Education for the Unknown: How the Educational Reforms Help to Avoid a Paradox that Future is Behind Us?

3. New Education: From Leadership in Thought to Effective Action

Pannell 3.1. Impact of Research and Innovation on Education
AGENDA:

Speaker and Moderator:
Zbigniew Bochniarz, Kozminski University, Warsaw, Poland; Evans School of Public Policy and Governance, University of Washington, Seattle, USA

Speakers:

Francesco Arcidiacono, University of Teacher Education BEJUNE, Biel/Bienne, Switzerland

Branislav Jelenković, Institute of Physics in Belgrade, Serbia; Serbian Academy of Sciences and Arts

Vladimir Popović, State Secretary, Ministry of Education, Science and Technological Development of Serbia

DISCUSSION
Three Introductory Statements:

- There is no **good education** without **new Knowledge (K)**, which comes from **research** – both **basic** and **applied**

- Since advances of **Digital Transformation** => the **K creation** has been **accelerated** to unprecedented level in human history => need for **innovation** to deliver **new K in education process** (from new ICT, AI, AR to SAS)

- There is a **feedback from education on research & innovation** - both depend how we teach => **person-centered education in a learning community environment**
EXPECTATIONS:

- First, we need to understand each other better and find transdisciplinary bridges that connect the driving forces behind what we do.

- Second, we need to mutually determine an appropriate timeframe for analyzing the potential benefits and threats of new research & innovations in education.

- Third, we need to apply the results of these dialogues to creating learning processes to prepare the next generation.
INSPIRATIONS (1):

- Nobel in Economics for three relatively young economists Abhijit Banerjee & Esther Duflo (MIT) & Michael Kremer (Harvard) for their experimental approach to alleviating global poverty (PR RSAS20191014):
  - Innovative applied, policy-oriented research utilized transdisciplinary evaluation methods to find the most effective & efficient ways to improve human capital conditions for fighting with poverty.
  - Application of their approach impacted about 400M people during last 20 years.
  - The capitalized on several schools of economics <= creativity, openness, critical thinking & team work => all three are excellent “products” of education process
INSPIRATIONS (2):

- October 25th Prof. Pierre Joliot – prominent French scholar was awarded *Doctor Honoris Causa* from the University of Maria Curie-Sklodowska in Lublin, PL- stated:
  - *The race for higher competitiveness and profitability in short-term*, which is the base of our contemporary societies, leads to *serious limiting of researchers’ creativity and their innovativeness*. Such policy, which is responsible for *superior profitability* is paradoxically *counterproductive* to its goal.

- *He emphasized that … research is a form of artistic activity*, which *relays on creativity combined with high level of technical competency*.

- Finally he said: *The effective research system based on “sustainable interactions” between both types of research (basic and applied), and depends too large extend to design such evaluation processes that will grant sufficient space for young researchers with their freedom and creativity (PAP20191024)*:
HOW TO GET ACCESS TO NEW K & INNOVATION?:

- Mobilize own Faculty Members (FM) to conduct research, get students involved and share their results, particularly at the master and PhD levels showing their original contributions to new K

- Encourage FM and students to take advantage of MOOCs offered by the most prominent universities since 2012 (Stanford – Coursera; Harvard – EdX, MIT – Open Course Ware) & over 700 other universities worldwide.

- Apply Artificial Intelligence (AI) to FM & students self-learning, self-examination and team work
NEW EMERGING INNOVATION => SYMBIOTIC EDUCATION WITH DIGITAL TWIN (Kinsner & Saracco, 2019)

- Potential application of Symbiotic Autonomous System (SAS) to Education to cope with fast growing new Knowledge => Cognitive Gap

- Emergence of Symbiotic Digital Twin (DT) => a complimentary digital relations between individual and DT = Symbian => to keep update of fast growing body of K & connections

- Great opportunity & challenges, including correcting unethical behavior if intelligence companies already practicing DT
CHALLENGES FOR EDUCATION PROCESS => PARADIGM SHIFT TOWARD PERSON-CENTERED EDUCATION (P-C-E):

- Designing the learning process as the discovery of new knowledge and innovative solutions to emerging problems in a learning community environment;
- Critical and system thinking through practical case solving, practicing peer-to-peer training, and asking challenging questions to learn to discern legitimate information from fake or manipulated news;
- Shaping social competencies to communicate effectively and work in transdisciplinary teams in resolving practical problems;
- Working closely with main stakeholders and involving them in finding solutions to emerging challenges;
BARRIERS & THREATS TO P-C-E:

- Difficulties in finding dedicated and experienced faculty members for delivering P-C-E => special efforts – INCENTIVES - needed to mobilize such group.

- Challenging is building initial confidence with business, public and civic partners to conduct collaborative student projects = Action Research <= the academic credentials are very important asset.

- Growing wave of nationalism, xenophobia and intolerance led to changes in national curricula (“reforms”) in some countries emphasizing not P-C-E = student interest - but patriotism as the main goal of elementary or secondary education
  - => reproduction of own conservative electorate, mainly in rural areas
  - => dynamic growth of private education system, mainly in urban areas with P-C-E approaches
  - => deepening division of a nation into two antagonistic tribes
QUESTIONS & COMMENTS PLEASE!

1. How to secure the newest Knowledge transfer/access from Research to Education?

2. How to boost Innovation in Education process?

3. How to overcome nationalistic tendencies in state recommended curricula and transform them toward openness, acceptance for diversity and tolerance?

THANKS!