

Future of Higher Education – Bologna Process Researchers' Conference, Fifth Edition (FOHE-BPRC5)

25 – 26 March 2024, Bucharest

Session 4: Digitalization and the Future of European Higher Education: Implications for Public Policies

- 1. Conversations with a purpose: the impact of ChatGPT among higher education students, *Enrique Planells-Artigot (ESIC University, Spain), Santiago Moll-Lopez (Universitat Politècnica de Valencia) and Adolfo Nuñez-Perez***

Artificial intelligence (AI) tools are reshaping the educational landscape. Among them, Large Language Models (LLMs) like ChatGPT, a conversational AI, emerges as a notable player, offering dynamic interactions that challenge traditional learning paradigms and how students obtain information.

This study seeks to understand the extent and nature of ChatGPT's use in academic contexts based on a survey of under- and postgraduate students (n=1,400 students) from different areas of knowledge. The questionnaire evaluates the frequency of ChatGPT usage in various academic activities, including homework, classroom interactions, knowledge reinforcement. At the same time students were asked how much they rely on the obtained results from the AI.

A significant finding underscores ChatGPT's rise as the primary educational information source, surpassing long-established mediums like textbooks and online resources. Additionally, videos maintain a robust position as a secondary source of information. This research casts light on the shifting preferences and trends in modern educational tools, underscoring the pivotal role of AI-driven platforms in today's academic endeavors. The study offers revealing results on how students reflect on their own learning process, the future of education and the role of instructors along their academic progress.

- 2. Artificial Intelligence in Teaching and Learning for Student-Centered Education, *Aurelian Ionescu (Regional Department for Defense Resources Management Studies), Luciana Morogan (Military Technical Academy "Ferdinand I", Bucharest, Romania) and Adrian Groza (Technical University of Cluj-Napoca, Romania)***

First, we analyse the implications of the Artificial Intelligence Act (AI Act) for education. The education domain has been listed in the AI Act as one of the fields within which Artificial Intelligence (AI) is classified as high-risk. That is because AI-systems in education affect the professional path of natural persons. Thus, AI-systems used in education (e.g. plagiarism checkers, automatic graders) will require a certification issued by a third party. We will discuss the governance aspects required to comply with the AI Act in the education domain.

Second, we examine the benefits, current limitations and risks of using Large Language Models (LLMs) in education. We discuss the transformative effects of LLMs in both teaching and learning. Third, we discuss the ongoing educational policies and university policies for the skills economy. We address the role of technologies like robotics and AI for Education 4.0, a taxonomy introduced by the World Economic Forum (WEF) with support from the LEGO [7]. The taxonomy aims to connect the skills acquired by children with the skills defined for adults in the Global Skills Taxonomy. We also analyse the gap between current educational policies and the European Skills, Competences, Qualifications and Occupations (ESCO), an ontology developed by the European Commission in 2022, that needs to be mapped or adopted by member states in a three year period.

3. Education 4.0: Navigating the digital wave of connected learning, *Petrișor Laurențiu Țucă and Bogdan Gabriel Georgescu and Ciprian Mihai Dobre (National University of Science and Technology Politehnica Bucharest, Romania)*

Education 4.0 represents a revolutionary paradigm in the field of education, supported by rapid technological advances. Education 4.0 marks a significant evolution in the educational landscape, fueled by rapid technological advances. This transition to a digital education has given birth to the concept of "connected learning", bringing with it a number of best practices and ethical implications to consider. This article explores education 4.0 and connected learning, highlighting key aspects of these concepts and addressing both good practice in distance teaching and learning and the crucial ethical implications associated with them.

Education 4.0 is characterized by the widespread use of digital technologies such as artificial intelligence, virtual reality and the Internet of Things to redefine the learning process. Connected learning emphasizes connection and collaboration between students and teachers, regardless of geographic location. Through online platforms, educational resources become more accessible and the flexibility of learning is increased.

Good practice in distance teaching and learning involves personalizing learning to meet the individual needs of students. In addition, continuous assessment and real-time feedback have become easier to implement in the online environment. Digital collaboration and communication encourage the development of digital skills. However, the transition to Education 4.0 and Connected Learning also brings significant ethical implications. Protecting students' personal data, cyber security and equity in education are crucial issues that require special attention. Teachers and educational administrators must be aware of potential risks and develop appropriate strategies to address them.

4. Leveraging International Platforms and Projects for Industry x.0 skills in higher education, *Roxana Voicu-Dorobantu and Cătălin Ploae (The Bucharest University of Economic Studies)*

Merging internationalization with digitalization in higher education is almost a natural process. The international exposure brought on by the university's digital life is, apart from a marketing tool for the institution, an essential tool to provide intercultural and specific technical skills. Transnational projects, such as Erasmus+-funded strategic partnerships, leverage the potential of this exposure by allowing for blended mobilities and the creation of transdisciplinary collaboration communities.

The paper critically analyzes the provision of international digital platforms created through several Erasmus+ projects specifically for higher education and their impact on bridging skill gaps in an Industry x.0 context.

Starting from a hypothesis confirmed in an Erasmus+ funded project that there is a dictionary gap between specialists in various fields, enhanced by cultural differences, the paper postulates that the only resilient path to mitigate this vulnerability is to create authentically international digitally leveraged collaboration platforms. These platforms allow for a genuinely transnational approach (beyond the internationalization scope) by reducing bias and providing a continuous conversation between teachers, students, and researchers.

Moreover, the collaboration process stems from each country's perspectives and activities, with their unique knowledge transfer and technology interaction. These international digital skills platforms provide a diverse ecosystem with various actors. The presence of these actors in countries with different policy approaches to education, knowledge transfer, and technology as a business opportunity, as well as the uniqueness of each actor, enables a unique pooling of knowledge capital, cultivating the proper ground for an inventive approach to a transdisciplinary topic.

5. Multiple Competitions, Values, and the Digital Turn – An Investigation of Internationalization Governance in German Higher Education, *Dr. Jana Berg and Luzia Ferreira-Santos (German Centre for Higher Education Research and Science Studies)*

Digitalization has affected numerous aspects of international student mobility, with repercussions for international higher education (HE) governance. Beyond opening new possibilities for university collaboration, digital offers can grant students an international experience on campus and assists the emergence of new learning platforms and formats. In our presentation, we explore some of the factors that supported the continuation of digital offers that gained traction during the COVID-19 pandemic. We argue that competition and values-based governance have played a pivotal role in the digital transformation of HE internationalization.

We combine the findings of a content analysis of 20 expert interviews with heads of international offices at German higher education institutions (HEIs) with the result of a document analysis of internationalization strategies of German HEIs. Our two-step analysis follows two main questions: First, what are the main objectives of virtualizing higher education internationalization? Second, which factors shape actions, strategies, and outcomes of higher education governance?

Focusing on multiple competitions in HE and values-based governance as key facilitators of the digital turn in HE internationalization, we underscore the following: First, whilst cooperation constitutes a well-established feature of internationalization, HEIs are competitive in many forms and variations. On a strategic level, HEIs compete, for example, for funding, prestigious alliances, highly achieving students, and international recognition. Second, we address how social values, such as inclusiveness, sustainability, service to society, brain gain, and the training of experts and problem-solvers, are embedded in the governance of virtual internationalization. Both aspects highlight expectations in international HE, HEIs' perception of their role in society, as well as different applications of HE governance.

6. Exploring Degrees of Connection: Challenges and Acceptance of the European Degree Label towards Shaping the Future of Higher Education, *Romiță Iucu, Simona Iftimescu, George Gunnesch-Luca, Alexandru-Mihai Carțiș (University of Bucharest), Nadia Fernández de Pinedo (Universidad Autónoma de Madrid), Sophia Papaioannou (National and Kapodistrian University of Athens), Angela Melley (University of Glasgow), Mattea Capelli (Sapienza Università di Roma)*

This paper investigates the adoption and implementation of the European Degree Label (EDL) within joint degree programs, using Ajzen's Theory of Planned Behaviour (Ajzen 1991) as a predictive framework. Specifically, the study examines how attitudes, subjective norms, and perceived behavioural control (PBC) influence key stakeholders' intentions and actual behaviours towards EDL adoption. The TPB framework is extended to the context of organizational transformation, highlighting its applicability in navigating resistance to change within educational institutions.

Administered to academic stakeholders across Europe, the questionnaire focuses on three TPB dimensions: attitudes towards the EDL, academic community norms, and stakeholders' self-efficacy and perceived control over EDL implementation. Utilizing a mixed-method approach, the study aims to produce nuanced insights into these behavioural predictors. Anticipated results are expected to identify practical strategies for fostering EDL acceptance, including aligning organizational norms with policy objectives and enhancing stakeholders' PBC through leadership support and training, thus fostering cooperation throughout the European Higher Education Area and furthering its fundamental values.

The results presented in this paper are part of a broader project: SMARTT - Screening, Mapping, Analysing, Recommending, Transferring and Transforming Higher Education international programmes. SMARTT aims to analyse, test, and pilot the new European Degree label criteria, with the goal of improving the quality and increasing the transferability of future developments of European Degrees across Europe and beyond (SMARTT 2023).