



# Future Trend for Innovative Learning

ศ.นพ. บรรจง มไหสวริยะ



# What is the Education for?



**Learn to Do** (for job)  
**Learn to Be** (in society)  
(เป็นผู้ได้รับการฝึกฝน)

- War & social changes were disrupting everyday life
- These philosophies helped guide people to a better life

**“Learn to Live Together”**



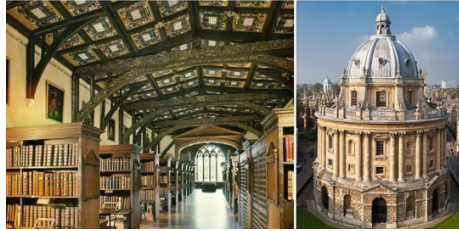


# Education for the Advancement

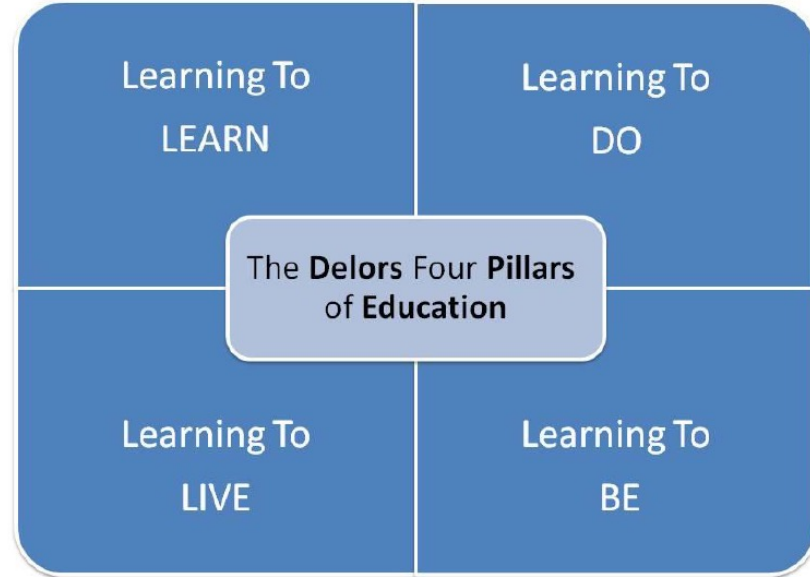
## Beginning of the University



Univ. of Bologna (1088)



Univ. of Oxford (1096)



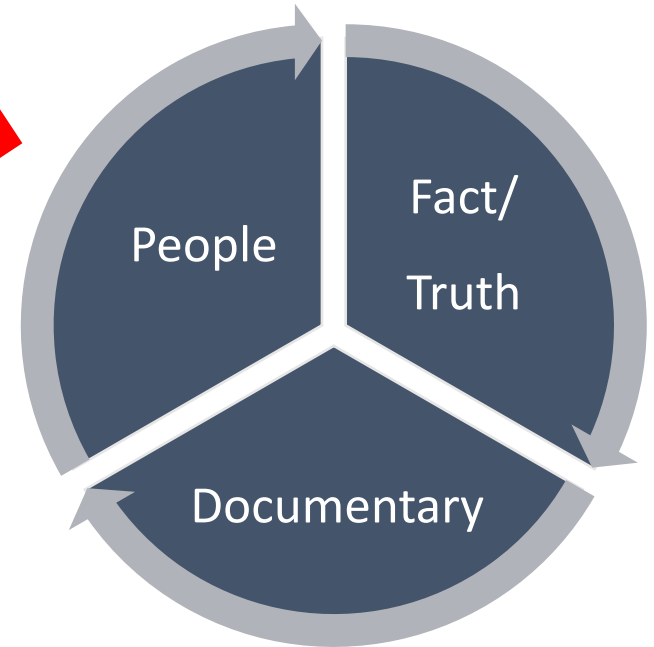
**Learn to Learn**  
 (To Explore & Discover)  
 (เป็นผู้ใฝ่รู้และมีวิจารณญาณ)

**Learn to “Transform”**  
 (Oneself & Society)..UNESCO



# Knowledge Acquisition & Transfer

“Where is the knowledge?  
From 3 main sources”

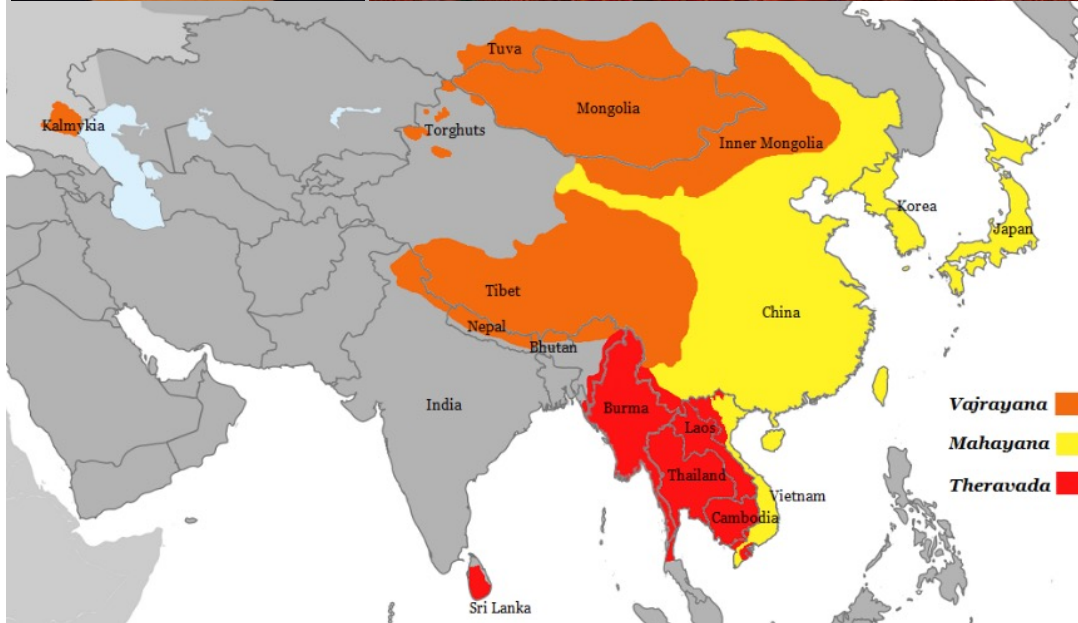


Teaching-Learning  
process are  
physically connect  
by face-to-face





# Knowledge Sharing in Ancient World: Physical Connectivity





# Enhance Connectivity: Wheel & Compass



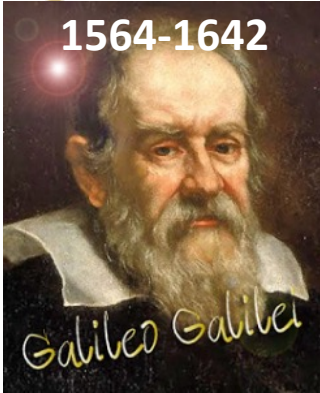
The wheel



ปลายศตวรรษที่ 11



# New Knowledge: New Fact + Sharing Kn



1564-1642

Galileo Galilei



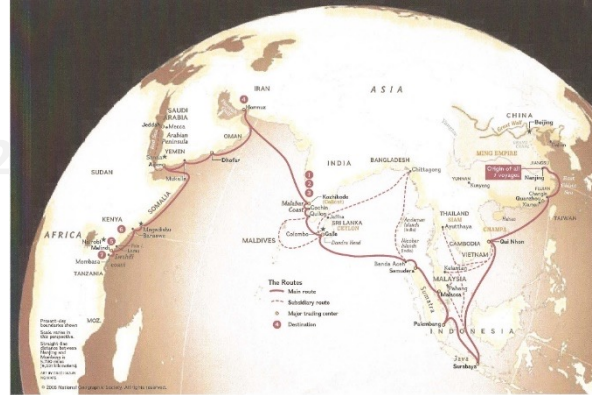
## New World & New Knowledge



Shen Kua 1089



52X127 m



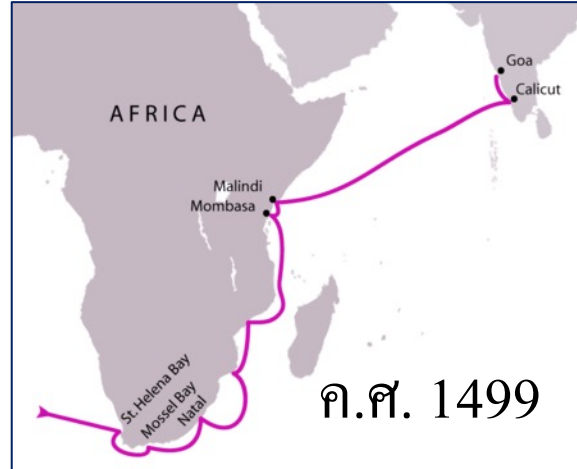
1405-1433



Christopher Columbus  
1492



Vasco da Gama



ค.ศ. 1499



James Cook  
1768



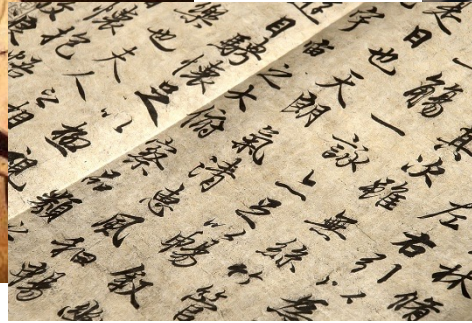
# Documentary: Knowledge Sharing



กระดาษ “ใช้หลุน”

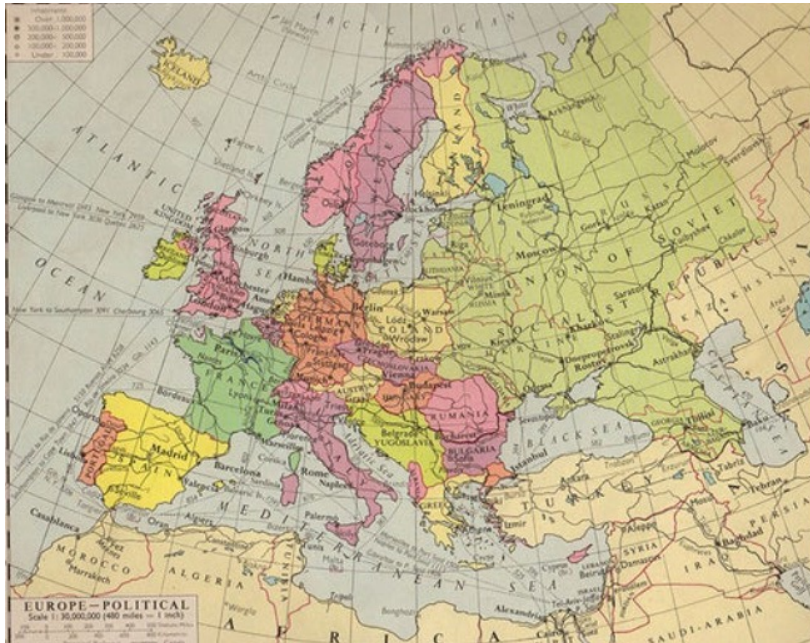
“ราชวงศ์ฉิน” ต่อ “ราชวงศ์ฮั่น”

(221 BC)



แม่พิมพ์

(ราชวงศ์ถัง ค.ศ. 618)



1439

Gutenberg Printing Press



# 10 Important Inventions

The wheel



The compass



Shen Kua 1089

The printing press



1439

The telephone

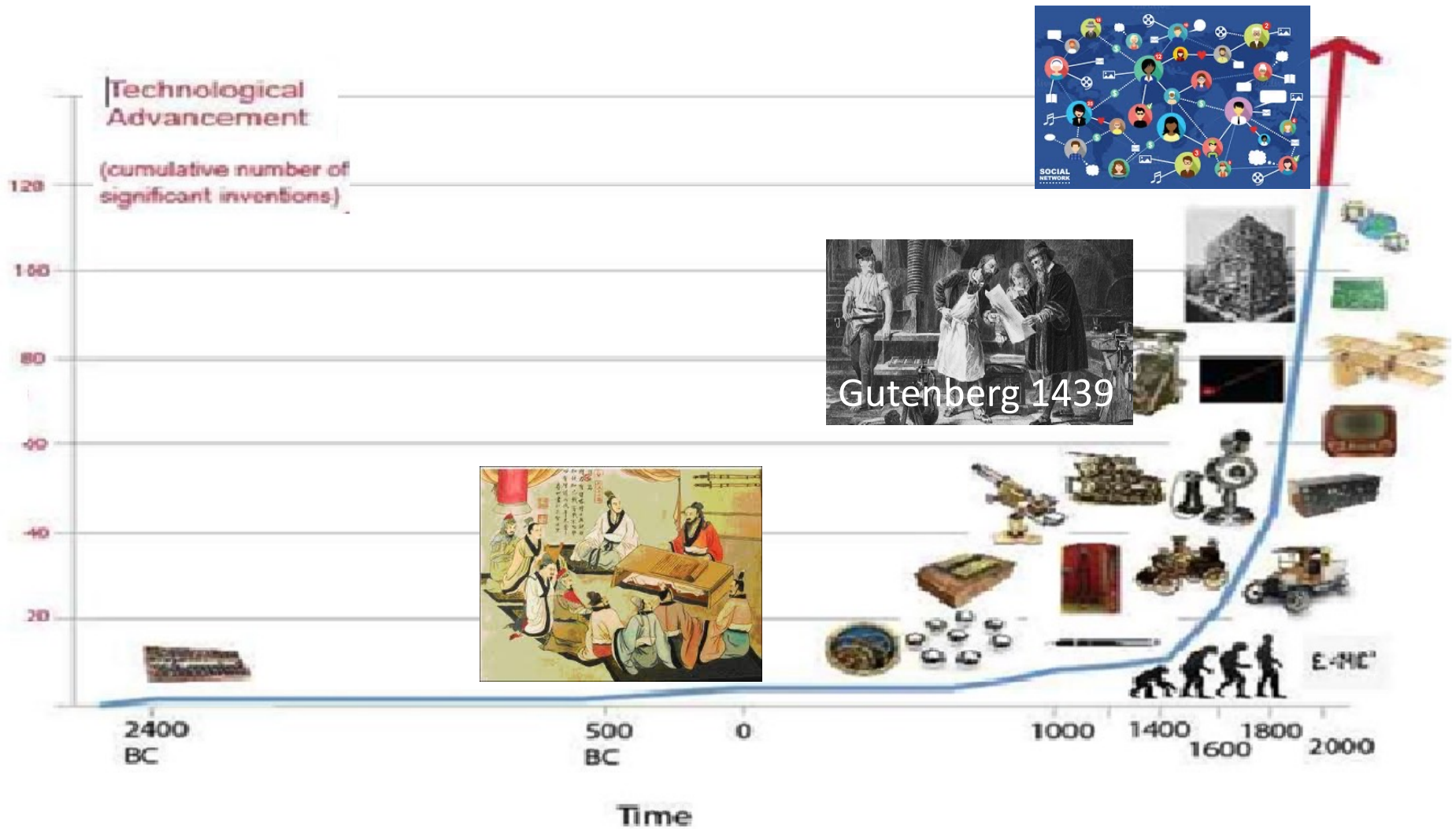


1876

The Internet



1969



Expansion of Knowledge is related to **Connectivity**

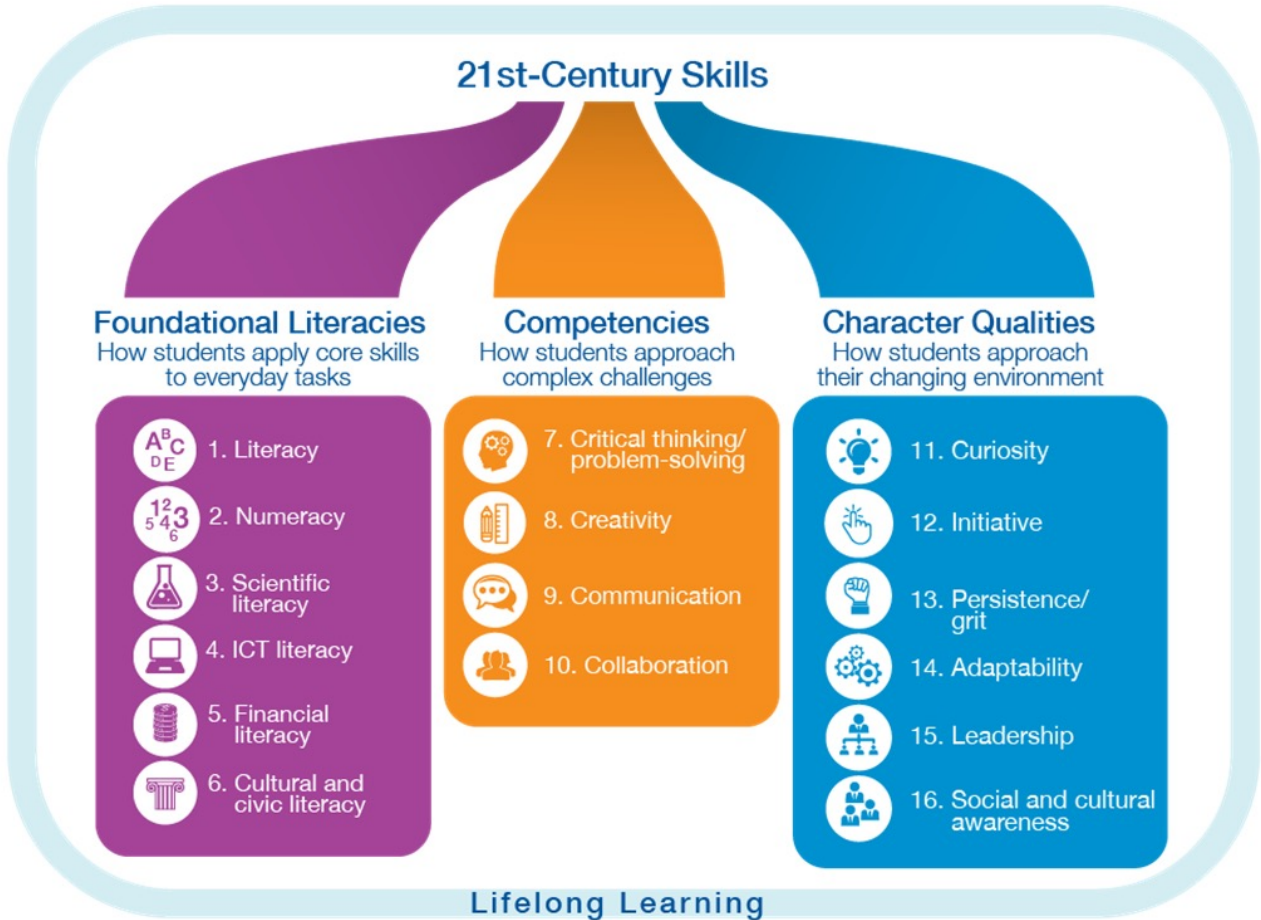


# Education: Human Capital



## 21<sup>st</sup> Century Skills

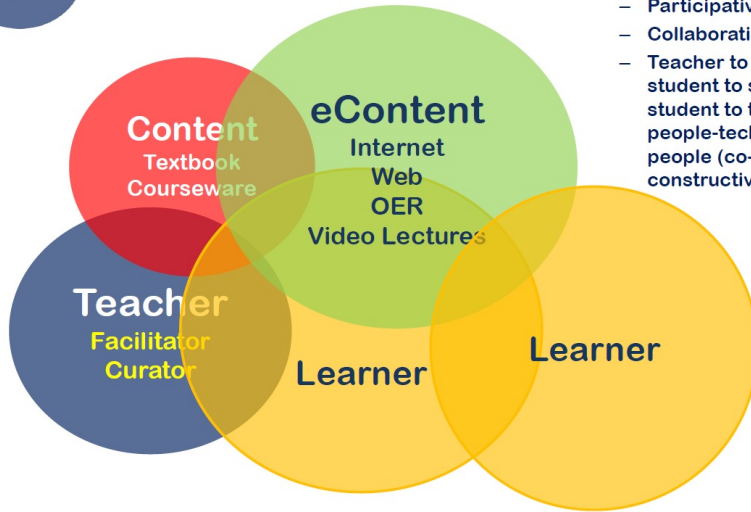
Professional Education  
Deep in one discipline



# Teaching Mode

## Emerging Model

- Internet-based
- Education 3.0:
  - Participative
  - Collaborative
  - Teacher to student, student to student, student to teacher, people-technology-people (co-constructivism)

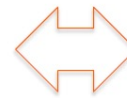


Advance of IT  
Generation  
Pedagogy

## Virtual & Physical Time Dependent & Independent

- Blended
- Hybrid
- MOOC
- Flipped
- Formal
- Informal
- Social
- Virtual
- Lifestyle

local



remote

synchronous

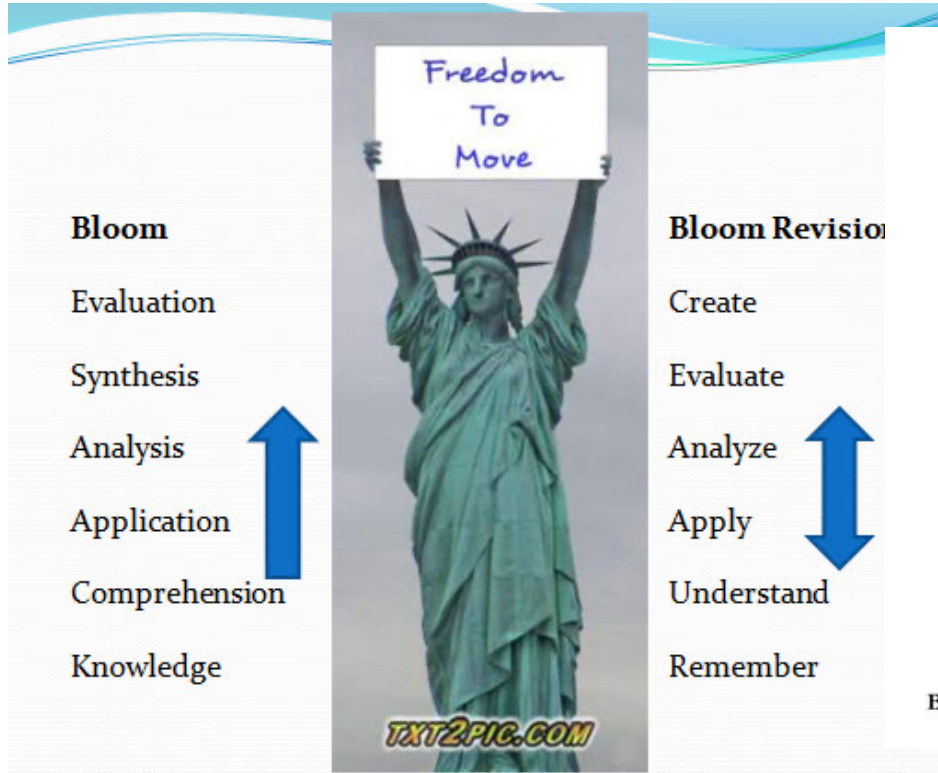
asynchronous

synchronous	asynchronous
face-to-face meeting places	site specific signage exhibitions installations white board
telephone video conference text messages shared cyber links	internet web virtual studio 'google it'

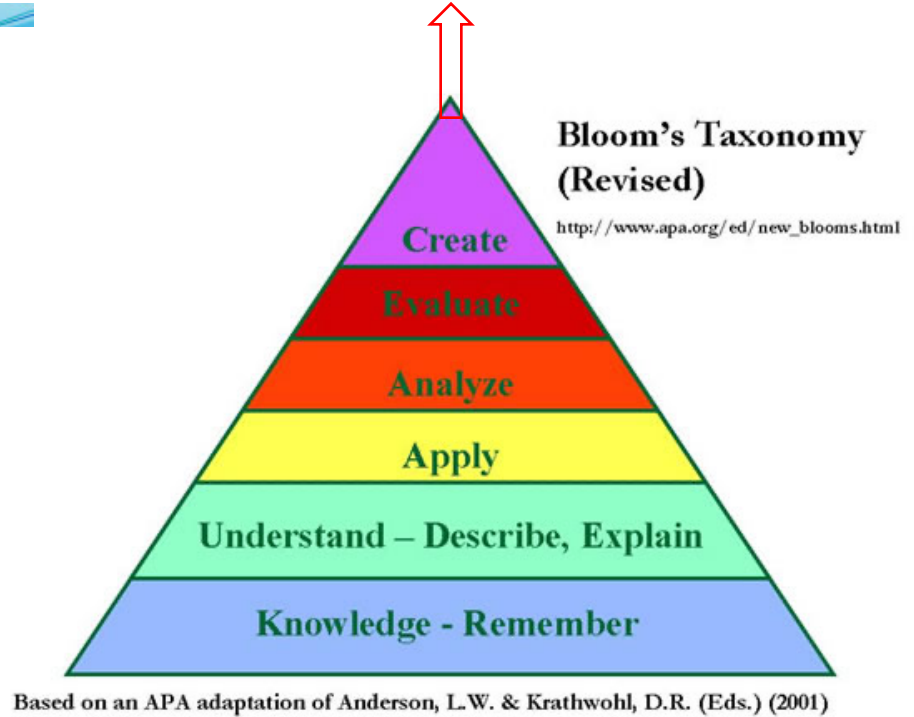
Digital Technology:  
Infrastructure  
Platform & Team



# High Achievement (Bloom's taxonomy)



**HOW?**



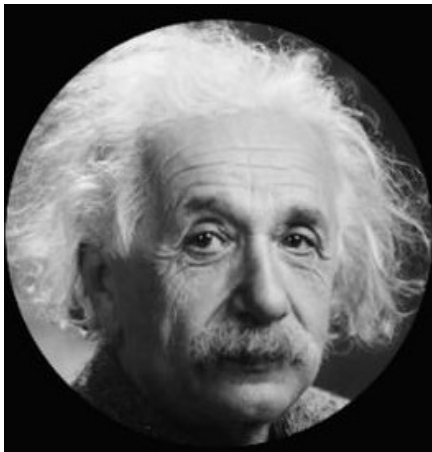
“Do we teach our students to just understand or...  
...to be creative in this highly competitive world!!”



# Knowledge & Creativity

## People: (AEIOU)

- Alert (to new idea)
- **Exposure**
- Imagination
- Observation
- Unhappiness(Discontent)



Imagination is more important than knowledge.  
Knowledge is limited.  
Imagination encircles the world.

If necessity is the mother of invention, discontent is the father of progress.

— David Rockefeller —



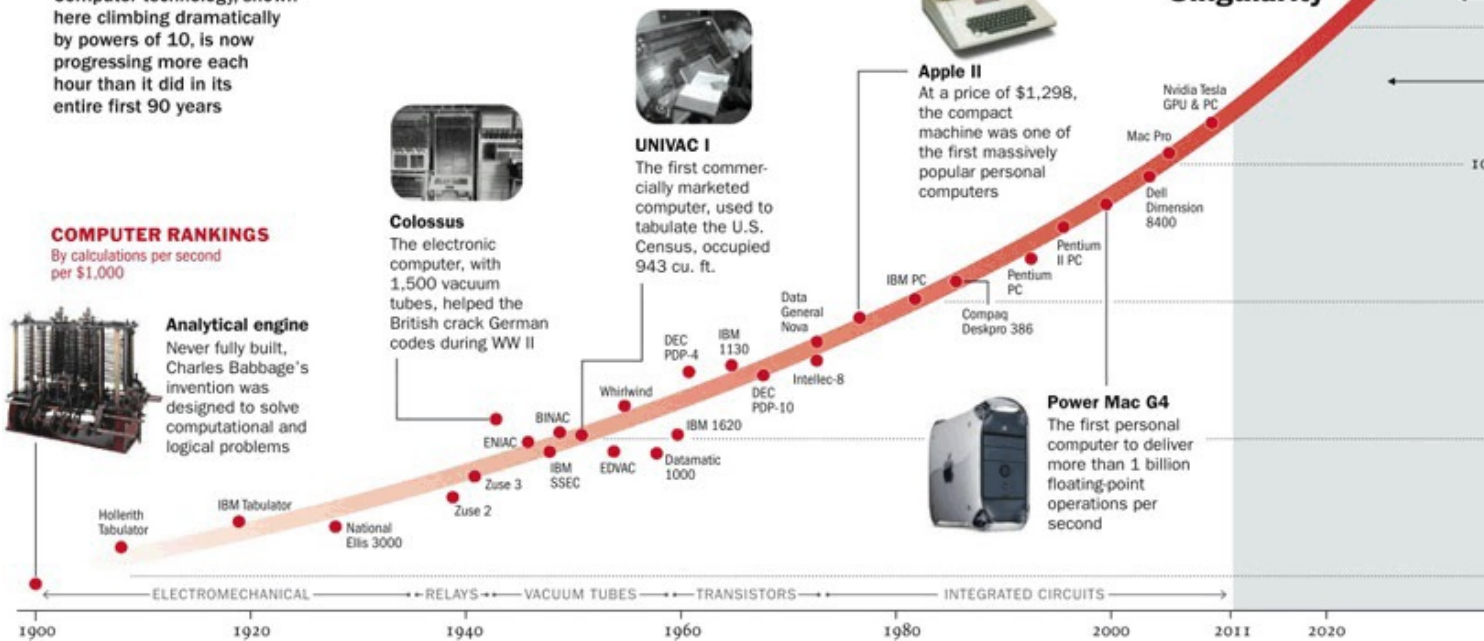
# Technology & Creativity

## 1 The accelerating pace of change ...



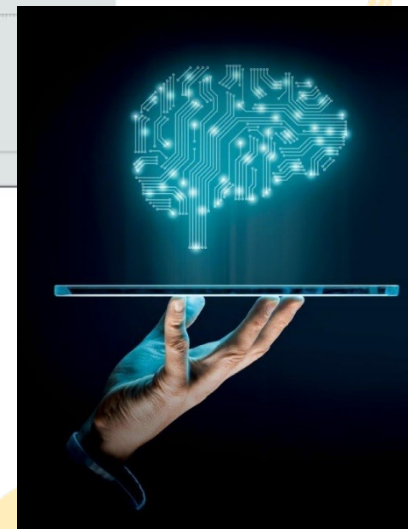
## 2 ... and exponential growth in computing power ...

Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years



“Most valuable thing in 21<sup>st</sup> century is the thing which **creativity** meet **technology**”

*Steve Jobs*





# Creativity to Innovation



## 4 Possible Views:

- Harnessing Trend
- Understand Needs
- Leverage Resources
- Challenge Orthodoxies

**Acquire Kn:** Demand Pull + Technology Push(old/new)  
**Develop Skill:** Critical Thinking & Problem Solving





# Creativity & Entrepreneurial

“Not only teaching how to fish but to be able to see the opportunity to create the value/business of fishing process”



Beyond University



Knowing how to fish isn't enough



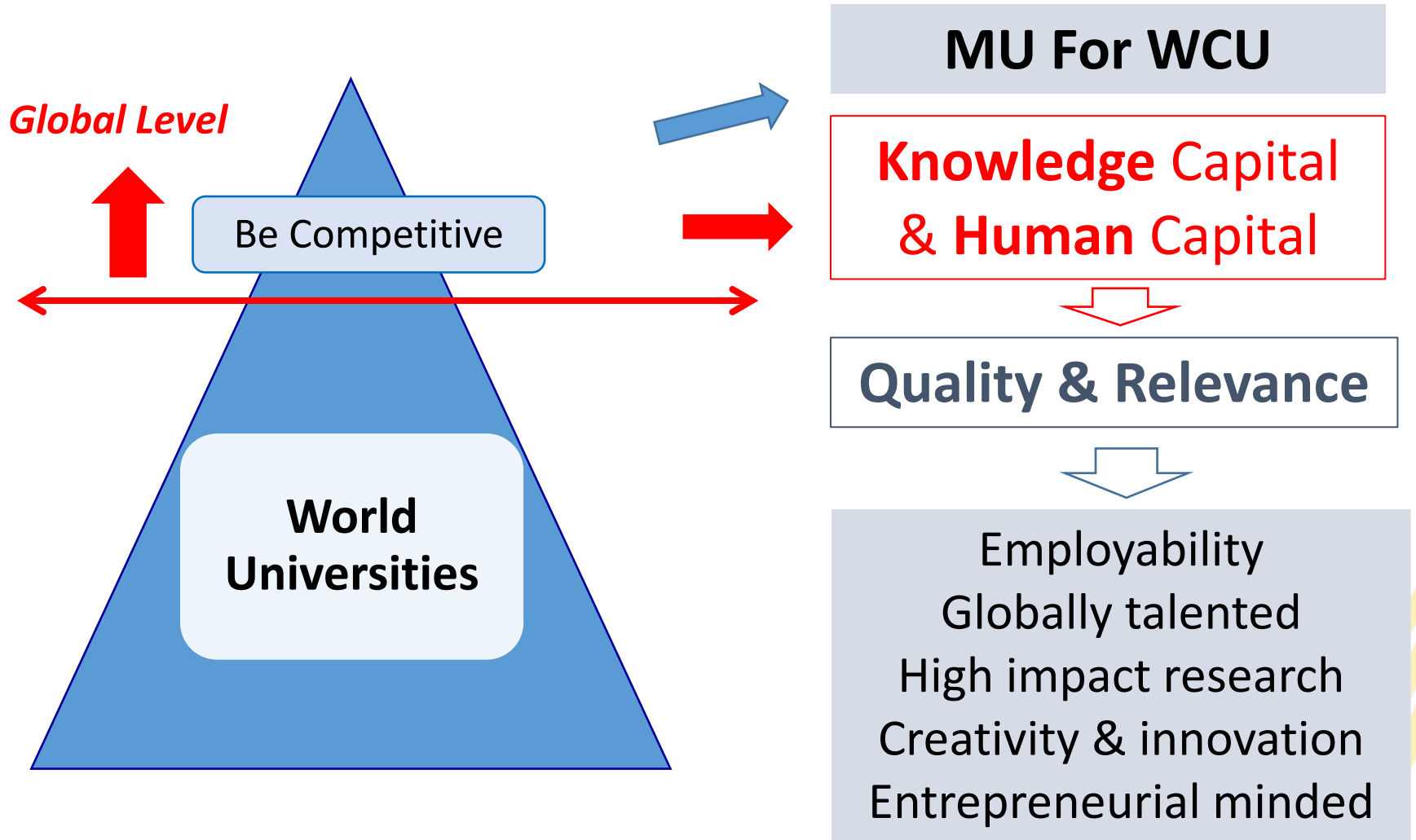
Fishing Sticks

⇒ Fishing Hooks

⇒ Fishing Pools & Tourism



# MU University & Responsibility



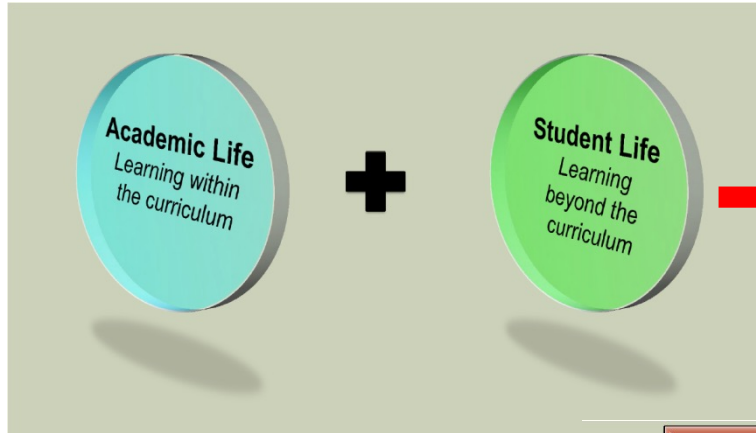


# MU University & Responsibility

20 <sup>th</sup> Century	21 <sup>st</sup> Century
Lecture	Facilitation
Students listen in class; perform exercises at home.	Students listen at home; perform exercises in class.
Rows of desks	Clusters of desks
Independent performance	Group performance
Teacher engages student in learning	Technology engages student in learning
Content	Content + Skills + Themes
Textbook driven	Research driven
Classroom learning	Online learning
Textbook publisher	Corporations providing materials

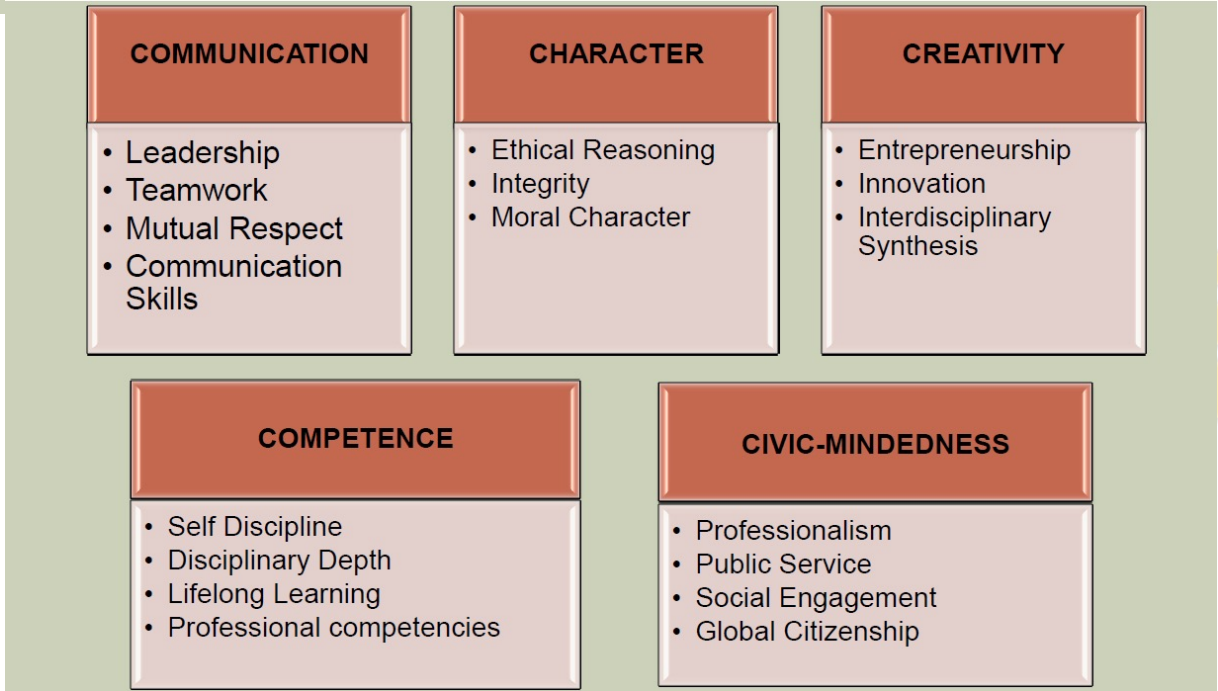


# MU University & Responsibility



Learn more soft skills & expose to real workplace

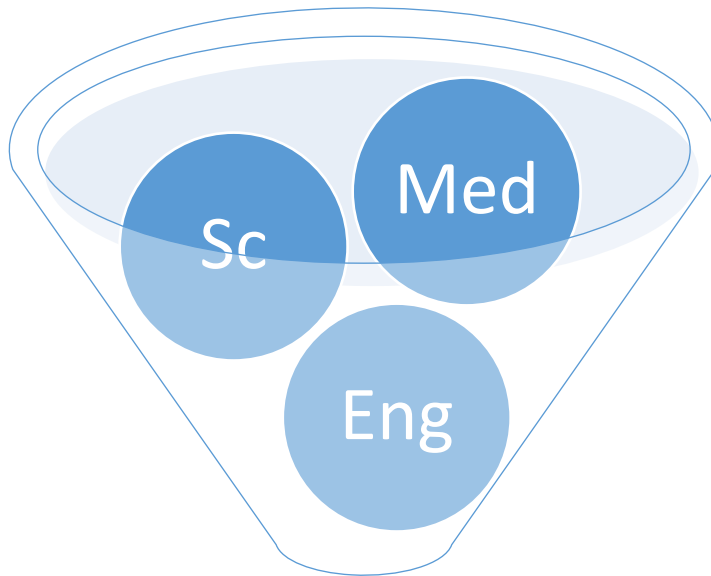
5-C





# Multidisciplinary & Flexi-Education

Structure, Applicability, Transferability



**Biomedical  
Engineering**

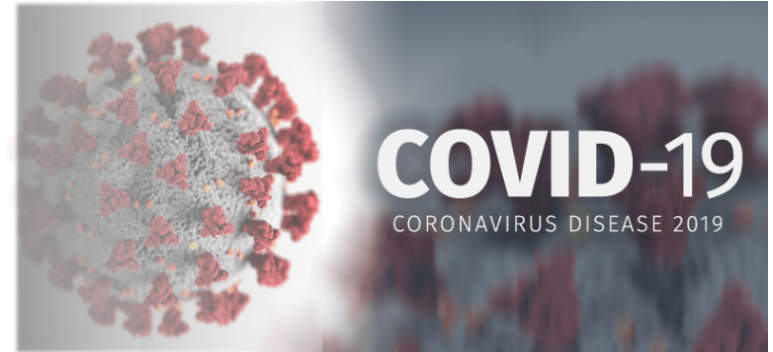
**Quality &  
Relevance!**

Public-Private-  
University Partnership

Internship  
Talent Mobility  
(Medical Education)



# Impact of the pandemic: students & staffs

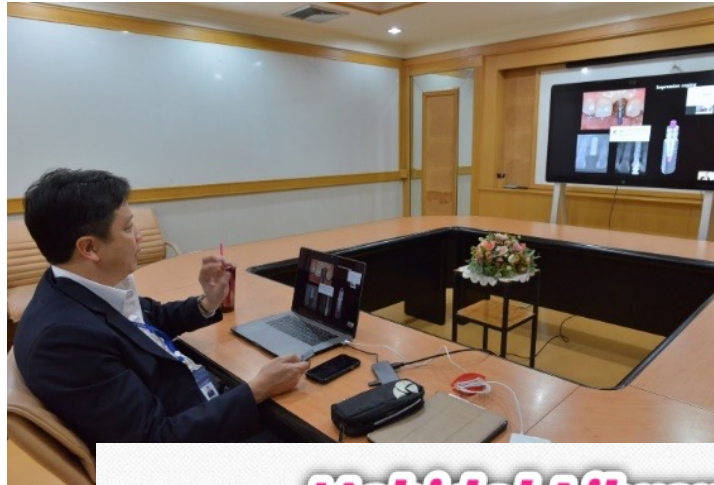


Digital-Distancing-Discrimination-Domestic



มหาวิทยาลัยมหิดล

# Digital: Infrastructure-Activity-Regulation

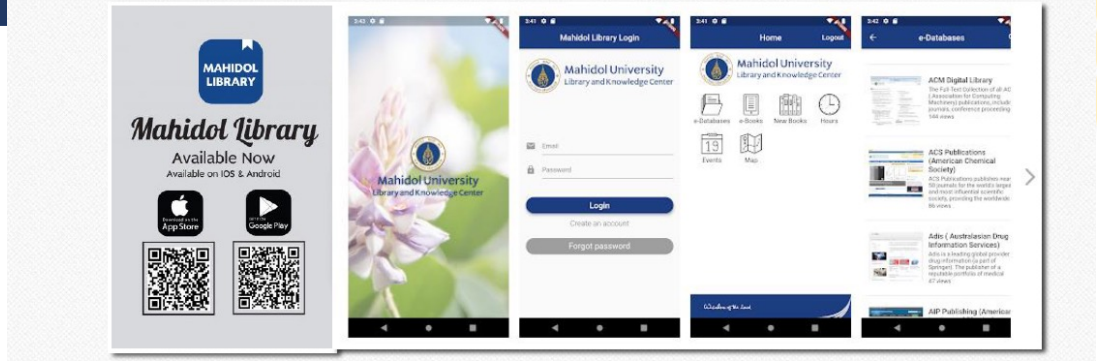


## Mahidol Library Application



รวบรวมทรัพยากรสารสนเทศที่ทันสมัยไว้ในที่เดียว

เข้าถึงทรัพยากรสารสนเทศของห้องสมุดได้ทุกที่ทุกเวลา



Physical → Virtual (Meeting-Training-Conference)

# Digital: Teaching & Learning:

## Computer-based Training & Examination

วิทยาเขตนครสวรรค์



วิทยาเขตอำนาจเจริญ



วิทยาเขตกาญจนบุรี



Zone ศาสดา



สร้างเป็น Platform พร้อมรองรับการสอบ Online สำหรับรายวิชาอื่น





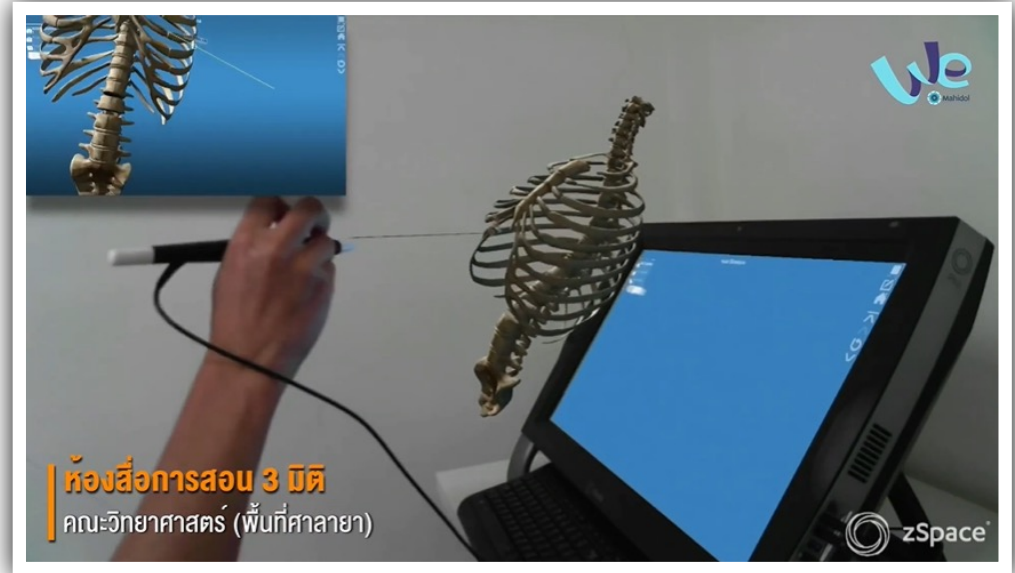
# Digital: Education & Conference

## Adaptive Learning:

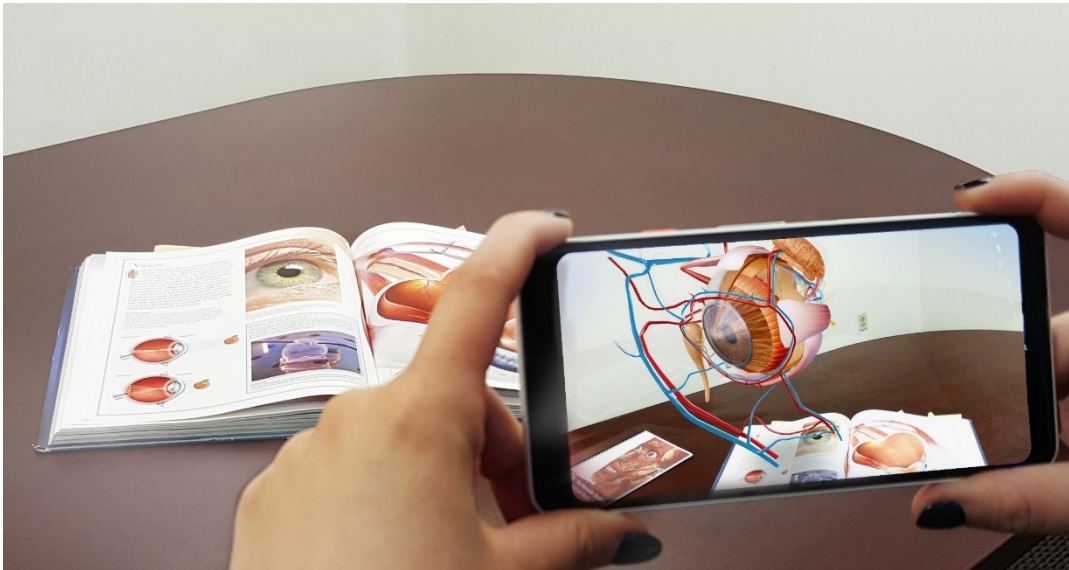
- Artificial intelligence
- Learning analytic

## Extended Reality:

- Augmented reality
- Virtual reality



## On-line Conference





# Digital Educations

## Advantages and Disadvantages of Online Classes





# VUCA World & Education



## เรียนรู้อย่างไร...ในโลกอันพลิกผัน?

Volatility

เปลี่ยนไว



Uncertainty

ไม่แน่นอน



Complexity

ซับซ้อน



Ambiguity

คลุมเครือ



- โลกพลิกผัน...อนาคตนั้นสุดคาดเดา
- ความรู้อายุสั้น...ชีวิตคนนั้นยืนยาว
- ต้องสร้างทักษะแบบไหน...  
ที่จะอยู่ได้ในโลกพลิกผัน?





# VUCA World & Education



## DRI

### เคยมาแรงแ...ทักษะแห่งศตวรรษที่ 21

#### 3 องค์ประกอบ



### Attitude

ทัศนคติ+อุปนิสัย



ไต่หาความรู้



อดทน



รับผิดชอบ



### Skill

ทักษะ



คิดเชิงวิพากษ์



สื่อสาร



ทำงานเป็นทีม



### Knowledge

ความรู้

ยังจำเป็นต่อไป...แต่ไม่พอแล้ว



22: 41



# VUCA World & Education



CDRI

อยู่อย่างไร...ในโลกพยายากรณียาก?

“  
เมื่อโลกพยายากรณียได้...  
เราต้องการคนฉลาด  
แต่เมื่อโลกพยายากรณียไม่ได้...  
เราต้องการคนที่ปรับตัวได้  
”



**แฮร์รี่ มินทซ์เบียร์ก**

ศาสตราจารย์ด้านกลยุทธ์ มหาวิทยาลัยแมคกิลล์ 22; 42





# VUCA World & Education



ADRI

จะปรับตัวได้...ต้องใช้ทักษะแห่งศตวรรษที่ 21++

## 3 องค์ประกอบ



**Attitude**

ทัศนคติ+อุปนิสัย



เปิดกว้าง



กล้าทดลอง



จิตใจแห่งการเติบโต



**Skill**

ทักษะ



คิดสร้างสรรค์



มองภาพใหญ่



วาดภาพสถานการณ์



**Knowledge**

ความรู้

ทักษะแห่งศตวรรษที่ 21++...ผนวกสู่วัฒนธรรม **3**

Thai PBS 3

22: 43

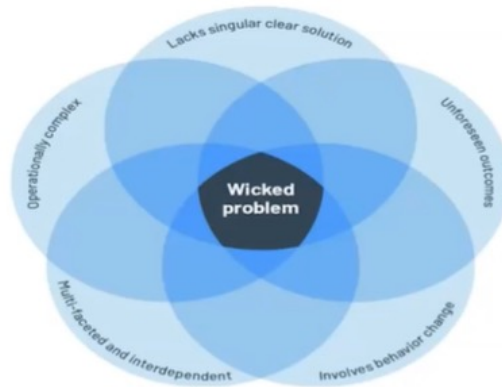
สด



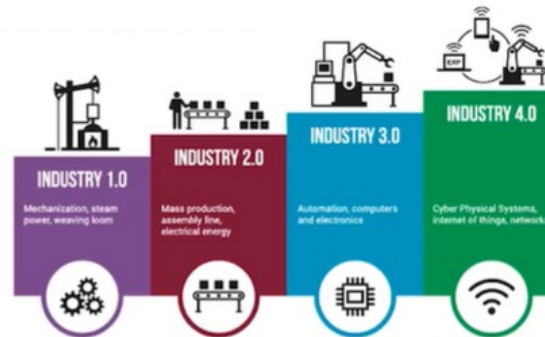
# University & VUCA World

## A VUCA World with Accelerated Changes

Wicked Problems



Lifelong Learning



4<sup>th</sup> Industrial Revolution

Digitalisation in all domains of living





# University & VUCA World

## Given These Conditions, Universities Must Consider Some Key Questions

How to better prepare graduates for a fast-changing world?

How to imbue graduates with a spirit of lifelong learning?

Are our current teaching and learning approaches appropriate and effective?

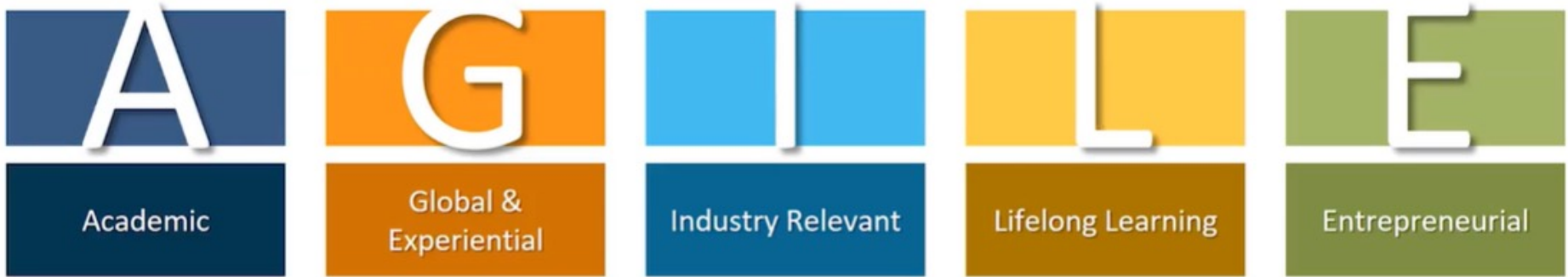
And how to make lifelong learning integrate seamlessly with undergraduate education?

What would be new operating models?

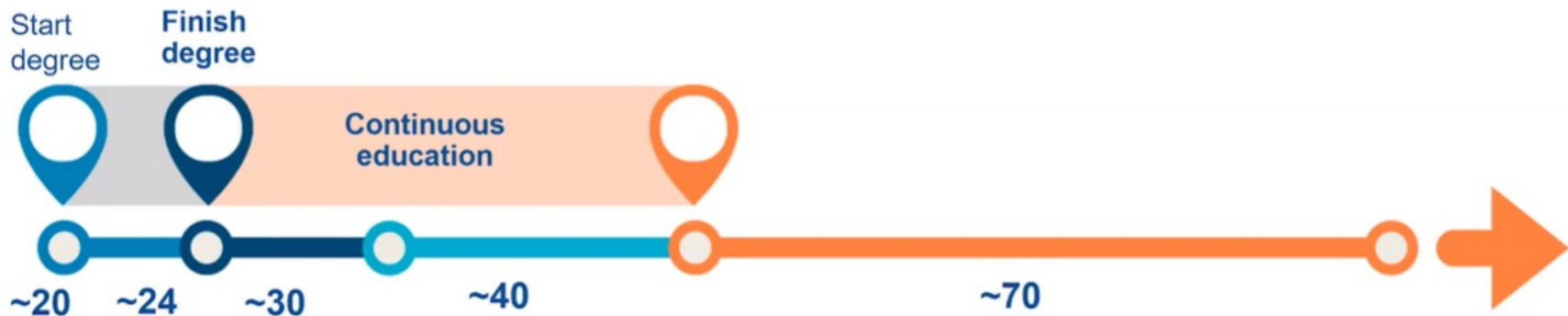




# University & VUCA World



## Lifelong Learners (L<sup>3</sup>) Programme

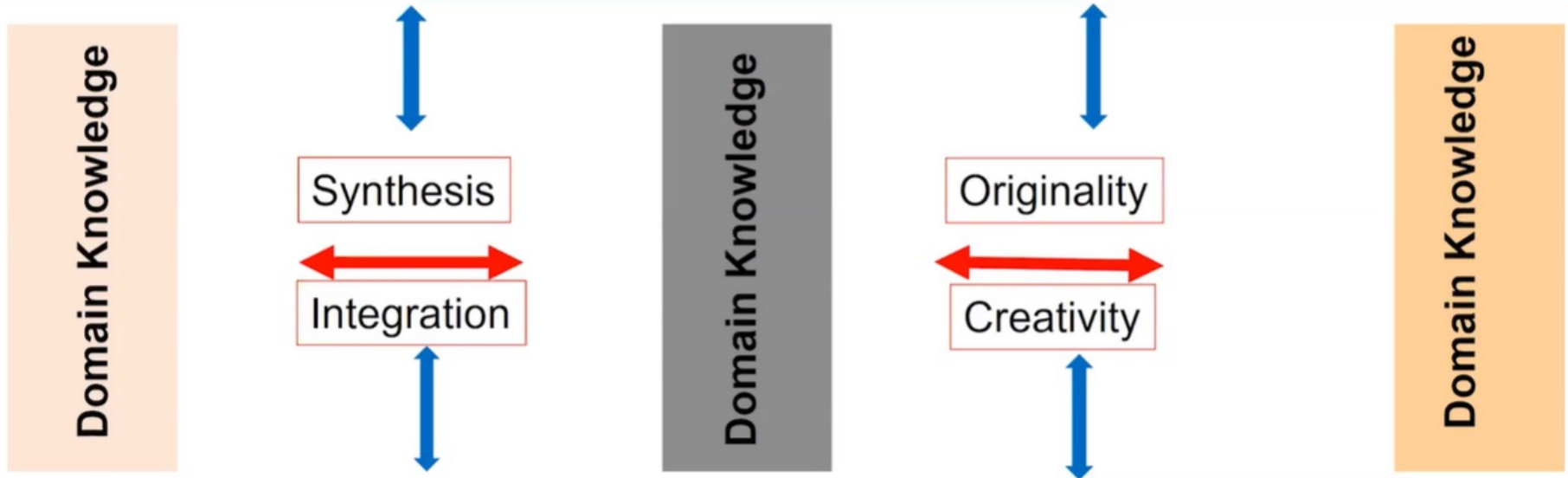




# University & VUCA World

## Interdisciplinary Teaching & Learning

Experiential, Collaborative and Problem-based Learning



Broad Intellectual Foundation comprising General Education & Interdisciplinary modules



# Summary: Future Trend of HE

## The Major Paradigm Shifts

**Education Reform**

- Preparing for a fast-changing and more uncertain world

**Lifelong Learning**

- Deep and broad skilling

**Broadening Intellectual Horizons**

- Common Curriculum to build broad range of capabilities

**Flexible Pathways**

- Unique Portfolios, No Fixed Trajectories

**Interdisciplinary Learning**

