

# **"New Career Pathway for Young People in Hong Kong – Update on Vocation Training"**

**Dr Christopher Leung**

**Vice Principal, HTI-CCI-ICI  
Vocational Training Council  
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# **Career in the Future ???**

## **Challenges of the Four Phases of Industry Revolutions**

### ■ **Industry Revolutions (1-4):**

- **1. Mechanization, Water Power, Steam Power**
- **2. Mass Production, Assembly Line, Electricity**
- **3. Computer and Automation**
- **4. Cyber Physical Systems (e.g. AI/Robotic Revolution, Biotechnology)**
  - 1. Enhancement of Ability**
  - 2. The era of Big Data application**
  - 3. Over-enhancement becomes Displacement of Jobs**
    - **Coupled with impact of Disruptive Innovation**

# Career in the Future ???

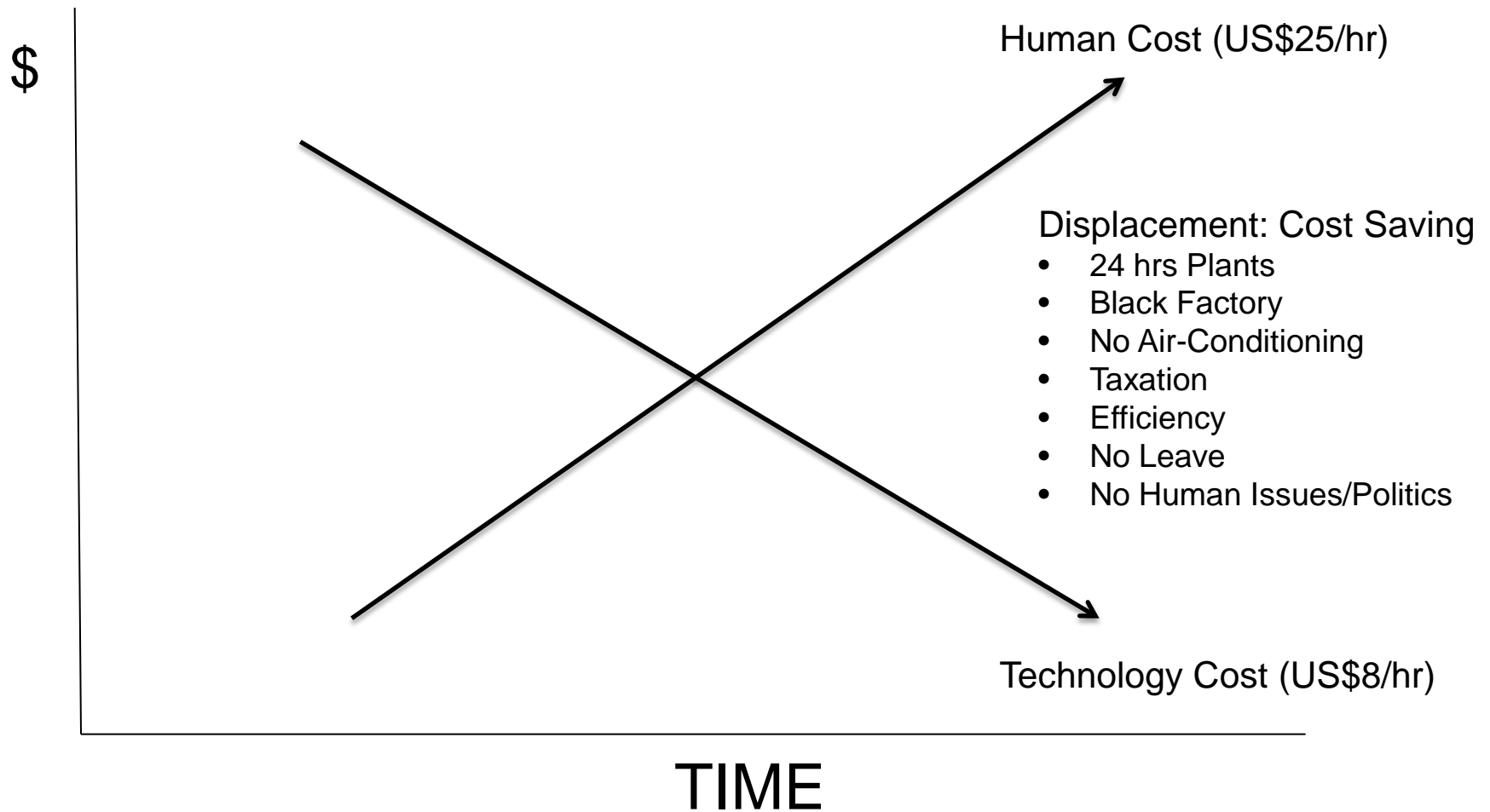
## Industry 4.0

- **World Economic Forum (2016)**
  - **Five Million Jobs lost by 2020 - the Real Challenge of the Fourth Industrial Revolution**
- **World Economic Forum (2017)**
  - **65% of children entering primary school today end up working in a completely new job types that **don't exist today****

# Career in the Future ???

## Cost Impact

### Technology Versus Human



# Career in the Future ???

## Disruptive Innovation:

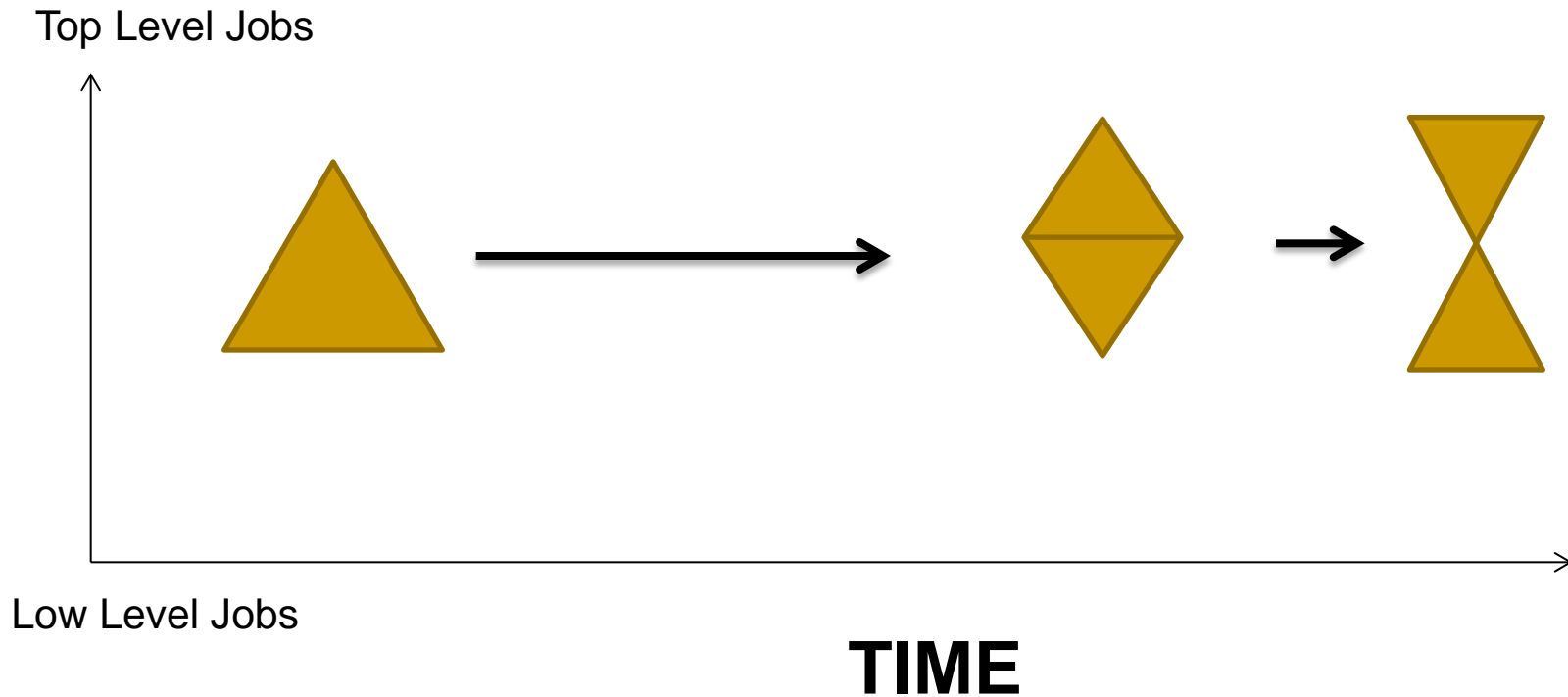
(Job Disappearance on top of Displacement)

Disruptor	Disruptee
Personal Computers	Mainframe and mini computers
Digital Photography	Chemical Photo films
E-mails, Whatsapp, Twisters	Mails, fax-machine, long-distance calls
Community colleges	Four-year colleges
Discount retailers	Full-service department stores
Smartphone	Mobile phone, camera, walk-man
Price right, Trivago, Hotel.com	Ticketing, reservation agents

# Disruptive Innovation

- **Jobs Displacement**
  - New Labour Market materialise out of the old
- **Worsen Inequalities (Loss of Bargaining Power)**
  - Low Skills Jobs
    - Office and Administration
    - Manufacturing and Production

# Impact on Employment Profile



# Vocational Education: Skills Excellence (Humanistic Skills)

## Top 10 skills

### in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility



### in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity





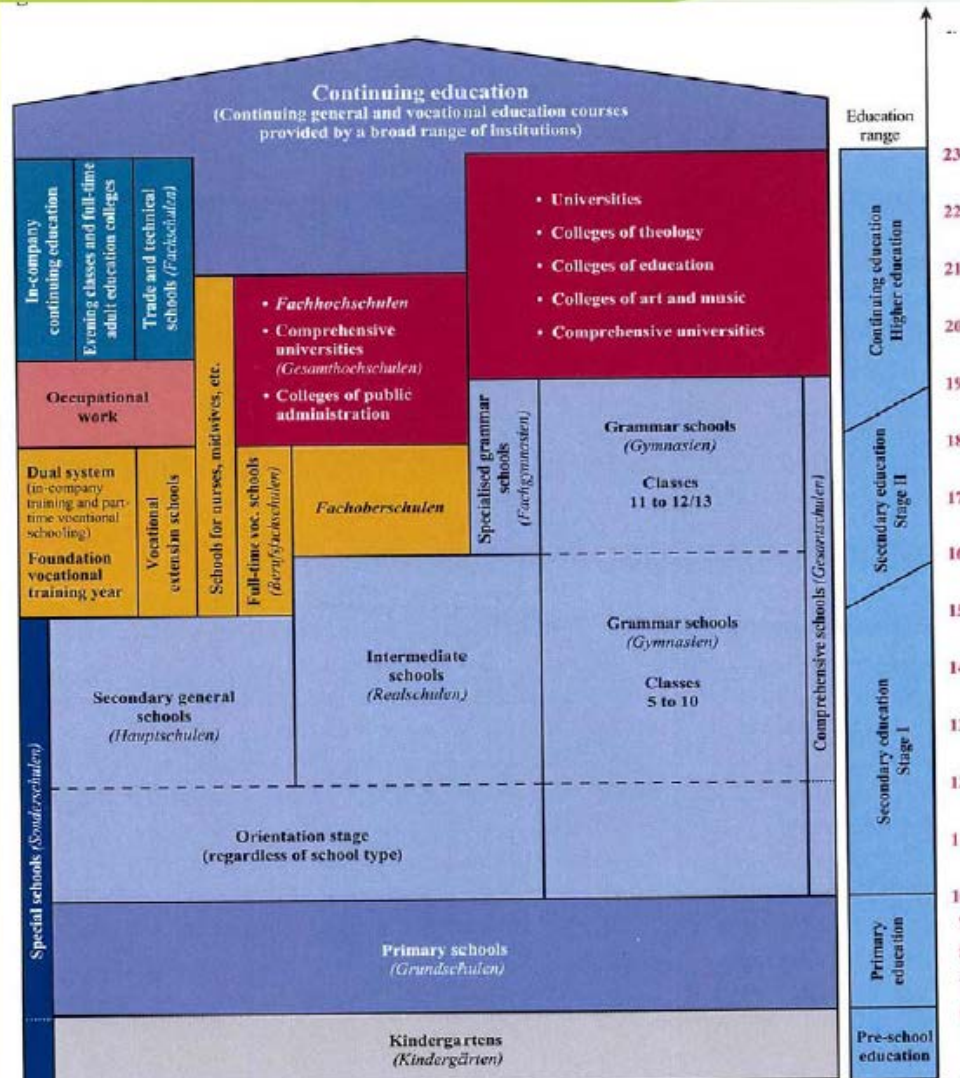
# **Vocational Education**

## **(“Examples of Successful System in the World”)**

- **Skill Based**
- **Career Paths**
- **Qualification Embedded**
- **Culturally Facilitated**

# German Education System (Overview)

German

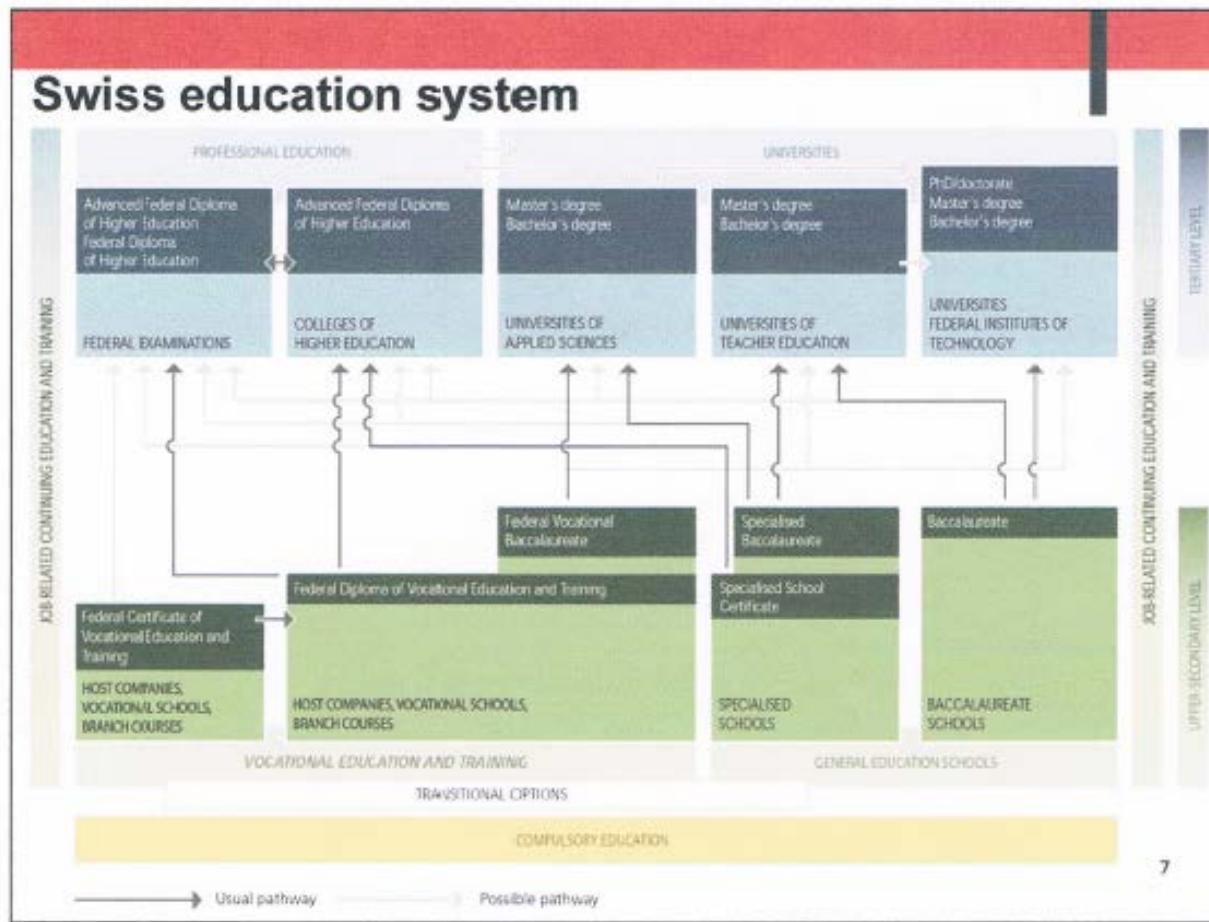


Source: BMBF

# German Vocational Education System (Observations)

- **Dual VET System as a common path to work for young people**
  - “Dual” means VET delivery is taken place at 2 learning venues (Company 70% + Vocational School 30%)
- **On average 56% population enter Dual VET**
- **Low youth unemployment rate at 7.1%**
- **Collaboration among stakeholders**
  - Employers, chambers, unions, vocational school, State government and Federal government
- **Even in Germany with a deep culture for VET, the trend is that more parents/students prefer the non-vocational route**

# Swiss Education System (Overview)



# Swiss Education System (Observations)

- ❑ **Rectors' Conference of Swiss Universities formed in 2015:**
  - **Co-ordinate work of its members in teaching, research, continuing education, and services**
  - **Foster co-operation with education and research organisations in Switzerland and overseas**
- ❑ **Has 3 chambers (sections):**
  - **10 Universities and 2 Federal Institute of Technology**
  - **9 Universities of Applied Sciences (7 public + 2 private)**
  - **14 Universities of Teachers Education**
- ❑ **Each chamber represents interests of their members in the wider Swiss university system and society**

# Vocational Education (Upholding Graduate Attributes)

## ■ Knowledge

- Professional Knowledge
- Generic Knowledge (**Global Vision**)

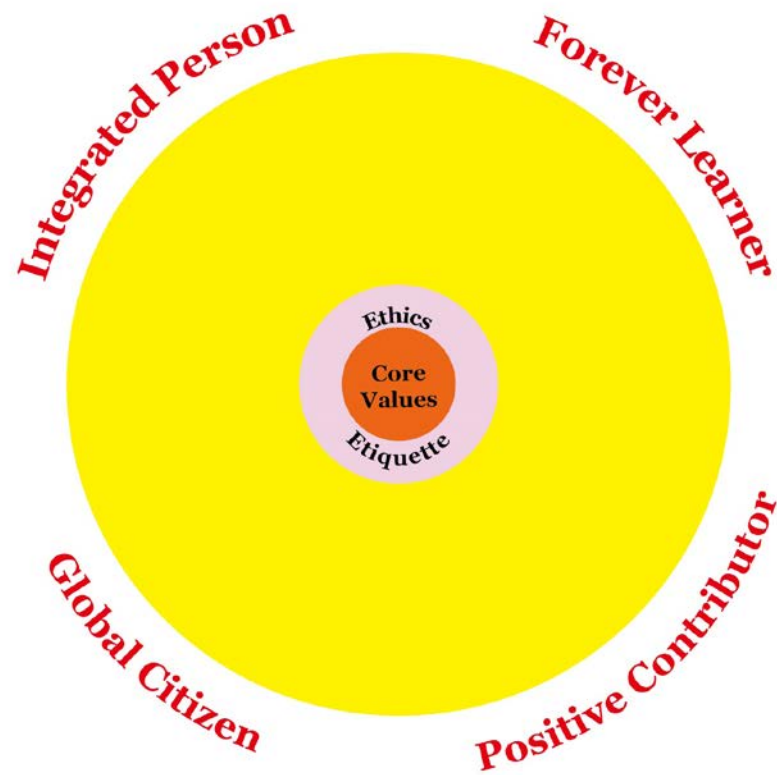
## ■ Skills

- Professional Skills (Extends beyond low-level hands-on Skills)
- Generic Skills (Language, IT, Life Skills, **Humanistic Skills**)

## ■ Attitude

- Can Do Attitude
- Work Ethics
- **Life-Long Learning**

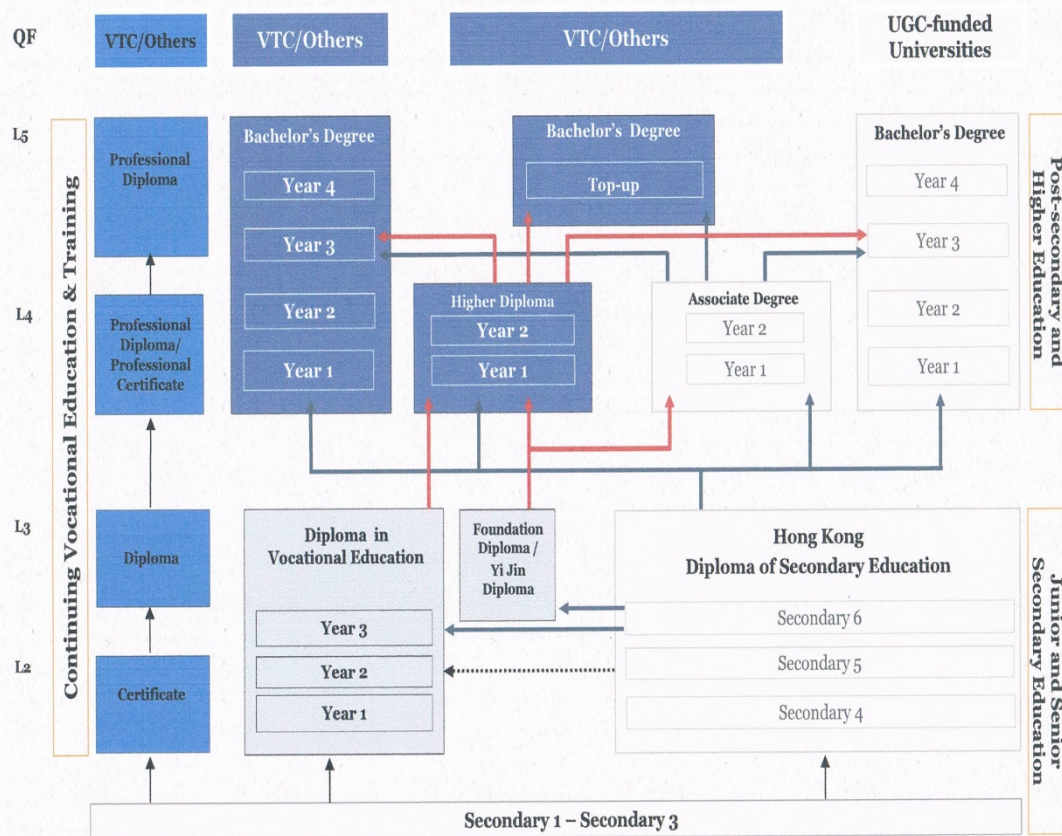
# Vocational Education Helps Character Building (Learn by Doing; Outcome-based Learning)





# Existing Pathways

## Hong Kong Vocational Education System: Articulation Pathways 香港職業教育晉升途徑



Source: Vocational Training Council

6 Feb 2015



# Decision (Risk Taking) for the Life: (Critical Points at SS3 and SS6)

- SS3 at age 14-15
  - Continue to Stay in DSE Study
  - If not, which Career Skills to be Acquired?
  
- SS6 at age 17-18
  - University Study?
  - Sub-degree (Higher Diploma, Associate Degree)?
  - Other Skill Training Programme?
  - Work?
  
- Not to be left at home alone before age 16
  - Parents
  - Peers (Crowding Effects)
  - Self
  - Default Selection by Selection

# Vocational Education (Risk Management)

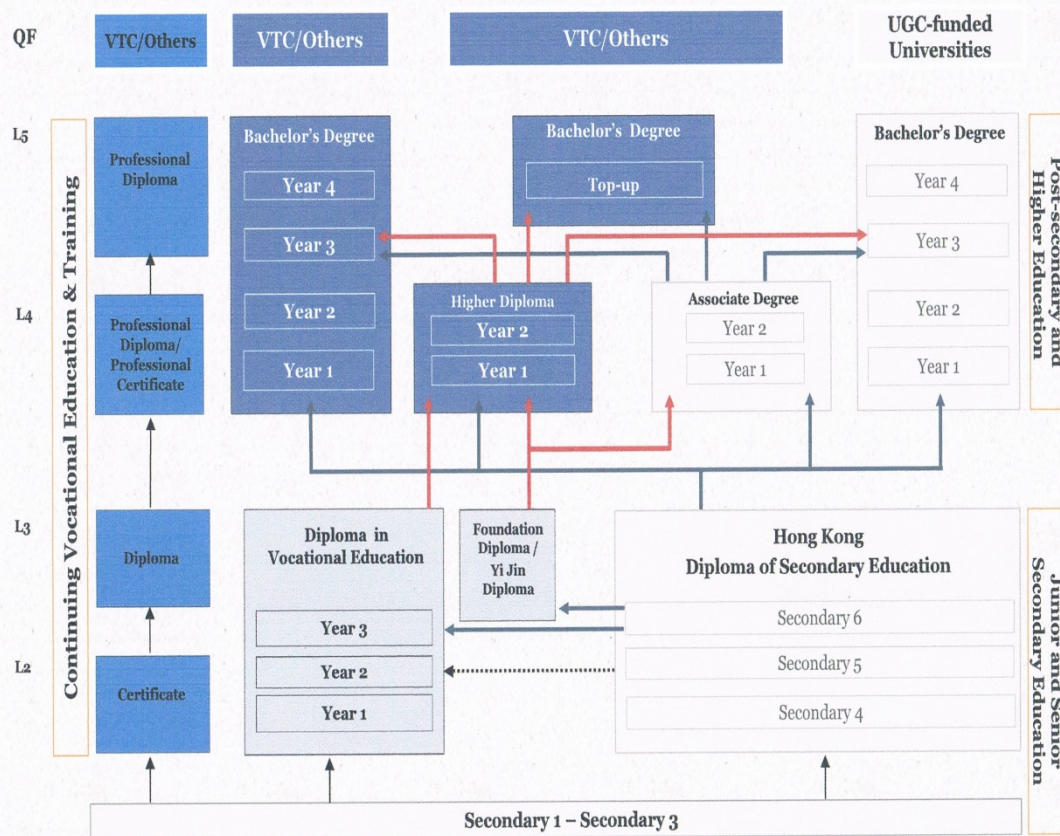
- **No Absolute Ability to Predict Future Skills Requirements**
  - **Prepare for Immediate Employment**
    - Population based Approach
    - Feasibility Study before Preparing a Programme
    - Training Board
    - Time Pacer Metabolism
  - **Multiple Pathways**
    - Multiply Entries and Exits
    - Recognition of Prior Learning Experience
    - Qualification Framework
    - Articulation Pathways
  - **Students**
    - Life-long Learning Abilities
    - Self-reflection Abilities
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# Modern VPET System

- A vibrant, through-train learning system
- Established pathway for progression
- Offers vast career/academic progression opportunities

# Existing Pathways

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Source: Vocational Training Council

6 Feb 2015

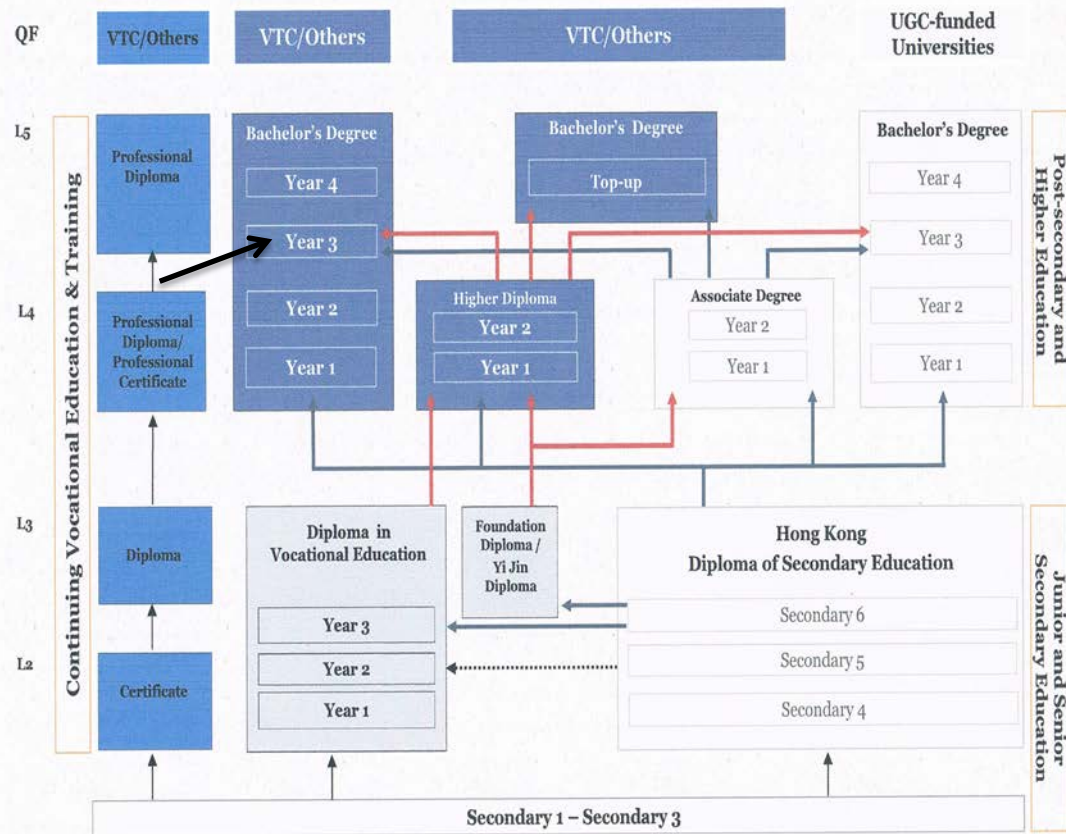
# Features that limit Permeability

- Meeting Common Descriptors in HD/AD admission

Min Entry Requirements for HD/AD (QF Level 4)	HKDSE Holders (QF Level 3)	Certificates Holders (QF level 2, 3)	Diploma Holders (QF level 2, 3)
<p>Level 2 in five HKDSE Subjects (including English and Chinese)</p> <ul style="list-style-type: none"> <li>Each applicant is allowed to use not more than 2 Applied Learning Subjects in the application.</li> <li>Other Acceptable equivalent qualifications (not defined)</li> </ul>	<p>✓ - provided with 5 subjects with Level 2 (including English and Chinese)</p>	<p>×</p> <div> <p>Min entry Requirements for QF.2 programmes:</p> <ul style="list-style-type: none"> <li>Completion of S3; or</li> <li>Completion of a QF level 1 programme, or</li> <li>Relevant RPL (QF level 1 or above), or</li> <li>Other relevant experience</li> </ul> <p>Min entry Requirements for QF.3 programmes:</p> <ul style="list-style-type: none"> <li>Completion of S6; or</li> <li>Completion of a QF level 2 programme, or</li> <li>Relevant RPL (QF Level 2 or above), or</li> <li>Other relevant experience</li> </ul> </div>	<p>×</p> <p>- Exception: DVE &amp; DFS holders</p> <div> <p>Min entry Requirements for QF.2 programmes:</p> <ul style="list-style-type: none"> <li>Completion of S3; or</li> <li>Completion of a QF level 1 programme, or</li> <li>Relevant RPL (QF level 1 or above), or</li> <li>Other relevant experience</li> </ul> <p>Min entry Requirements for QF.3 programmes:</p> <ul style="list-style-type: none"> <li>Completion of S6; or</li> <li>Completion of a QF level 2 programme, or</li> <li>Relevant RPL (QF Level 2 or above), or</li> <li>Other relevant experience</li> </ul> </div>



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# Benefits of Linking up PC/PD to Degrees

- Promotion of VPET
  - Market Positioning: One Education System for all
    - Two Routes (VPET and Pure Academic)
  - Permeability with articulation
- In response to decreasing student population from SS6.
- Flexibility in learning and careers pathways
- In-line with Existing QF System

# VPET Near Future

1. **Complete Freedom:**
    1. Multiple Entry, Multiple Exit
    2. Flexible learning modes
  2. **Walks with Government and Industry (Tripartite relationship)**
  3. **Embrace Technology (AR, VR, MOOCs) for Self-learning**
  4. **Workshop for Skill Practise (Impact of MOOCs)**
  5. **Education Institution as Certification and Assessment Centre (Impact of Moocs)**
  6. **Multiple Articulation Pathway**
    1. Paradigm shift to remove dichotomy mentality (Vocational Versus Non-vocational streams)
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# Impact of Massive Open Online Courses (MOOCs)

1. **A potentially disruptive innovation**
2. **Number of participants: doubled from 16-18 million to 35 million students (2015)**
3. **Some universities are digitizing some of their courses**
4. **Accreditation and trust in the associated credential.**
5. **Bite-Size Certificates**

# Thank You