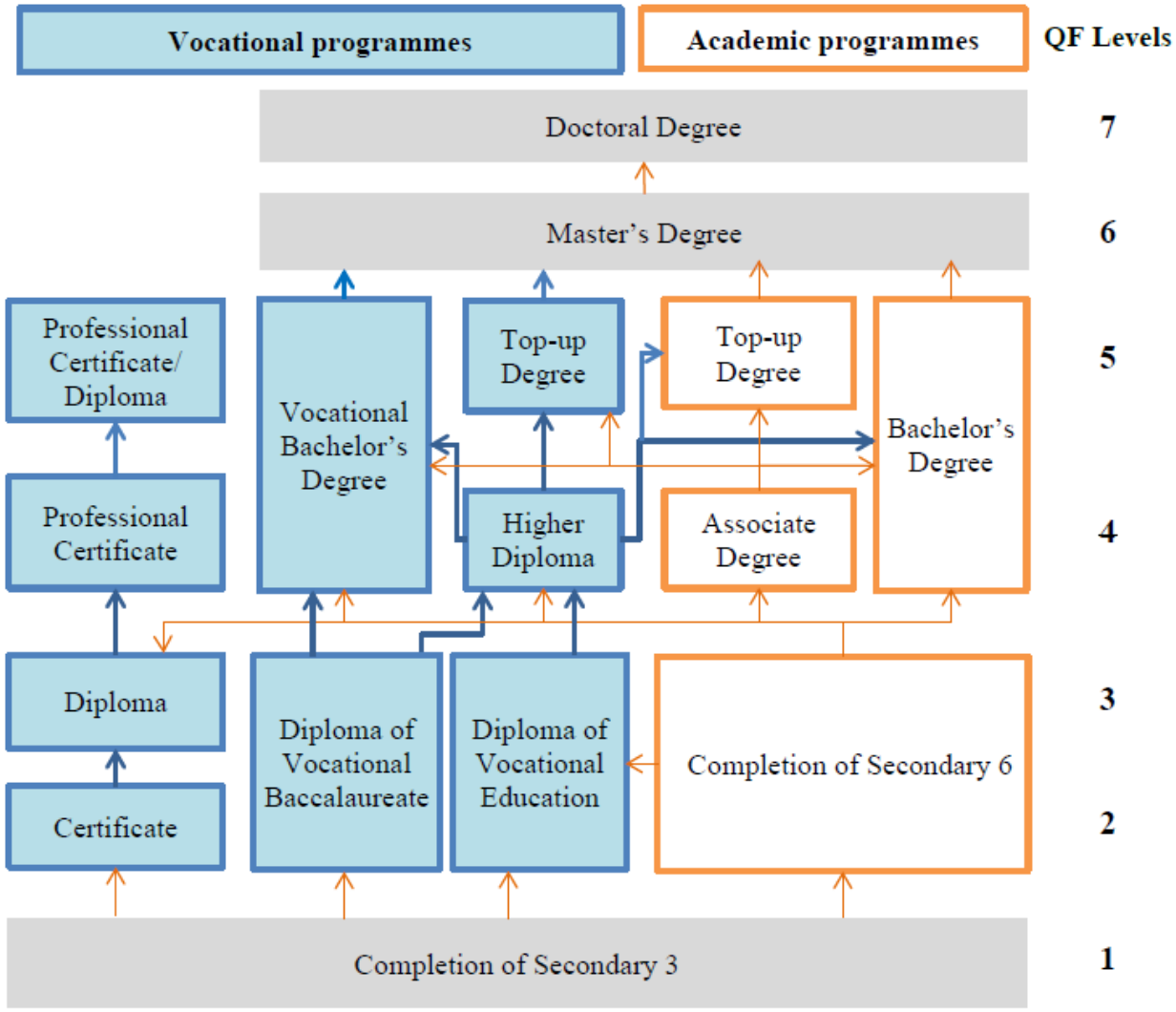
Post-secondary students enrolled in VPET programmes in 2019-2020

Enrolment in VPET: 58 441
Enrolment in other programmes: 116 625



Sources: PricewaterhouseCoopers (2021) and Committee on Self-financing Post-secondary Education (2022).

Key VPET Qualifications under QF Framework



Source: Task Force on Promotion of Vocational and Professional Education and Training (2020).

VPET in Hong Kong, Singapore and Germany

	Hong Kong	Singapore	Germany
Employed Person by Skill level (%)			
- High	40.1%	59.3%	46.4%
- Middle	39.5%	33.4%	44.5%
VPET participation rate (%)			
- Upper Secondary	14%	27%	48%
- Post-Secondary	33%	53%	39%
Expenditure per Student			
- VPET	60,000	97,000	146,000
- Comparable Academic Level	91,000	79,000	108,000
Dedicated Universities of Applied Sciences (UAS)	No	Yes	Yes
Share (%) in UAS enrollment	N/A	13%	35%
Business Engagement	Limited	Moderate	Broad

Source: Research Office, Legislative Council Secretariat IN01/2022

VPET – Equip youth with knowledge, skills and competencies for occupation

- Uplift status of VPET
- Elicit support from businesses to promote work-based learning
- Incorporate views of business in the formulation of VPET policies
- Extend VPET to more economic sectors
- Create clearer progression pathways by recognizing qualification of vocational / applied subjects

Source: Research Office, Legislative Council Secretariat IN01/2022

Strengthen Our Education System

- Vocational and Professional Education and Training (VPET) – (Chp VII,122)
  - Expand Study Subsidy Scheme for Designated Professions/ Sectors
    - Top-up degree will be covered for the first time and priority will be accorded to programmes of applied nature that involve industry-institution collaborations
  - Explore the introduction of more applied degree programmes
  - Expedite the development of Vocational Qualifications Pathway (VQP)
  - Launch the Diploma of Applied Education (DAE) programme
  - Enrich applied learning and workplace experience of secondary students
  - Enhance VPET promotion

Pilot Project on the Development of Applied Degree Programmes

In 2020

- The Education Bureau (EDB) launched the Pilot Project to gain experience in the practical issues involved in the development of applied degree programmes and to assess the implications for the higher education system as a whole

EDB

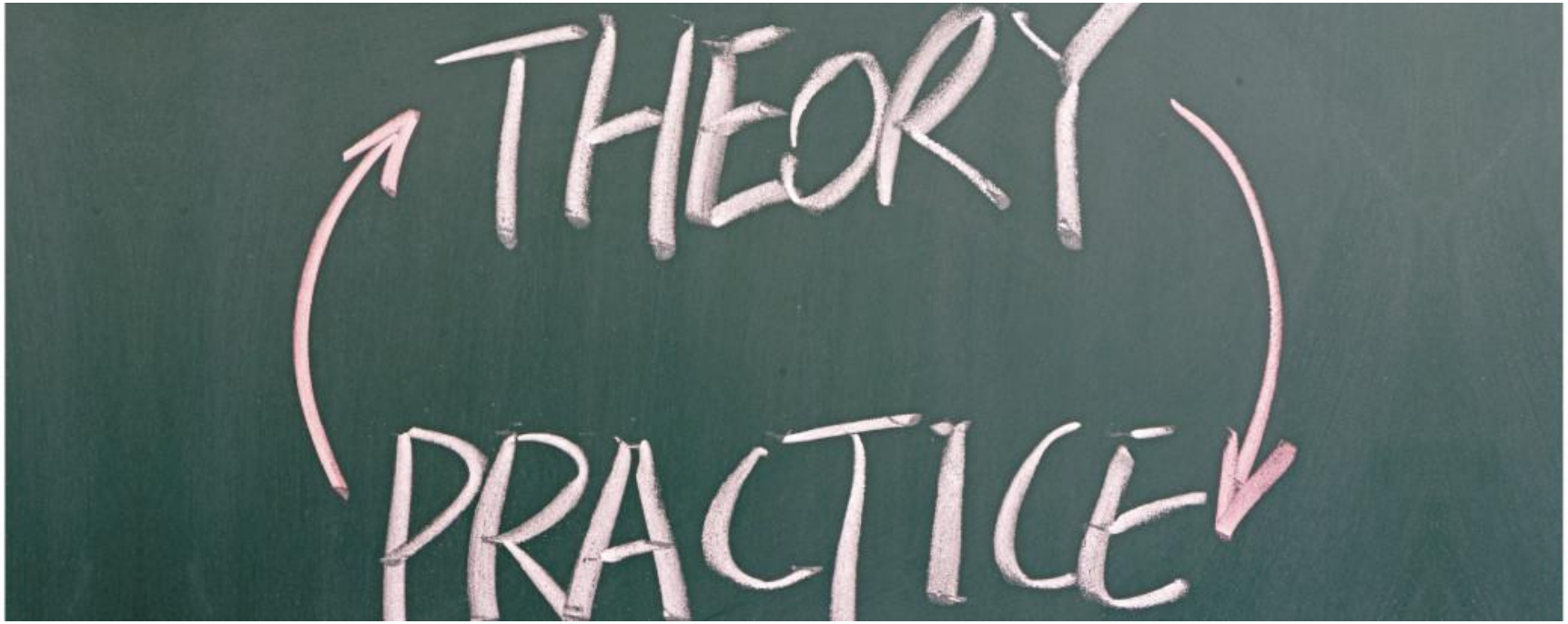
Example of an Applied Degree Programme – THEi BSc (Hons.) in HALM

In 2021

Bachelor of Science (Honours) in Horticulture, Arboriculture and Landscape Management programme by THEi has been selected as one of the degree programmes for the Pilot Project

What is an Applied Degree?

An applied degree blends theory or academic studies with hands-on experience.



Distinct and Prominent Features of Applied Degree Programme

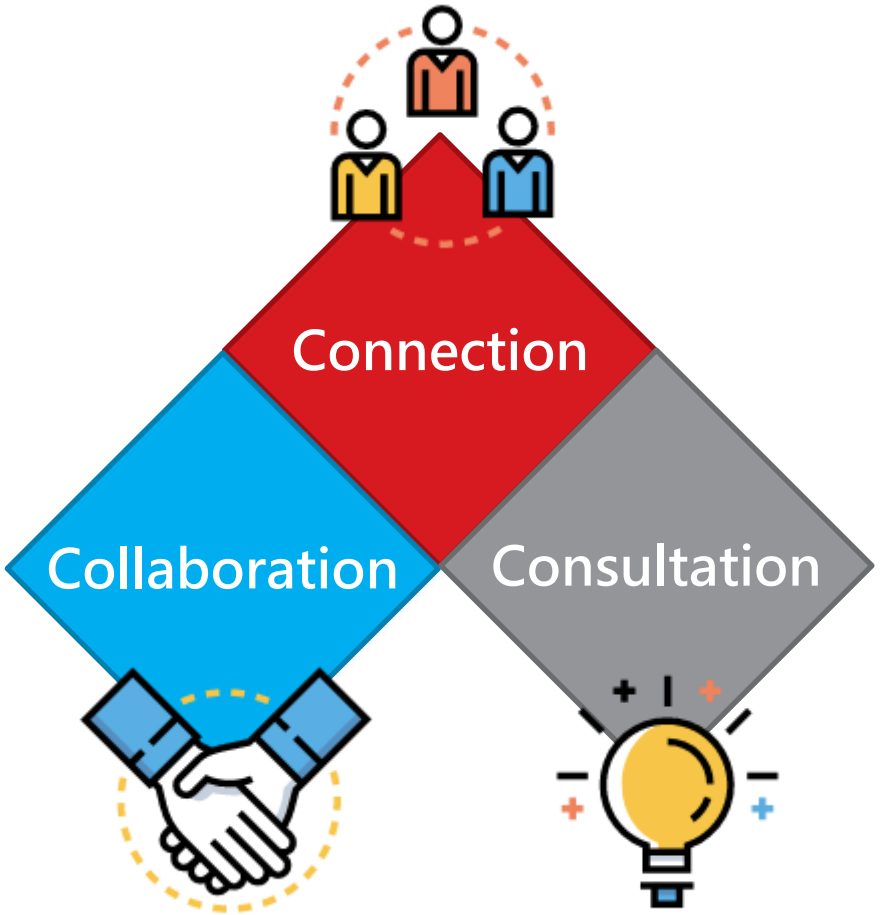
Equivalent to conventional academic degrees (**QF Level 5**)

Applied focus - blending theory and practice: substantial work-based learning element in the curriculum & prepare graduates for a specific trade/industry

More **flexible admission** requirement

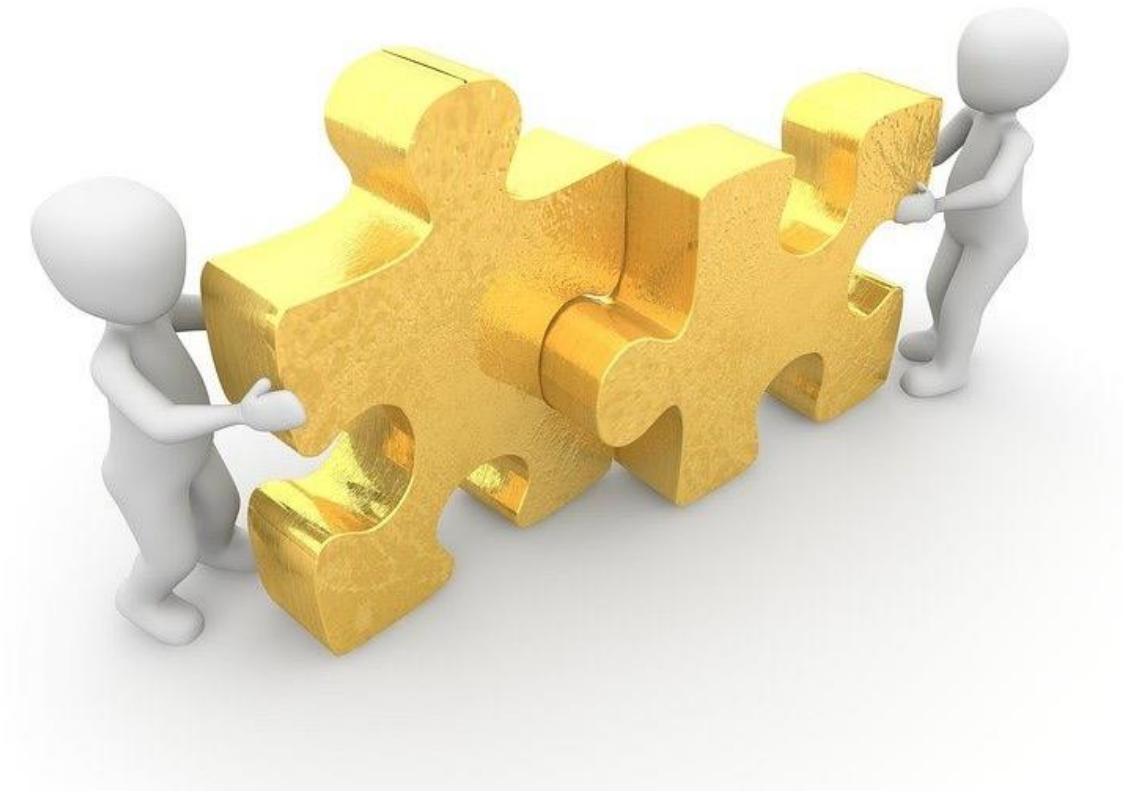
Strong **industry** involvement & with trade recognition

Industry Involvement and Recognition



- Ensure the programme is **relevant and current** to the development and manpower needs in Hong Kong
- Provide students with the **latest industry-relevant training**
- Enhance the development of **generic or professional skills**
- Help develop **professional identity** (e.g. roles, responsibilities, values, ethical standards)
- Enhance the **employability** of graduates

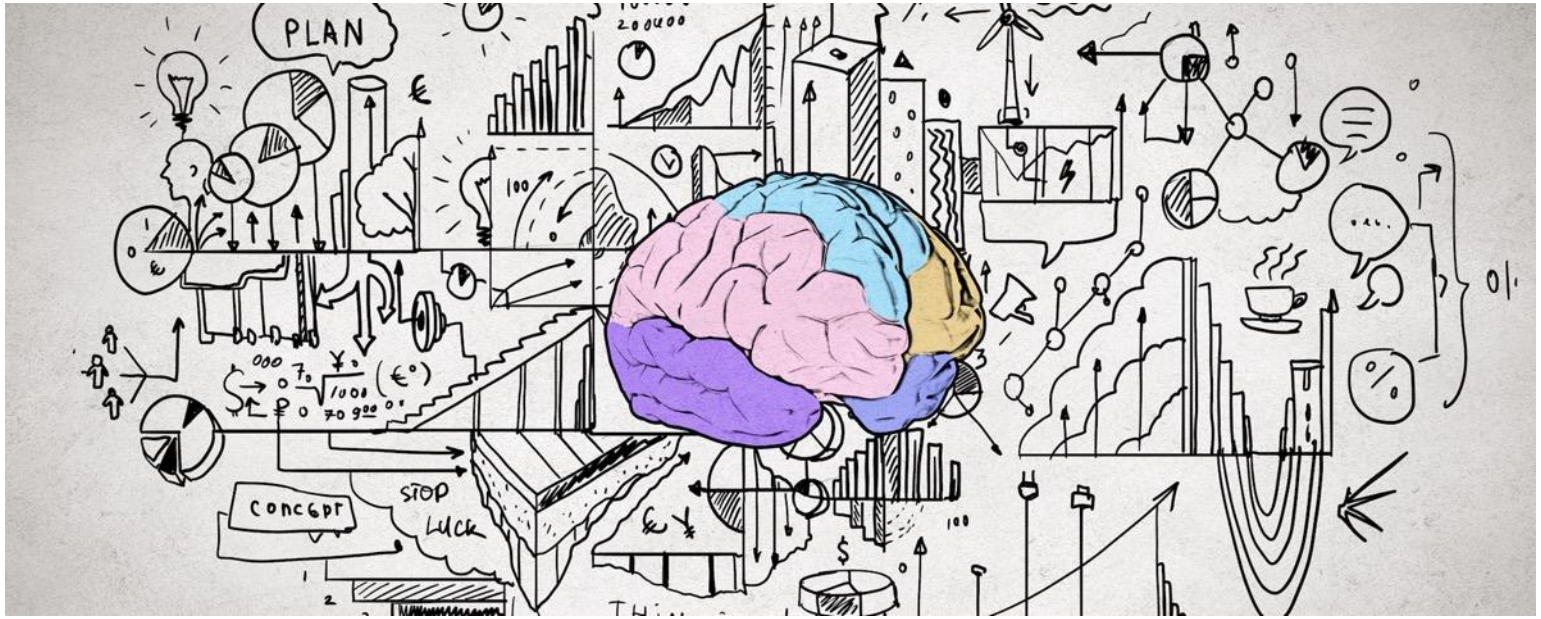
Industry Collaboration Opportunities



- Internships
- Final Year Projects (FYP) – Research/Professional Projects
- Work-based learning
- Project-based learning
- Field trips
- Other…




Applying knowledge and skills to investigate and respond to a driving question based on an authentic challenge, need, problem or concern



A common vision of education

Thanks a lot for your attention!

Q&A