
ABSTRACTS IN ENGLISH

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INNOVATION

ISTVÁN POLÓNYI

THE HUNGARIAN INNOVATION IN AN INTERNATIONAL COMPARISON

In the study, we examine Hungarian innovation performance with different index-numbers in international comparison. These metrics are as follows: the number of patents per million inhabitants and one researcher and developer; the number of international publications per million inhabitants and per researcher; the proportion of innovative companies; Global Innovation Index; Bloomberg Innovation Index; Innovation Union Scoreboard; Global Talent Competitiveness Index; Global Competitiveness Index. In the case of education science, we also look at two innovation performance indicators: the number of international publications of Hungarian education science per million inhabitants and per researcher; and the innovation data for OECD education for Hungary. Based on the analysis, it was found that a) most of the innovation indicators show the deterioration or possibly stagnation of Hungarian innovation performance; b) the domestic features of measurable innovation in education are rather controversial.

Keywords: innovation performance, innovation performance indicators, innovation indices

ANNAMÁRIA INZELT – LÁSZLÓ CSONKA

INNOVATION IN THE ERA OF KNOWLEDGE SOCIETY

Higher education has to respond to new challenges of the knowledge society in order to be able to efficiently contribute to the utilisation of new knowledge and to the acquisition of new technological, business and digital capabilities. During the past few years new types of innovation come to the front, such as the free innovations or frugal innovations beyond the traditional Schumpeterian innovations. This article reviews the characteristics of the new types of innovation and those challenges that they mean for the higher education. The scientific and technological excellence are still matters in higher education but it is now equally important to change the structure, content and methodologies of education for the development of capabilities, skills and competencies relevant for the knowledge society. Beside them it is necessary to devote attention to such capabilities and skills as team work, international collaboration, transdisci-

plinary as well as mental stamina, flexibility or dealing with success and failure. The technosciences of the 21st century makes responsible research and innovation essential both in the education and after the graduation.

Keywords: knowledge society, free innovation, frugal innovation, responsible research and innovation, DUI-mode innovation, fourth industrial revolution, globalisation, educational innovation

CSABA MAKÓ – MIKLÓS ILLÉSSY – ANDRÁS BORBÉLY AUTOMATISATION AND CREATIVITY IN WORK

The fear of job loss due to the labour-saving technological changes is rather old and dated back to the 19th century Luddites in Britain. Recently, similar fear reawakened due to the rapid expansion of the increasingly cheap and capable computers (digitisation). According to the empirical experiences of the European Working Condition Surveys (EWCS 2005 and 2015), every second workplace belongs into the category of 'creative work', which is less threatened by automation; and every fourth worker carry out 'routine' tasks, which will be easily excelled by computers. However, important country differences exist: creative jobs characterise higher than EU-27 average the Nordic, Continental and Anglo-Saxon countries, on the contrary, the highest rate of routine tasks prevail in the Mediterranean and in the Central and Eastern European countries. Hungary lags behind the European average and the tendencies of the last years are alarming.

Keywords: automatization/digitisation, creative and routine tasks, employment, working conditions, EU-27, country groups

BALÁZS HÁMORI – KATALIN SZABÓ INNOVATION AND NETWORK

Albeit, there is a fairly extended debate about networks and networking so far in the literature, there is no generally accepted, "perfect" definition. In the context of this study – the link between innovation, R & D, knowledge and networking – is the most appropriate definition: the system of interconnected, different types of organizations (companies, universities, etc.) that are local, national, regional or at the global level, they acquire and integrate the widest variety of knowledge. But this is just one side of the network. In addition to the transformation of professionalized, standardized "industrialized" innovation processes, the authors also examine the phenomenon of crowdsourcing, that is to say the ever-expanding contributions of everyday people to innovations. By relying on the opportunities offered by ICT, there is essentially everyone's ability to engage with innovation networks, and this significantly extends the possibilities of innovation.

Keywords: GPT, ICT, learning, knowledge, network, innovation

KATALIN ERDŐS
HIGHER EDUCATION AND INNOVATION: SPIN-OFFS AND ENTREPRENEURIAL UNIVERSITIES IN HUNGARY – DO THEY EXIST OR NOT?

Entrepreneurial universities are important actors of the knowledge-based society and economy. On the one hand, they are source of highly qualified labour force, and on the other hand, they are generators and disseminators of knowledge that is crucial for innovation and competitiveness. This latter activity is not without precedents, however, the highly commercialized nature of that in form of licensing and spinning off attracted significant attention in the last decades, mainly owing to the examples of American high-technology areas like the Silicon Valley. To reap the potential benefits, science and technology policy makers took measures in many European countries, among others in Hungary, to enhance the entrepreneurial turn of universities. However, there are many factors that can undermine the success of the process. This study aims to investigate how realistic is it to expect widespread occurrence of the entrepreneurial university and spin-offs in Hungary. Based on scientific papers, analysis of legal and strategic documents we have to conclude that the process has been started, however, many factors hinder its perfect unfolding.

Keywords: entrepreneurial university, spin-off, triple helix

TAMÁS KOZMA
LEARNING COMMUNITIES AND SOCIAL INNOVATIONS

Social innovation as a reinvented concept is widely used and seriously contested (*Bradford; Phillips–Deiglmeier–Miller 2008; Pol–Ville 2009; Mulgan et al. 2007; Nicholls–Murdock 2012; etc.*) Following Ferguson (2017), the author interprets the concept social innovation as a product of the social networks which time to time has to be stabilized by organisations and has to be liberated from them. Social networks are in the process of globalisation, but at the same time they continuously separate from each other. Recent case studies in Hungary found horizontally growing networks that are vertically separated. This construction of networks helps the communities to resist top-down changes and makes them resilient against outside challenges. At the same time vertically separated networks make impossible for social innovations to break through and spread in space and time. The key question of managing social innovation is therefore to connect vertically separated networks while securing their autonomy and ability to resist and being resilience.

Keywords: learning community, social innovation, lifelong learning, Hungarian education, Central and Eastern Europe

ÁGNES FAZEKAS – GÁBOR HALÁSZ – LÁSZLÓ HORVÁTH
INNOVATIONS AND INNOVATION PROCESSES IN THE HUNGARIAN
EDUCATION SYSTEM

Innovation policies are becoming more and more important parts of national development strategies and there is a tendency for different sectors to include sector-specific elements in these. The educational sector plays a dual role in national development strategies: as a key driver for economic and social development, and as the subject of internal innovations. One of the main focus of innovation strategies in the educational sector is the measurement of educational innovations. The authors started a research project in 2016 (Innova research), where they try to determine and measure innovation processes.

This study builds on the first data gathering by the Innova research, dealing with innovation activity in the Hungarian educational system, and, through concrete case studies, with the nature of innovation practices. The results show that the educational sector is rich in innovations and is able to manage innovation processes. We can state that the analysis of innovation processes needs both quantitative and qualitative tools and the application of several parallel perspectives, due to the complex nature of the phenomenon. The study indirectly supports the claim that national innovation strategies could be completed by sector-specific, and, more concretely, educational sector-specific elements.

Keywords: Innova, educational innovation, innovation strategy, innovation research

ANIKÓ FEHÉRVÁRI
EQUITY PROGRAM EVALUATION IN EDUCATION.
THE CASE OF ARANY JÁNOS PROGRAM

The paper presents the results of the latest international research on educational programs evaluation, highlighting the evaluation of interventions to mitigate educational inequalities. The study briefly describes the situation in Hungary, focusing on the shortcomings of Hungarian education policy in the culture of evaluation. In addition, the article shows the possible tools, methods and outputs of the evaluation in case of an educational policy intervention, the Arany János Program. The paper emphasizes that planning and systematic data gathering are the most important elements of evaluating educational interventions.

Keywords: program evaluation, educational inequalities, Arany János Program

EMIL GAUL – ANDREA KÁRPÁTI
INNOVATION IN ART EDUCATION, BASED ON BAUHAUS PEDAGOGY

Mass production of designed objects was an important part of the modernisation movement of the industrial society. The foundations of modern design were established by the Bauhaus college of art, crafts and design between 1919 and 1933. New technologies of mass production resulted in the “New Landscape in Art and Science” (*Kepes*

1956/1979) shaped by industrial designers. The new visual culture needed new perspectives of education that were formulated by innovative artist-educators of the first half of the 20th century, especially László Moholy-Nagy, one of the Hungarian Bauhaus masters. This study offers a brief overview of innovative trends in art and design education, the actuality of the educational heritage of the Bauhaus, and the “Moholy-Nagy Visual Modules – teaching the visual language of the 21st century” – a project of the MTA-ELTE Visual Culture Research Group, based on this tradition. This innovation effort continues the movement launched at the beginning of the 20th century for the modernisation of vision.

Keywords: Bauhaus pedagogy, art education, modular curriculum, research based development

RESEARCH ACTIVITIES

ISTVÁN BACZÚR INNOVATION IN THE SCHOOL MANAGEMENT

In our research specialized on the relationship between school principals and school innovations, structured interviews were made with school leaders about how they see their own innovative role in the school development. We examined the impact of proactivity on the future, the innovators and the risks. Our scientific achievements demonstrate how creative and entrepreneurial managers in a changing environment can combine their own institutional resources to make their schools viable and successful.

Keywords: leaders of school, school innovation, proactive

BEÁTA KÁDÁR INCLUDING THE LABOUR MARKET PROPOSALS IN OFFERS OF HIGHER EDUCATION

The present study aims to summarize the most important findings and results in the literature on the relation between higher education and the labour market, followed by a presentation of the data and results of the primary research conducted. The research has focused on the relationship between higher education and the labour market, and tried to find answers on the extent to which students make conscious decisions when they choose a profession or field of study; what do university graduates, who have already found a job in their field, think about the utility and applicability of their knowledge (acquired at university) in their current workplace; and thirdly, the aim was also to look at the business sector and ask employers about their experiences regarding the skills and competences of fresh graduates. The starting point for the present research was my own experience as a university teacher, thus data collection was also carried out in this context.

Keywords: soccer, academy, talent development, coach–athlete relationship

EMESE BEÁTA BEREI
PERCEPTIONS OF EQUITY AMONG TEACHER EDUCATION
STUDENTS: COMPARATIVE ANALYSES IN THE CROSS BORDER
AREA OF HUNGARY AND ROMANIA

The paper is discussing the concept of equity in higher education in a comparative perspective among teacher training students. The quantitative international survey data was collected by the Higher Educational Research Centre of the University of Debrecen in 2012 and in 2014-2015. I had focused on students opinions, using the SPSS 22 statistical program to analyze data. In the views of the students, the attitudes of support and exclusion are present in the same time. The participation in charity, volunteering, civil or church communities increases the chance that the students will have supporting attitudes towards peers.

Keywords: higher education equity, teacher training students, Romania and Hungary

KRISTÓF VELKEY
POLISH PISA RESULTS IN 2015: FACTS AND INTERPRETATIONS

The study presents the recent results and changes of Poland's PISA results, and the possible reasons and uncertainties behind it. According the PISA 2012 results, Poland's education system continually improved, and became one of the best performers in Europe. This optimism was contradicted by the declining 2015 results and the current whole-system education reform. Besides the presentation of the Polish PISA results, the paper discusses the problems of comparability between the 2015 and the older PISA editions, as the change to computer-based assessment could be the main reason behind the lower results.

Keywords: PISA, comparability, Polish education system, education reform