IMAGINE THE FUTURE.

筑波大学 University of Tsukuba

Center for Research on International Cooperation in Educational Development

CRICED

Establishment of APEC regional Curriculum Standards for Informatics and Statistics

Inclusive Mathematics for Sustainability in a Digital Economy (InMside)

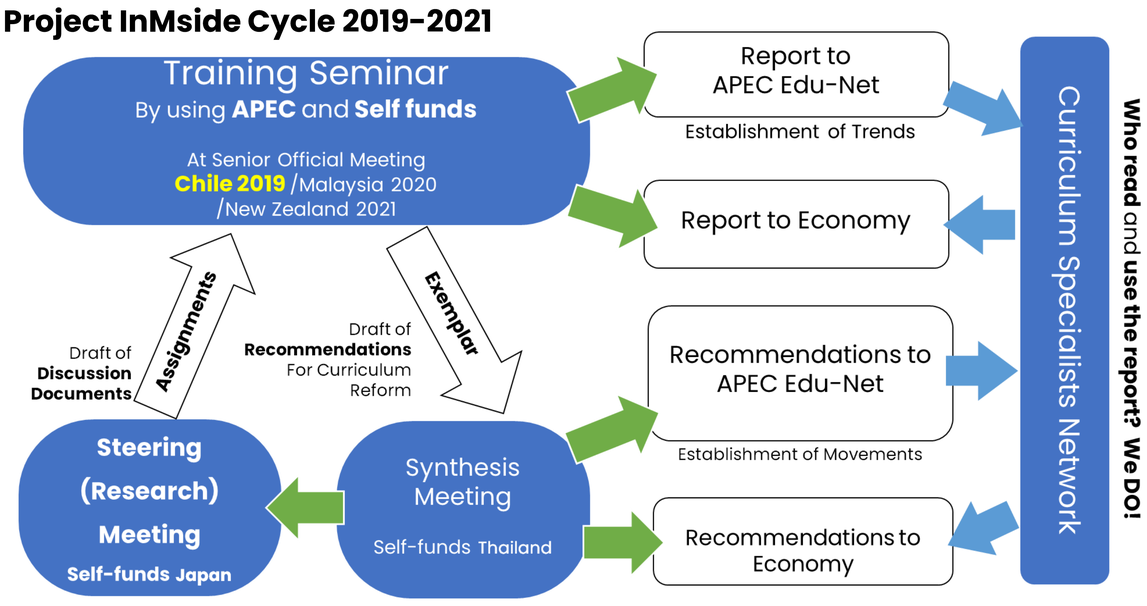
Project Overseers
Masami Isoda (University of Tsukuba)
Roberto Araya (Universidad de Chile)
Maitree Inprasitha (Khon Kaen University)

Proposed Economies
Japan, Chile, Thailand

MEXT MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY-JAPAN

筑波大学 University of Tsukuba　UNIVERSIDAD DE CHILE　Khon Kaen University

Project InMside Cycle 2019-2021

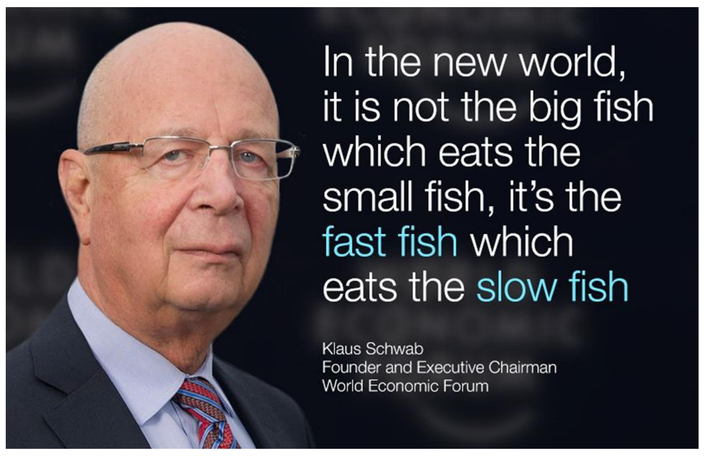


Why Computational and Statistical Thinking? On the Era of AI and Big Data

APEC 2019
Digital Society, Sustainable Growth, Integration 4.0, and Inclusive Growth

- **Smart thinking rather than lots of knowledge**

By Hee Chan Lew, President of KNUE, Korea



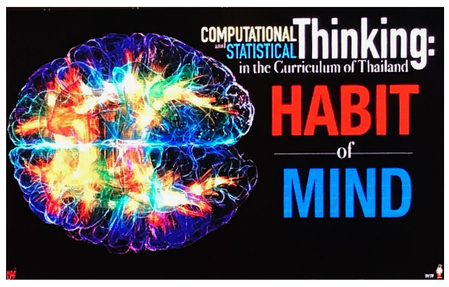
Demands and Target

EduNeT Coordinator; Dr. YAN WANG

Demands of Edu-NET for 2030
- Modernizing Education Systems
- Promotion of Science, Technology and Innovation in Education and pedagogical practice
- Development of 21st century competencies for work and entrepreneurship

Target of InMside
(**2019: Senior Secondary**, 2020: Junior Secondary, 2021: Primary)

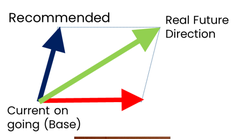
- Training the curriculum specialists on Informatics and Statistics for their necessary curricula reforms on these demands.
- Developing Recommendation to APEC for their Curricula reforms
- Establishment of Curriculum Specialists Network



Products: Recommendations in short

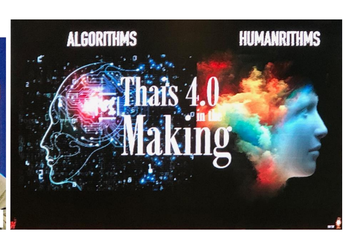
General:

- Recommendation provides the new direction, however it is based on current on going efforts and functions for establishment of real future direction by APEC economies' efforts



Dr. Mena, Chile

- AI and Humanity, both are necessary to develop as for new competency
- Variety of Challenges for Computational and Statistical Thinking



Dr. Bundit, Thailand

For Senior Secondary School:
Development of Computational Thinking by

- Introducing **AI and Machine Learning** such as Scatter Graph with Liner Discriminator (Bridge to Statistics)
- Non-Visual Programing Languages

Development of Statistical Thinking by

- Introducing **Data Science** with the nature of big data and critique from the perspective of statistics.
- Questions to Data and Data to Questions

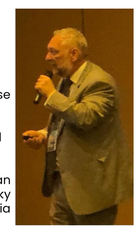
Produce Exemplar to be experienced for learning the ways of thinking.

How can we find the Big Data for Educational Use?

By Wang Xin Deputy Director NIES, China

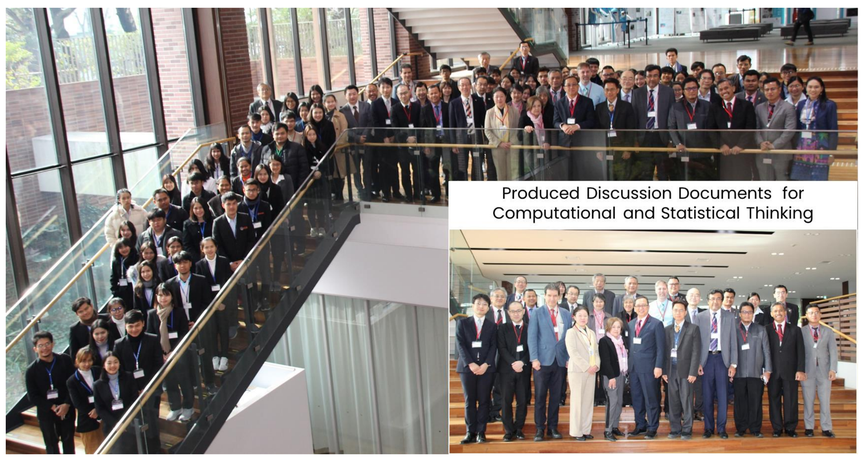
MCCME, Russia, developed the database of Big Data for educational use

By Ivan Vygotsky Russia



Let's collaborate!

Steering Meeting Feb. 7-9, 2019 Tokyo campus, University of Tsukuba
As for **Preparation Meeting for Chile**
26 Researchers + 100 Participants



Produced Discussion Documents for Computational and Statistical Thinking

APEC Seminar on Computational Thinking Curriculum for the Digital Economy
May 2-4, 2019, Vina Del Mar , 10 economies, 39 participants (11 women)

Through the collaborative seminar, we confirmed the same direction and recognized the similarity and differences of curricula, and vitalized for new vision.

Local Event: Lesson Study to develop computational and statistical thinking
Chile National Parliament at Valparaiso
39 APEC participants + 400 teachers

➢ ***Contact us: criced@un.tsukuba.ac.jp***