CITY INNOVATION AND TECHNOLOGY GRAND CHALLENGE – *SOCIAL CONNECTIVITY*

(HOW TO SELECT THE RIGHT SOLUTIONS TO IMPLEMENT)

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Social Connectivity issues in Covid-19

- Can technology help?

- *Using Education as Example*

Education in/after COVID -19

- Social Distancing $\Rightarrow$ shortened classroom hours + Online Learning

- It seems that shortened classroom hours and Online Learning will become a norm in education sector in the next 1-2 years because of Covid-19. Large-scale public examination may also be a problem $\Rightarrow$ *Social connectivity problems with students*

- (Similarly in other areas!)

- Solution – can technology help? To answer the question we have to understand the relevant (technical + non-technical) factors contributing to the problem
    - *Enough resources to handle problem (technology $\Rightarrow$ money)?*
    - *Technology $\rightarrow$ Changes in overall education practices (social connectivity)?*
    - *What happens worldwide?*

Almost **half** of all students affected worldwide face **barriers to online learning** during school closures

Source: UNESCO Institute for Statistics database, 2020

Worldwide

50% of learners
826 million
do not have a household computer

43% of learners
706 million
do not have household internet

56 million
learners cannot use mobile phones to access information, because they are not covered by mobile networks

Sub-Saharan Africa

89% of learners
216 million
do not have a household computer

82% of learners
199 million
do not have household internet

26 million
learners (or 11%) are not covered by mobile networks

Figures calculated based on statistics published by the International Telecommunication Union, 2020:
https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx

Present 'solution' in education – online learning

II. Extra Resources needed?

- Hardware for on-line learning; on-line resources
  - deprived groups: *Excellence Gap*
- Home office + (home) online class
  -not enough space for most families, *family issue*
- Develop better on-line learning materials!

III. Social connectivity?

- Teachers' role in learning?
  (centralized teaching materials? Teachers as facilitators? Individualized learning?)
- ⇒ *time for student interaction with the limited school hour?*
- outside-classroom time?
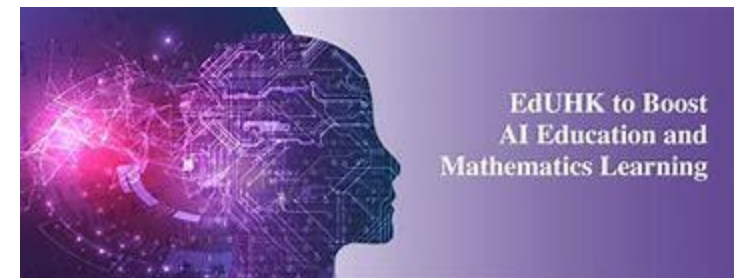- *Parents' role in learning? More involvement?*

Global (worldwide) consideration

two schools of thought: Short-term versus Long term:

1) *We treat COVID-19 as a short-term effect because the cost of large changes in education would be too high - we aim to achieve "zero"-infection so that we go back to 'old'-normal (just need a transient solution)*

2) *We admit that Covid-19 will co-exist with humanity and take this opportunity to change / upgrade our education system*

3) *Similar consideration also applies to other areas!*

What are the pros and cons of the two approaches? What do you think?

EdUHK to Boost
AI Education and
Mathematics Learning

"It is hoped that in the future, with advancements in artificial intelligence, the machine might be able to interpret the facial expressions that students make when studying, to help with learning and respond accordingly."

The promise of AI in education is not that it will replace teachers and advisors. Rather, it will empower them.

How AI Will Destroy Education

New Normal: AI - centralized but individualized learning?

- Issues:
- Do we have the technology (and resources) to build the system? (note that Information technology or AI is fast-changing)

- Role of human in this new system?
- (to what extend can human-human teaching be replaced by human-AI interaction?)

- Diversity issue: centralized versus diversified AI design
- (Which approach is better?)

- What do you think?

Summary

Covid-19 $\Rightarrow$ Less human-human interaction!

Shortened class hour

On-line, self-regulated Learning. AI

Provides training for students and parents?

Can on-line learning cover all needed learning experiences? *Human-human interaction via Zoom? Better use of limited f-2-f interaction time?*

Financial Implication Teachers' role

Teachers needed training? How? Should school curriculum be changed also?

Should online learning cost be covered by government or by individual family?

New Normal: *AI centralized but individualized learning more sustainable?*