

Fourth International Conference on Future Education

Belgrade, Serbia | November 11–13, 2019

***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!