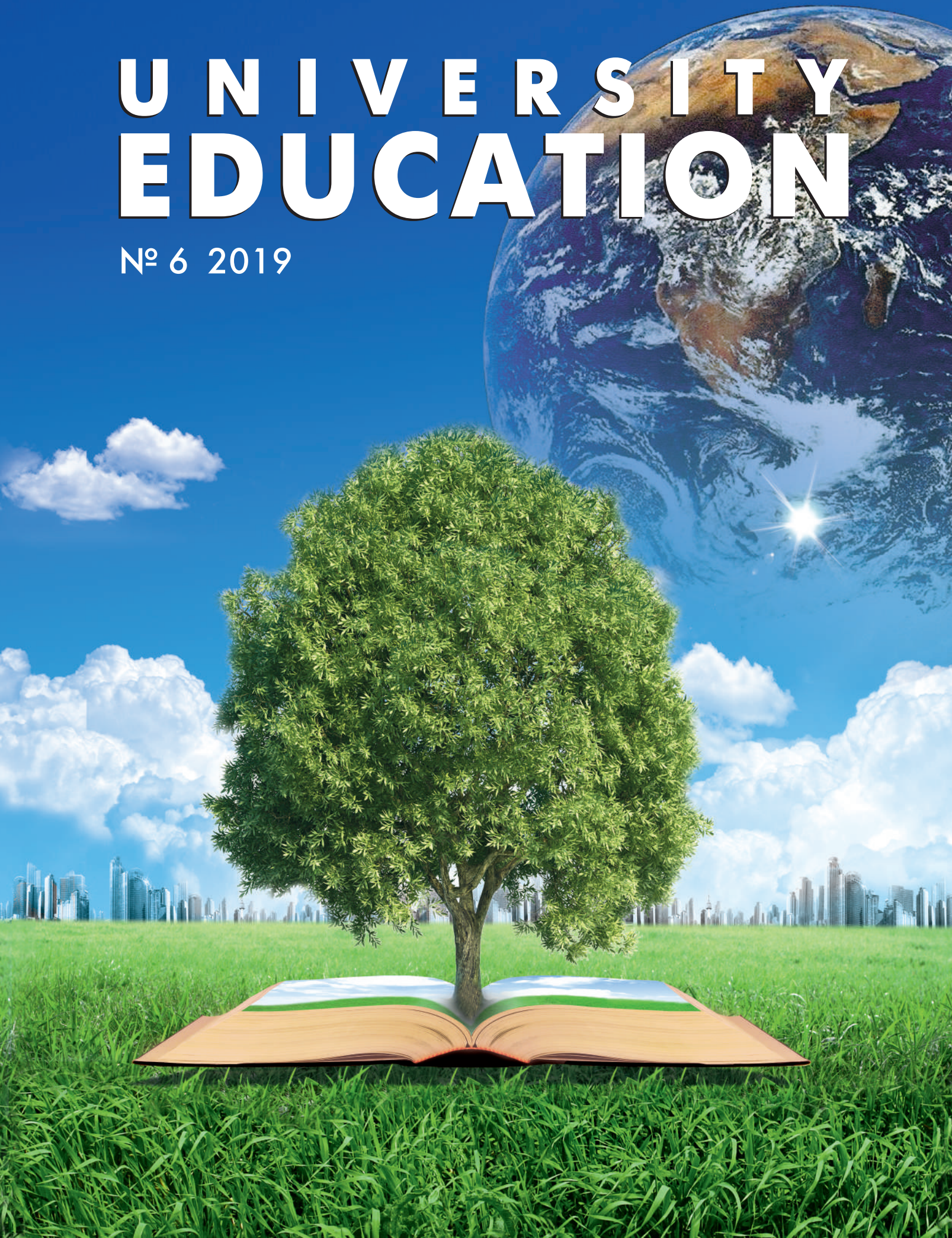


ISSN 2312-5462

# UNIVERSITY EDUCATION

№ 6 2019





Foreword by the Rector of Kyiv National  
Economic University named after Vadym Hetman

### UNIVERSITY EDUCATION NEWS

Higher Education Quality Management 2018  
How Virtual Reality is Transforming Learning  
Universities in Megatrends of World's Transformation:  
Vision of EFQM

### TOPICAL INTERVIEW

The Landscapes of Entrepreneurial Education — Case of Henley  
Business School

### DEVELOPMENT OF WORLD CLASS UNIVERSITIES

Keith Pond Assessment and Assessment Design  
Larysa Antoniuk, Natalia Vasilkova, Mariia Sandul  
State Support of Higher Education for Global Leadership  
in the 21st Century

### HIGHER EDUCATION TRENDS

Iryna Kalenyuk, Liudmyla Tsymbal The Global Higher  
Education Market: Dynamics and Turbulence

### CASE STUDIES

Oliver Belarga Collaborative Online International Learning  
Practice as a Teaching Pedagogy in Higher Education:  
Japanese University Experience

### UNIVERSITY SCIENCE

Łukasz Kutyló The Phenomenon of Atrophy of the Role  
Among Working Students and Its Determinants

### HIGHER EDUCATION REFORMS IN UKRAINE

Gerald Groshek, Nataliia Cherkas Learning Management  
Systems: Some Observations for Ukrainian Postsecondary  
Educational Institutions

Denys Ihnytskyy, Olga Drobotiuk Scenarios for the higher  
education development in Ukraine: flourishing, stagnation  
or degradation



1 State Registration Certificate  
No. 18034-6884P dated 16.08.2011

2 Publisher of International  
Scientific-Practical Journal  
2 Institute of Higher Education,  
4 Kyiv National Economic University  
named after Vadym Hetman  
6 <http://ihe.kneu.edu.ua>

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40 *Daniel Schiller*, PhD, Professor, Chair  
of Economic and Social Geography,  
University of Greifswald, Germany  
49 *Maksim Belitski*, PhD, Associate Professor  
in Entrepreneurship and Innovation,  
Henley Business School University of  
Reading, UK

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[www.kneu.edu.ua](http://www.kneu.edu.ua)

Print run: 100 copies



DEAR READERS,

The latest issue of “University Education” presents the results of the research conducted by the Ukrainian and international scholars. In particular, the main findings of the research work “Imperatives of National Higher Education Systems’ Global Competitiveness” carried out by the group of researchers at the Institute of Higher Education at KNEU during 2016-2018, are highlighted in this issue.

Global transformations of the late 20<sup>th</sup> and early 21<sup>st</sup> centuries have deeply changed the world. They found a theoretical and an empirical reflection in the new global development paradigm, in the formation of the global economy. Universal imperatives for the national economies’ success in globalized environment are those of intellectualization, continuous innovation, socialization, self-actualization of an individual, ecologization of production and life environment in the paradigm of global thinking. In this context, national competitiveness ensures not only improvement of living standards of the country’s population and maintenance of the national enterprises’ stability in the world market, but also socio-economic progress based on innovation with an ability to withstand crises, preventing or successfully neutralizing the negative effects. Therefore, new possibilities of innovative development in the age of information society and digital economy have become an extremely important object of research.

Sustainable development of any country today depends primarily on its ability to develop and implement innovative strategies. It has become necessary to constantly search for and apply innovations that change technology and business organization in order to maintain a high competitive status in domestic and international markets. At macro level, the most adequate response to the knowledge economy paradigm is the development of innovative systems, as an institutional precondition for innovation-friendly climate, and at micro level – the implementation of innovative corporate strategies and creative management.

The research conducted by *Larysa Antoniuk*, *Natalia Vasilkova* and *Mariia Sandul* dwells upon state support in higher education area for its global leadership in the 21<sup>st</sup> century. The authors present numerous arguments based upon international experience concerning the importance of strategic approaches towards development of higher education systems financing in line with demanding high achievements in terms of their global competitiveness.

*Denys Ihnytskyy* and *Olga Drobotiuk* highlight the results of the research dedicated to depicting scenarios of Ukrainian higher education system development. Unfortunately, apart from possible flourishing, they conclude a high probability of its stagnation and degradation.

The article by *Iryna Kaleniuk* and *Liudmyla Tsymbal* is dedicated to the trends of the global education services market development. The authors investigate the turbulent tendencies in the higher education market in conditions of increased competition: an upward trend in the number of students and foreign students all over the world, emergence of new leaders, countries’ positioning in terms of exports and imports of education services, Ukraine’s competitive positioning.

Foreign colleagues, with whom KNEU researchers have been cooperating within joint scientific and educational projects, present the results of their research.

*Dr. Keith Pond*, School of Business and Economics, Loughborough University (UK), highlights the importance of assessment as part of educational program for tertiary students. He emphasizes that assessment is a product of many influences, often strong and rarely within the complete control of individual lecturers. The paper explores Constructive Alignment theory and the influences of curriculum design. It is proven that assessment is a visible evidence of good pedagogic design and sound quality assurance. Analysis of the interactions reveals a shared understanding of constructive alignment of assessment design within an environment where innovation is not common.

*Gerald Grosbek*, Professor, School of Business, University of Redlands, CA, USA, and *Nataliia Cherkas*, Associate Professor, Institute of Higher Education, Kyiv National Economic University named after Vadym Hetman, Ukraine explore the significance of Learning Management Systems (LMS) for Ukrainian universities. The article presents a distribution of Moodle sites among Ukrainian user types, summarizes the benefits and increasing necessity of educational management technology and stresses the importance of an accompanying commitment of resources to faculty development in order to achieve a more effective educational environment in Ukraine.

*Oliver Belarga*, Kansai University (Japan) investigates the growth of collaborative online learning in students’ educational environments characterized by cultural diversity. The author discusses the peculiarities of COIL (Collaborative Online International Learning) practices between Kansai University and International Islamic University of Malaysia from April 2016 to December 2017. Finally, the author encourages learners and instructors to set out an online academic partnership, which are very relevant in the rapidly expanding field of global education.

*Lukasz Kutyló*, University of Łódź (Poland), addresses the phenomenon of atrophy of the social role among working full-time students. It is revealed that this phenomenon may result in the noticeable decrease of their commitment in education process. The analysis of data acquired from the survey, conducted among undergraduate students from the Faculty of Economics and Sociology at University of Łódź shows that the atrophy may be influenced by the weakening of the cognitive structures that are responsible for the formation of the sense of meaning, sense of belonging and belief about compliance with these duties by other, as well as intensity of students’ social life.

We hope, that the current issue of the journal will provide the readers with meaningful arguments and models, important for the development of higher education.

Sincerely Yours,  
*Dmytro Lukianenko*,  
Rector of Kyiv National Economic University  
named after Vadym Hetman

## HIGHER EDUCATION QUALITY MANAGEMENT

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Under conditions of a highly competitive global environment there is an increase in requirements to higher education quality from students, employers, and the state. However, there are multiple approaches to understanding and defining this complex and multi-faceted concept — due to national differences in goals, expectations, and quality criteria of the major stakeholders in higher education. During the last two decades, the problems of providing and controlling educational services and research results quality have become the key issues in education management both at supranational as well as national levels.

joined the European Higher Education Area;

- Development of instruments for assisting independent experts in reforming higher education, which is especially relevant for the less developed countries of the European Higher Education Area.

The conference participants analyzed the progress in the Bologna process (in particular, the implementation of the “Standards and Guidelines for Quality Assurance in the European Higher Education Area” into national policies and institutional practices) and the development of processes for ensuring higher education quality as a basis for mutual trust and



Two important events dedicated to the quality of higher education, the Ministerial Conference on Higher Education and the European Quality Congress, were held in Paris in May and June 2018. Representatives of European countries, USA, Canada and China took part in them. The Congress focused on quality as the key asset to a competitive Europe and qualitative leadership. The most important results of the Ministerial Conference were the following:

- Adoption of the Higher Education Standards and establishment of the education quality database, since quality assurance is a key factor in building mutual trust between countries in the European Higher Education Area;

- Revision and approval of the Diploma Supplement Template, which will enable and facilitate migration of skilled workers;

- Approval of the Draft Strategy for Belarus for 2018-2020, as the country that has recently

academic mobility. As a result of the ministerial meeting, the priorities of the European Higher Education Area for 2018-2020 were identified. In particular, they include:

- Three-tier higher education system that meets the qualifications framework;
- Implementation of the Lisbon Convention on recognition of qualifications in higher education;
- Quality assurance in accordance with the Standards and Guidelines.

In such conditions, the higher education system of Ukraine should develop taking into account global trends, international challenges and national interests. As a result of the research, accomplished by the team of scientists from the Institute of Higher Education at KNEU and Lithuania, a monograph was prepared. It focused on studying the national models of higher education quality management, which are to ensure the most effective usage of tools and



mechanisms for the formation and improvement of quality in this area. The authors conducted a thorough research dedicated to the study and synthesis of the best world experience in terms of higher education quality management models formation and application. The regularities and peculiarities of such key mechanisms and marketing, accreditation and career guidance tools for quality enhancement in higher education were investigated and summarized.

The authors did not confine themselves to studying the peculiarities of the developed countries' models (USA, Germany, France, Italy and Finland), but also paid attention to those countries that are somewhat ahead of Ukraine in terms of the development of the national model of higher education quality management (China, Latvia, Russian Federation). In particular, the higher education quality assurance processes analysis in Latvia allowed

Constructivism of the proposed paper is in a comprehensive analysis of legislative and institutional support for the higher education quality, as well as licensing of educational activities and accreditation of educational programs in Ukraine as the main aspects determining the peculiarities of the national higher education quality management system.

The conducted research resulted in the rationale for a comprehensive proposal on strategic directions for the formation of the national higher education quality system in Ukraine. It has been proven that in order to ensure the competitiveness of Ukrainian higher education system and to strengthen the position of the national higher education institutions in international rankings, it is necessary to develop and consistently implement a medium-term comprehensive National Higher Education Quality Assurance Program, in which



identifying and confirming its aspirations for effective integration into the European Higher Education Area, as well as formation and development of a common Baltic Educational Area. Realization of all these ambitious tasks is possible only on the basis of creation of mechanisms for guaranteeing high quality of higher education, for which consistent efforts are being made in all Baltic countries.

considerable attention should be paid to the goals, tools and ways of achieving business excellence in education.

Prepared by **Dmytro Barabas**, PhD, Associate Professor, Research Fellow at the Institute of Higher Education at KNEU

## HOW VIRTUAL REALITY IS TRANSFORMING LEARNING



In today's developed world, universities are innovation centers. Typically, innovations are not limited to technological development; innovations in pedagogy are equivalent to technological ones, but nowadays the extended reality (XR) technologies that cover virtual reality (VR) and augmented reality (AR), already significantly affect pedagogy in higher education. XR is a generic term that covers a wide range of technologies, which combine real world with full immersion in simulation. Over the past few years, various technologies of extended reality have become increasingly widespread, as their cost is decreasing and their ease of use is increasing. Consequently, they have a truly significant impact on the educational process.

In order to understand the power of this impact, Educause (US), a non-profit association, together with the leading American IT company Hewlett-Packard (HP), has been exploring the potential of XR technology in higher education. The Campus Future project was devoted to the study of a subset of XR technologies related to 3D modeling, modeling and production: VR, AR, 3D scanning and 3D printing. The aim of this study was to determine the innovative impact of these technologies in HEIs, as well as their impact on teaching and learning, and to determine the future prospects for using these technologies.

The project was launched in early 2017. Although it was not the first one in the field of studying the XR technologies impact on the educational process, unlike the previous projects (for example, a joint project with Yale University), this one is the most extensive, since it covers a larger and more varied sample of institutions and learning environments, as

well as more users. Eleven American universities and colleges were selected to participate in the project, which had already been among the leaders in term of integration of 3D technologies in pedagogy, hence they had the experience of using 3D-technologies available for learning (although there appeared additional opportunities for all of these institutions during this project): Case Western Reserve University, Dartmouth College, Florida International University, College of Communication, Architecture + The Arts (CARTA), Gallaudet University, Hamilton College, Harvard University, Graduate School of Education, Lehigh University, The Wilbur Powerhouse, MIT, Scheller Teacher Education Program, Syracuse University, Newhouse School of Communications, University of San Diego, Yale University. The reason for choosing such an unrepresentative sample, besides the mentioned above, was the very purpose of the study — determining the leading point of using this technology at an educational institution and thus attempting to demonstrate the future of 3D technology in higher education.

For the research purposes, HP provided HEIs with the training facilities and technical support, and Educause provided methodological expertise. During the academic year 2017-2018, the institutions involved were required to use the equipment provided for active training using 3D technologies as a component of research projects, as well as to track how teachers and students use their equipment, and to collect data for analysis. The study also involved the staff of the educational institution, which develops training courses and tasks, and staff members of information technology departments and campus centers that provide technical support.

Within the process of the study it was assessed how the educational institutions use 3D technology, the obstacles in its implementation were identified, the projections of the possible future of 3D technology in higher education were made, and the provisions of guidance on technical requirements, support needs and organizational policies for institutions wishing to deploy 3D technology on campus were made. In addition, 3D technologies which are most effective for various learning purposes were determined, interesting and new ways of their usage were identified, as well as the types of 3D technologies that have the greatest potential for learning and further research.

The key finding of the study is that the usage of extended reality technologies in higher education provides active and experimental learning, facilitates collaborative experience and collaboration, and supports a wide range of educational goals across a wide range of disciplines. Such achievements become possible primarily because they:

- Create the “presence effect”. Thus, a good simulation of virtual reality provokes the same emotional and physiological reactions as the real world does. In addition, technology is constantly evolving, and the visual effects of VR and AR gradually are enriched by audio and tactile functions. For example, with the virtual reality helmet in Google Earth, one can visit any part of the world during a geography lesson;

- Provide training based on “personal experience”. Thus, virtual simulations allow creating and using objects in ways that are not available in the real world: for example, to look through the surface, or read data from objects. With 3D printing, one can create physical objects that can not be made from other materials. In practice, zoo-archaeologists from Stanford had digitized animal skeletons with the help of these technologies. 3D models help students learn to identify bones of different animals by their fragments, and they can view these fragments from all sides;

- Provide individual practice and acquisition of skills. In medical specialties, for example, VR allows students to gain practical experience that can not be obtained in another way. For example, medical students may train to cut tissues and test emergency measures for rare diseases. Repeating operations for many times, the students refine their skills;

- Allow gaining experience related to objects that might otherwise not be available in educational and research contexts. Thus, the added reality allows users to interact with an object with “super capabilities”, such as the ability to view the surface or view objects that overlap data. With 3D printing, users can quickly create physical objects that otherwise can exist only in simulation;

- Allow expanding the possibilities of high-speed and expensive training. Indeed, the development of a simulation lab requires significant investment, but it is much cheaper than building and maintaining a real-life laboratory. In addition, a simulated lab may be available to people from various locations. Therefore, VR and 3D technologies allow access to laboratory use by a much larger number of users, even at the same time.

The use of VR, AR and other technologies faces a number of challenges and contradictions. In particular, regarding the possibilities and constraints for the use of technologies, the results of the study determined that:

- Extended reality technologies help enhance, and sometimes even require collaboration between institutions and universities. The deployment of new technologies often contributes to new co-operation in campus. For example, the support of 3D technology users in campus requires various knowledge that encourages (or even requires) collaboration between campus IT departments and instructors. The use of 3D technologies also facilitates collaboration with students and lecturers in various academic disciplines. In addition, many students and university teachers need support to learn how to use this technology.

- Development of training sessions and workshops dedicated to 3D-related issues is extremely important in order for this technology to be widespread. It takes time for the benefits of 3D technology to be realized in an educational institution. And while the usage of extended reality technologies is gradually becoming easier, they still need customization: software must be installed and constantly updated. In addition, users need time to learn how to use technology, and instructors need time to figure out how to best use technology in learning.

- Implementation of 3D technology should be gradual. The first year of deployment of this technology may be mainly devoted to studying the ways of its usage, integration into learning processes, and may last up to two years; and training courses using 3D technology must first be tested and may be further improved.

Prepared by *Iryna Kulaga*, PhD, Associate Professor, Research Fellow at the Institute of Higher Education at KNEU

*based on:* Pomerantz, Jeffrey. Learning in Three Dimensions: Report on the EDUCAUSE/HP Campus of the Future Project. ECAR research report. Louisville, CO: EDUCAUSE, August 2018. <https://library.educause.edu/resources/2018/8/learning-in-three-dimensions-report-on-the-educause-hp-campus-of-the-future-project>

## UNIVERSITIES IN MEGATRENDS OF WORLD'S TRANSFORMATION: VISION OF EFQM

EFQM (former the European Foundation for Quality Management) is a not-for-profit membership foundation that unites private and public organisations striving for Sustainable Excellence. Through its network of members comprising organisations of every size and sector, with many active around the world, EFQM applies its know-how and extracts outstanding approaches by engaging with institutional leaders, executives and front-line managers. For more than 20 years EFQM has shared what works between members as a way to help to implement their strategies.

EFQM's Mission is to inspire organisations to achieve sustainable excellence through engaging leaders to learn, share and innovate by using the EFQM Excellence Model, a globally recognised, world class Model for assessing and guiding organisations to better performance.

Its' main product is the EFQM Excellence Model that provides description of what is excellent organization, its concepts, approaches and results. Whilst there are numerous management tools and techniques commonly used, the EFQM Excellence Model provides a holistic view of the organisation and could be used to determine how these different methods complement each other and fit together. The Model can be used both for self-assessment of organisations and as a basis for different external recognition schemes (e.g. EFQM Global Excellence Award).

As with any other organisation in the world today, EFQM finds itself operating in an environment where changes happen at a rapid and relentless pace, where new global shifts have implications for society, industries and organisations both today and into the future. This is why EFQM has decided that it is time to review once again its Excellence Model.

As the first step EFQM has identified current megatrends, which can impact the future Model. Megatrends are those topics that are expected/



predicted to have global influences in coming years. A megatrend is a long-term, transformational process with global reach, broad scope, and a dramatic impact. EFQM has explored various sources such as the Hay Group, McKinsey and PWC, as well as the work of one of its own communities of practice, to identify the topics that Leaders of Thought see as being the determinants that any organisation, regardless of size, reach or private/public status should heed in the 3-5 year time horizon, if they are to remain relevant.

EFQM has identified *nine* key megatrends. Official EFQM

description of these megatrends is given below.

### Megatrend 1 — Managing Demographic Diversity

In most economies, the retirement age is increasing and many are choosing or having to work longer. This is leading to an increased range of ages available to work in organisations. Globally there is an ageing population, declining birth-rates in some regions, increasing birth-rates in others. The demographic diversity available for organisations to pick and choose from when it comes to the acquisition and retention of Talent means they will find themselves having to engage with groups ranging from *baby boomers* through to *generation Z/Centennials*, each group having its own set of values and thinking differently. All these factors present challenges and opportunities for leaders.

### Megatrend 2 — Self-Organising and Self-Managing Systems

The way we manage organisations seems increasingly out of date. Deep inside, we sense that more is possible. We long for soulful workplaces, for authenticity, community, passion and purpose. A new shift in consciousness is currently underway. Concepts such as *Mindfulness* have now moved to the centre ground in more and more



organisations. So, there is a need more enlightened organisational structures and practices.

### **Megatrend 3 — Intensified demand for skills & effect of automation**

It is widely documented that the future of employment involves functions and skills that are not part of today's norm. Functions such as '*waste data managers*' or '*human — technology integration specialists*' seemed entirely fictional 10 years ago, but with the pace of technology advancement these roles are now a reality. Coupled with the creation of new roles is the demand for new skills, competencies and experience.

### **Megatrend 4 — The Rise of Technology and Digital Disruption**

The ever-quickenening pulse of technological advancement and with it ever faster communication is a *disruptive force* on the status quo, not just in the way people work together within organisations and in *value chains*, but also in fuelling changes in the behaviours of customers with higher expectations. The digital revolution has no boundaries or borders and the global business world is getting riskier too: Greater interconnectedness creates greater volatility in areas such as finance, international organised crime and cyber-terrorism. Artificial intelligence and its impact on the current workforce is perhaps still being quantified.

### **Megatrend 5 — Sharing Economy and Trust Sharing**

The new socio-economic trend, Sharing or Collaborative economy moves us beyond ownership into experience powered by the ability to share. From cars to houses, people around the world are realising what they can experience without being encumbered by ownership. The Sharing Economy will remain an influential component of the global economy. The currency in the Sharing Economy is not just the payment, but also the trust.

### **Megatrend 6 — Scarcity of Resources**

As the world becomes more populous, urbanised and prosperous, demand for energy, food and water will rise. But the Earth has a finite amount of natural and recycled resources to satisfy this demand. The growing scarcity of strategic resources such as water, minerals, metals and fossil fuels mean that organisations must increase their environmental responsibility and accountability still further.

### **Megatrend 7 — Meeting ever increasing Regulation**

Policy makers have enacted massive stimulus packages, propped up faltering companies and

pledged regulatory reforms. They are taking part in decisions that were once the province of managers and boards. Previous crises have resulted in permanent changes in government's role and this one is likely to do the same. Managers should revisit their strategies on two fronts: First, help shape — and prepare to compete under— new regulatory regimes. Second, recognise that the public sector will grow in importance as a major customer for many industries because of rapid increases in spending. Rising deficits and ageing populations point to a future fiscal crunch for many countries. Governments will find themselves under intense pressure to deliver social services at lower cost. Creative partnership between the public and private sectors will be important in meeting this challenge.

### **Megatrend 8 — Geopolitical uncertainty and localisation in the global economy**

There is a new world order emerging as economic power shifts from "The West" to Asia and the health of the global economy increasingly will be linked to how well this region performs. Coupled with this there is a growing geopolitical uncertainty due to seismic shifts in attitudes to globalisation and the protectionism of local markets, including Consumers, nowadays more mindful of carbon footprint and supporting local economies. Some emerging economies that were growing rapidly are now in recession. Commodity prices have played a considerable role in sending these economies into reverse. Businesses that are investing, or have already invested, in politically unstable countries or emerging economies will need to make a careful assessment of how to manage in these more volatile market conditions, where prospects look less certain today than they did just a few years ago.

### **Megatrend 9 — Ever increasing environmental crises**

Without significant global action, average temperatures are predicted to increase considerably to a threshold at which scientists believe significant and potentially irreversible environmental changes will occur. So, if the planet and the population is to survive, then environmental problems caused by, for instance, rising noxious emissions, will need to be managed much better in the future by both the public and the private sectors working together to minimise such crises as much as possible.

For sure, considering of these megatrends and ways to respond to them could be useful for any organizations. It is especially important for universities, considering complexity of their business and long-cycle of their services provision.

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## CASE OF SAKARYA UNIVERSITY

Earlier this year Sakarya University (SAU), Turkey — a public higher education institution — has been named EFQM Prize Winner in Adding Value for Customers & Developing Organisational Capabilities.

Since the year 2000 SAU has been continuously developing its capabilities to better serve students, researchers and industry at regional and national levels. SAU has 1984 academic staff and 727 administrative staff, 17 faculties, 4 schools, 15 vocational schools, 6 institutes and 3 departments of Rector, with a total of 92,000 students.

In 2006 the university has started implementation of EFQM Excellence model. A robust performance management framework — the SAU process management model — and benchmarks with other Turkish universities have been used by top managers for the analysis of current and potential capabilities mobilizing the organisation. The drive for change and continuous development is supported by the “Open Door” culture established among all the academic and administrative staff.

During the last 18 years, SAU has demonstrated that it is possible to adapt to trends and new scenarios despite being in the highly regulated public-sector environment. Probably the most outstanding result is that the university has managed to increase its independently assessed URAP (University Ranking by Academic Performance) between 2014 and 2017 from 54-th to 30-th within Turkey. The rankings on



innovation and entrepreneurship have improved constantly over the recent years resulting from SAU's strategy, showing that SAU is gaining recognition both nationally and internationally. In the 2017 URAP the university has now been included in the world ranking list.

One of the highlights of journey towards excellence is moving forward the achievements from the national level to the international level. This has added value to SAU by many valuable learnings. The university has developed unique management system that is basis of the quality assurance system within national higher education system.

As a public university, the authority of the institution is extremely limited in many functions through the laws and regulations that must be complied with. The student quotas, which affect resource planning and future plans, are centrally determined by the state office. This creates the main challenge for the university.

Thanks to the journey towards excellence, Sakarya University has got many role model practices for the national higher education institutions. SAU is going to provide the sustainability of these models as well as starting the new role model practices. The university sees its strategic future at the digitalisation of higher education services towards University 4.0. The university is planning to continue to deploy the institutional excellence and quality management concepts beyond the institution.

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Prepared by *Taras Kalyta*,  
Ukrainian Association for Quality  
based on EFQM materials <http://www.efqm.org>



# THE LANDSCAPES OF ENTREPRENEURIAL EDUCATION — CASE OF HENLEY BUSINESS SCHOOL



*Interview with Maksim Belitski, PhD, Associate Professor in Entrepreneurship and Innovation, Henley Business School University of Reading, UK*

**Could You, please, tell us about Centre for Entrepreneurship in general and Creative Spark Higher Education Enterprise Programme in particular?**

Founded in 1945, Henley Business School is one of the oldest business schools in the UK and part of the University of Reading. Henley's core expertise is based in the UK, the School has associates in over 20 countries around the world, providing an international dimension to its research activities and outputs. As an important component of the Henley Business School and University of Reading structure the Henley Centre for Entrepreneurship was established in 2007 with a remit to provide

entrepreneurship education for students across the disciplines. In addition to strong commitment to enterprise education, Henley Centre for Entrepreneurship members conduct high quality research in the field of entrepreneurship and creative industries.

Henley Centre for Entrepreneurship provides the extracurricular initiatives (ranging from the Business Incubator, Business Hub, the Thames Valley Science Park, The Entrepreneurship Society, business idea competitions, venture capital activity. HCfE is involved in screening the applications, prepare students for investment pitches and provide further support (incl. business incubation) of businesses who received equity finance. High profile guest speakers and investors invited by the HCfE contribute to an entrepreneurship ecosystem within the University of Reading. In 2017 HCfE was honoured as among the Top 20 in the world by the AACSB accreditation agency as part of its Spotlight Challenge.

In November 2018, the Institute of Higher Education of Kyiv National Economic University named after Vadym Hetman together with the Henley Business School, University of Reading (The United Kingdom) won a grant from the British Council — Creative Spark Higher Education Enterprise Programme. It is a five-year initiative to support international university and institutional partnerships to develop enterprise skills and creative economy across seven countries in Central Asia (Kazakhstan, Uzbekistan, Kyrgyzstan), South

Caucasus (Azerbaijan, Armenia, Georgia) and Ukraine through UK support. The programme has been developed in response to an underdeveloped creative sector and a demand for entrepreneurship training in the programme countries, supporting wealth and job creation.

***Why do you think it's important to develop students' entrepreneurial skills? How can students apply them, if they do not run their own business?***

We stand on the brink of a technological revolution when we can observe the disappearance of the industries. As a result, there is a need to create new jobs, which is the key to inclusive economic growth. There's also a "growing skills instability", where technology changes the profiles of many current jobs and different competencies are required. The main tasks of the universities are to follow the key global megatrends and to strength an entrepreneurial skill, which is one of the best investments we can make in our students.

***What role do universities play in developing students' entrepreneurial skills? Shouldn't they rather be centers of academic studies and education?***

Nowadays, Universities have become a hubs of the formation of future societies, which generate not only new knowledge but also help in solving global problems. The universities should develop students' global competencies. According to the experts of the World Economic Forum, the following skills are the most important:

1. Creativity
2. Persuasion
3. Collaboration
4. Adaptability
5. Time Management

In times of the Fourth Industrial Revolution universities have become entrepreneurial institutions, training students in teams and

global innovation networks. Realizing the Creative Spark project our team teaches students to be creative by boosting their minds and developing ideas within the real projects.

***What are your expectations of the Creative Spark Higher Education Enterprise Project?***

We have established strong cooperation with Kyiv National Economic University named after Vadym Hetman. We focus on the strengthening entrepreneurial ecosystem of KNEU and share our experience in this field. Our expectations within the collaboration are deepening cooperation between our institutions by conducting researches on the development and efficiency of business ecosystems; developing of entrepreneurial skills among students using the Henley Business School approaches; establishing of the KNEU Center for Entrepreneurship for students, graduates and all those wishing to support and advise on the implementation of their business ideas. We absolutely convinced that successful cities and regions depend on creative entrepreneurial communities, start-ups and projects and thanks to the British Council now we have an unique opportunity to disseminate our knowledge and information to create an effective networking of entrepreneurs at KNEU, Ukraine.

***Why is this program important for you and Ukrainian partners? And what part of the program is the most important for KNEU students?***

I think the practical experience of British partners in entrepreneurship is a great advantage for all participants. Theoretically we know what to do, however learning from experts who have practically implemented such projects in the UK over the last couple of decades make our strategy more straightforward and focused. In addition to funding, obvious advantage is that our partners are lecturers and mentors for our program and we can



directly use their outstanding theoretical and practical expertise. As a part of our partnership we are studying commercialization of research activities in Ukraine which will result in joint research publications. The project is open for students and they are involved in all kinds of activities. Numerous events for students include: modified academic courses, open lectures and TED-like presentations (Spark-KNEU), extracurricular activities like Best-Startup competition, IDEAFEST, the Business Idea Clinic, the Summer Start-Up Boot Camp, Idea Hub and others. We see already that the project actually sparked significant interest among the students and we hope it will continue to grow along with the progress of our activities.

***One of the objectives of the program is to support a new business. How difficult is this part of the program for you and your partners? What progress have you already achieved?***

New business support is the most responsible part of the project. When students launch a start-up project, they need financial resources,

highly qualified team, and an effective marketing strategy of the project. All of these issues are to be addressed by the Business Clinic, where the most experienced experts are involved in KNEU. For example, it's a KNEU alumnus, who is one of the successful businessman and venture investor in Ukraine. Recently, he has started to deliver the course "Global internet marketing" for KNEU students. By the way, we have already implemented the module "Venture Business" in KNEU curricular activity.

In addition, we have launched a Business Incubator, where KNEU students share their business ideas and projects every week. Finally, on the 7th of March, our Creative Spark team run a competition open to all students (undergraduate and postgraduate) at KNEU- Student Business Idea Competition — IDEAFEST. The competition is looking for the best business ideas, with finalists being invited to an event where they will present their ideas to a panel of judges and the best 3 finalists will get cash prizes and mentoring from the business representative to help them develop their business idea.

# Assessment and Assessment Design

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**Abstract**

This paper focuses on the importance of assessment as part of the student learning journey in higher education. Assessment is, however, a product of many influences, often strong and rarely within the complete control of individual teachers. Whilst the paper explores Constructive Alignment theory and the influences of curriculum design it also uses the illustrative example of seminar responses at the Faculty of Economics of Taras Shevchenko National University of Kyiv. At the seminar, held in May 2018, the following overall objectives were set out:

1. To provide an overview of the UK regulation of Higher Education as an example of a Quality Assurance based system.

2. To link the constructivist paradigm with global accreditation in Business Education.

3. To discuss different types of assessment and different assessment design.

Assessment is not only the focus for many students but also the visible evidence of good pedagogic design and sound quality assurance. The seminar included some interaction with delegates and the paper contains observations and feedback on the interaction of the academics at the seminar within a pedagogic framework mirrored in global educational quality assurance systems.

Analysis of the interactions reveals a shared understanding of constructive alignment of assessment design within an environment where innovation is not common.

**Keywords:** constructive alignment, quality assurance, higher education, business education, assessment design.

**Rationale**

“Assessment is probably the most important thing we can do to help our students learn”<sup>2</sup>.

Much effort, discussion, planning, reflection and pedagogic theory is bound up in the design and preparation for assessment. This paper focuses on the importance of assessment as part of the student learning journey in higher education. Assessment is, however, a product of many influences, often strong and rarely within the complete control of individual teachers. There are strong influences such as institutional or even national assessment culture<sup>3</sup>; student experience and expectations<sup>4</sup> as well as teacher expertise and confidence.

Quality Assurance systems and regulations can influence assessment choices together with the lack of trust in students that drives the call for

<sup>1</sup> I wish to record my thanks to my good friend of 24 years, Professor Vladimir Shevchenko, for facilitating and organising the seminar at the Faculty of Economics of Taras Shevchenko National University of Kyiv.

<sup>2</sup> Brown, S. (2005). *Assessment for Learning*. ... pp. 81-89.

<sup>3</sup> Dawson, P. et al (2013). *Assessment Might Dictate the Curriculum, But What Dictates Assessment?*..

<sup>4</sup> Brown, S. (2005). *Assessment for Learning*. ...



“authenticated” assessment — assessment where the identity of the student and the origin of the assessed work can be authenticated. Summative exams often represent the line of least resistance in these circumstances. Research and commentaries on assessment are rarely as readable as the free ebook by Chris Rust<sup>1</sup>, eminent professor at the renowned Oxford Centre for Staff and Learning Development.

## Constructive Alignment

Many Educational systems around the world adopt Constructive Alignment theory<sup>2</sup> to aid curriculum and assessment design. The articulation of Intended Learning Outcomes (ILOs) for a programme or module of study is an important foundation for good learning and teaching.

Assessment design is a creative and innovative process but guided by clear educational rationale. There's nothing easier than setting an exam but nothing more engaging for students and staff to bring the assessment alive with imagination and authenticity.



Figure 1. The assessment cycle

Figure 1 sets out a logical continuum that guides assessment design in schools that adopt the constructive alignment model:

- ILOs are set at a programme and module level. Programme ILOs reflect the overall outcomes for graduates and assume a coherent suite of courses that combine to introduce, develop and support achievement of key competencies.
- Module ILOs reflect the subject specific knowledge and the cognitive and other skills required to achieve an award.
- An example comes from a module designed and delivered by the author and offered at Loughborough University as part of a Masters

degree (MSc) in Wealth Management<sup>3</sup>. The module is a basic economics course labelled Financial Services Environment. It lists four ILOs:

- a) ANALYSE the key issues in strategic decision making in the financial services industry;
- b) EXPLAIN the key economic concepts in finance by which the macro-economy is managed;
- c) EVALUATE the key drivers of strategy in the financial services market;
- d) COMMUNICATE complex economic concepts to a variety of audiences;

Taking the first of these ILOs there is a clear link to the Programme ILO that promises graduates, on successful completion of the programme, the ability to: “*manage creative processes in self and others; organise thoughts, analyse, synthesise and conduct critical appraisal*”<sup>4</sup>.

• The next logical step is to devise assessment criteria that will be able to differentiate between candidates who have achieved the ILO at an appropriate level and those deemed to have performed unsatisfactorily.

Examples at both undergraduate and postgraduate levels are shown in Tables 1 and 2. Table 1

Tables 2 and 3 show characteristics of high level and lower level work. This will become important when developmental feedback is to be given.

• Best practice dictates that assessment criteria are shared with students when the assessment task is revealed — it is akin to knowing the “rules of the game” before the whistle blows to start playing.

• The third step can be the most interesting and innovative for educators — designing the assessment. Later in this paper I provide examples of different tasks that combine not only the need to engage and motivate students but also the need to test them against the ILOs for the module and the programme of study.

However, assessment design is influenced by several factors<sup>5</sup>. These include:

- a) Curriculum level decisions — often made at the planning and accreditation stages for a programme, conforming to national, professional or cultural norms and requirements.
- b) Pedagogy level decisions — often within the control of the discipline group or the individual teacher and made before the start of the teaching, and

<sup>1</sup> Rust, C. (2013). What we know about Assessment...

<sup>2</sup> Biggs, J. (1996.) Enhancing teaching through constructive alignment...; Meyers, N. & Nulty, D. (2009). How to use (five) curriculum design principles to align...; Wang et.al., (2012). An exploration of Biggs’ constructive alignment in course design and its impact on ...

<sup>3</sup> Loughborough University (2018b). Financial Services Environment module specification...

<sup>4</sup> Loughborough University (2018a). Postgraduate programme specification for ...

<sup>5</sup> Dawson et.al. (2013). Assessment might dictate the curriculum, but ...

Table 1

### AN EXAMPLE OF ASSESSMENT CRITERIA AND RANGE STATEMENTS FOR WRITTEN ASSIGNMENTS / ESSAYS OR REPORTS (UNDERGRADUATE)

Criterion	<49% Poor fail / fail	50–59% Satisfactory / sufficient	60–64% Good	65–74% Very Good	>75% Excellent
Focus	General and sometimes inaccurate focus.	Very general statements about the business.	Mostly focused on the questions asked.	Good focus on the key questions	Keeps to the point, focus on questions.
Content	Very basic detail, some inaccurate reporting of case.	Little detail or explanation, general "headlines" without much supporting text.	Reasonable level of detail. Some key points missed.	Good level of detail and explanation. Most key points covered.	Clear facts, very well explained, Good level of detail (not overboard)
Use of models / concepts	No basis in theory or accepted models.	Basic use of theory, derived from lectures alone.	Good use of theory, based largely on lectures	Good use of relevant theories / models / concepts extending beyond the lecture notes.	Excellent use of relevant theories and models, extending beyond the lecture notes.
Evidence of Research	No citations / references. Statements have no supporting evidence.	Statements often not supported by evidence, few sources cited.	Statements supported, some meaningful research undertaken.	Good referencing, statements supported by evidence. Good sources used.	Wide range of research. Excellent sources of data and references.
Analysis / discussion	No real analysis or application of theories.	Descriptive, shallow, shows basic information without any analysis.	Good attempt to analyse, or prioritise issues.	Good attempt to analyse, or prioritise issues and to draw conclusions.	Evidence of argument, analysis and discussion. Good conclusions drawn.
Presentation of report	Unstructured, messy, spelling and grammar mistakes	Neat and tidy but with no real structure. Some spelling errors.	Well presented with minimal errors. Room for improvement in structure.	Well presented with a good attempt to structure.	Good logical structure, neat and tidy. Good "signposts" (headers / footers / sub-headings)

Table 2

### AN EXAMPLE (EXTRACT) OF ASSESSMENT CRITERIA AND RANGE STATEMENTS FOR WRITTEN ASSIGNMENTS (POSTGRADUATE)

CRITERIA	A 70+% Distinction	B 60–69% Merit	C 50–59% Pass	D 40–49% Marginal fail	E 39% and below fail
ANALYSIS and EVALUATION  1. Evidence of critical analysis e.g. • Identifying and challenging assumptions. • An awareness of the importance of context in creating meaning. 2. Critical evaluation of the strengths and weaknesses of cited research/literature 3. Credible conclusions are made.	Excellent evidence of critical analysis accompanied by a profound appraisal of the literature and evaluation of theoretical concepts. The material is managed in a highly creative way demonstrating evidence of originality of thought. Excellent evidence of synthesis of ideas and key concepts, articulately expressed.	Very good evidence of critical analysis with evaluation of the literature/theoretical concepts. The material is managed in a creative way with expression of some original thought. A good level of synthesis of ideas and key concepts.	Whilst there is evidence of critical analysis some issues required further exploration. There is a competent level of evaluation of the literature and theoretical concepts. There is evidence of originality of thought, although some areas are underdeveloped.	Very limited evidence of critical analysis and much of the writing is descriptive. Evaluation of the literature and key concepts is scarce. Lack of originality in the way the material is handled.	Little or no evidence of critical analysis and the discussion is entirely descriptive. Poor evaluation of the literature and theoretical concepts and no credible judgements are formed. No evidence of original and innovative thought or creative use of concepts.

c) Operational level decisions — day to day decisions about feedback, technology (on-line or hard copy?) logistics (for group work or presentations).

The fourth and fifth steps relate to the marking and feedback for the assessment. Marking can be very subjective but in more “consumerist” societies students are willing to appeal marks awarded and challenge teachers. Marking by using the assessment criteria not only gives teachers a consistent basis of evidence to support marking decisions but also a source of developmental feedback.

There is still subjectivity in determining whether a “good” or “very good” mark is awarded but agreeing assessment criteria in advance helps the individual marker to distinguish the difference. In Figure 2 good and very good performance in the analysis and evaluation aspect of the work is shown as:

o **Good** — *Good attempt to analyse or prioritise issues;*

o **Very Good** — *Good attempt to analyse or prioritise issues and to draw conclusions.*

Feedback for the student achieving a “good” rating, following the so called “feedback sandwich” protocol (Commend, Recommend, Commend) could then include a phrase such as:

*“You make a good attempt to prioritise issues in your essay, you could develop your ideas further by drawing conclusions or discussing the impact of your analysis on decision making. Your framework for analysis is clear”.*

Feedback given to students is the subject of a whole, different, seminar or workshop but its purpose in an educational setting is demonstrated here. Feedback to students on their work should be detailed, comprehensive, meaningful to the individual, fair, challenging and supportive<sup>1</sup>. It should also be timely — especially when submission and return of written work informs subsequent assessments or learning objectives.

Online marking systems such as Turnitin’s GradeMark<sup>2</sup> facilitate common or “stock” feedback phrases since many educators use the same phrases for different students. There is no reason why manual marking cannot use common feedback phrases linked to assessment criteria.

## Quality Assurance

For higher education systems based on what I will call the “engineering” method of Quality Assurance — i.e. the setting and adherence to a blueprint or set of rules and procedures, the

tendency is towards pre-authorisation; regimes based on rigorous documentation, and regular internal and external feedback and reviews to ensure that the original design is being delivered in a consistent way. This has been reinforced in the UK by the recognition that Universities are subject to the same market based concepts of “treating customers fairly” as banks, motor manufacturers or purveyors of sausages.

In its advice to UK Universities, the Competition and Markets Authority<sup>3</sup> stipulates, for example, that the structure of courses should be given before the students’ decision to apply. Not too controversial, but where this structure embeds clear indications of assessment the University must continue to offer that course structure to the student until the point of graduation, perhaps 5 years later. Flexibility and innovation in assessment practice can be stifled in the short term.

Universities can change their assessments but only over the long-term or where evidence can be shown that the bulk of students would benefit from such a change.

Overall, however, the UK quality assurance framework is permissive, recognising the independence and history of academic freedom that pervades the sector. The degree of flexibility and innovation is restricted as noted above but not impossible. The key elements of the UK Regulatory framework are illustrated in Figure 2.

The framework is overseen by:

- The Quality Assurance Agency which issues benchmark statements in a variety of subject areas, including Business, Economics and Finance. Benchmarks set academic standards for Bachelor and Masters level study. The subject benchmark in Business and Management<sup>4</sup> gives a definition of the discipline, expected subject knowledge, skills development and practical application in Business and Management but does not determine teaching and learning style, nor assessment, preferring to leave that choice to the degree awarding body (University).

- The Office for Students (a relatively new grouping) that oversees access to and participation in higher education for students, funding and the maintenance of good governance for universities and a complaints system for the disgruntled.

Within this, as opined above, the flexibility of the individual institution can be seen. Forward thinking institutions can, and often do, incentivise innovation not only to differentiate their offerings

<sup>1</sup> Brown, S. (2005). Assessment for Learning...

<sup>2</sup> Turnitin (2018). GradeMark ...

<sup>3</sup> Competition and Markets Authority (2015). UK higher education providers — advice on ...

<sup>4</sup> Quality Assurance Agency (2015). Subject Benchmark Statement: Business and ...



## Regulatory building blocks



Figure 2. Regulatory Building blocks in the UK

but also to recognise the changing nature of pedagogy.

In the UK there are national teaching awards<sup>1</sup> that are often mirrored at institutional level. Funding and time is released to individuals to develop innovative ideas and to share them. An excellent example of this can be seen at BI Oslo's Learning Lab<sup>2</sup> and at various UK institutions.

Global accreditation standards also focus heavily on clear objectives in business education programmes. Figure 1 (above) can be revisited to understand the steps expected under The Association to Advance Collegiate Schools of Business<sup>3</sup> guidelines for a concept known as "Assurance of Learning". EFMD places some emphasis on this aspect too as part of its EQUIS and EPAS (respectively, institutional and programme level) accreditations.

The basic question that these global accreditors ask is:

*"How does the School ensure that participants meet the agreed objectives and learning outcomes for individual awards?"*<sup>4</sup>.

It was with this background of theory, practice and regulation that the seminar held at Taras Shevchenko National University of Kyiv asked participants some key questions:

1. ILOs — where do you want your students to end up?

2. Assessment criteria — how can you tell if the students have achieved the standard? and

3. Innovation in assessment — what assessments do you use?

## Intended Learning Outcomes — where do you want your student to end up?

Dawson cite eminent educationalist David Boud who advises:

*"Students can, with difficulty, escape the effects of poor teaching, they cannot (by definition if they want to graduate) escape the effects of poor assessment"*<sup>5</sup>.

Recognising the good assessment emanates from a clear communication of learning objectives seminar delegates offered 40 different responses to the question — where do you want your students to end up?

After analysis of the responses 17 (43%) were considered to be of high clarity. These contained a clear verb such as:

- DISCUSS...
- COMMUNICATE...
- PREPARE...
- ANALYSE...

Such verb forms are useful as they advise the students very clearly what the examiner expects from the ultimate assessment and begin to suggest the appropriate measurement or assessment tool. Can the students discuss? — this can be determined in a variety of ways including exam questions, assignments, reports or even presentations, role plays and debates.

These verbs draw heavily on the work of Benjamin Bloom and the work of Baxter-Magolda highlighted by Bock<sup>6</sup>. Both Bloom and Baxter-Magolda recognised that there is a development of educational goals as learning progresses.

In the seminar there were also 10 (25%) responses of medium clarity. These contained verbs but ones that were less capable of being measured such as:

- PARTICIPATE...
- UNDERSTAND...
- USE...

Further and better detail of just how students should participate or what evidence of understanding will be sought are needed to allow these perfectly good outcomes to become clearer. What educators wish is that students do "understand" concepts but we cannot know if the individual student actually understands or

<sup>1</sup> Higher Education Academy (HEA) (2018). HEA Awards ...

<sup>2</sup> BI Norwegian Business School (2018). Learning Lab ...

<sup>3</sup> AACSB (2018). Eligibility Procedures and Accreditation Standards for ...

<sup>4</sup> EFMD (2018). EQUIS Standards and Criteria ...

<sup>5</sup> Dawson et. al. (2013). Assessment might dictate the curriculum, but ...

<sup>6</sup> Bock, M. T. (1999). Baxter Magoldas Epistemological Reflection Model ...

has, for example, memorised a few essay answers written by somebody else or has even allowed an assignment to be written by a third party, possibly for payment. What the educator can see is evidence of understanding — the relevant research has been undertaken, the appropriate tools have been used to analyse a situation or key concepts have been applied correctly to a real-life scenario.

The remaining 13 (32%) responses required a lot of thought before they could be used to indicate the outcomes of the teaching and learning. These included:

- PASS THE EXAM...
- STUDY NEW SPHERES...
- DO BUSINESS CASES...

The Type of outcome also ranged from Knowledge Based (32%), those indicating cognitive skills of different levels (24%) and those aiming to help development of transferable/employment skills (31%). The remainder (8%) defied easy classification.

Delegates showed some very good insight in this area and a readiness to share it with others. ILOs of the highest clarity are not only helpful but make the alignment of outcomes and assessment much clearer.

## Assessment criteria — how can you tell if the students have achieved the standard?

Once the clarity of Learning Outcomes is established educators must consider the sort of evidence they will need to ensure that the individual student has achieved the published outcome. The US based AACSB accreditation body uses a concept that it calls “Assurance of Learning”<sup>1</sup>. In AACSB Standard 8 accreditors seek evidence that the learning is appropriately and consistently substantiated.

In an interaction with delegates at the seminar there were 33 responses to the question asking: “What would you look for...if you were asked if the student had Analysed; Evaluated or Explained...”

After careful analysis 14 (42%) could be described as “Clear” whilst the remaining 19 (58%) would benefit from greater precision in language.

Those judged to have greater clarity in respect of evidence for analytical skills included:

- “Process the information and draw a conclusion”;
- “Compare different companies”;
- “Create graphs and tables”.

Those statements that were less clear included:

- “Give main blocks”;
- “Show different aspects”, the hazardous;
- “Speak to the student”.

Through the mechanism of teachers thinking deeply about ILOs, discussing and agreeing the evidence sought for the various educational outcomes and then sharing the assessment criteria with students a clear link is made that can assure learning.

Figures 2 and 3 summarise types of evidence sought to justify different levels of achievement. In Figure 2 good and very good performance in the use of models / concepts aspect of the work is shown as:

**Good** — Good use of theory, based largely on lectures;

**Very Good** — Good use of relevant theories /models / concepts extending beyond the lecture notes.

Effort expended at the planning stages of teaching can, and does, make the agreement of marks and provision of feedback to students more consistent. Students can be known to complain about grades but by adopting the method outlined above, academics can defend the marks allocated if called upon to do so.

## Innovation in assessment — what assessments do you use?

In a final interactive exercise with seminar participants 42 responses were given to the question “What type of assessment do you use?”.

The mechanics of assessment, built as a foundation in curriculum planning can support not only traditional assessments such as exams but also more innovative assessments created by teachers. The responses were not untypical of Universities around the world.

19 responses (45%) noted exams, tests or a quiz. Such tools are very useful in the testing of memorization of knowledge and in the ability to communicate key points in a time constrained manner. However, tests are swift to mark and can give vital feedback to students in a formative way, where they occur during the teaching period. Exams, however, are normally summative. They do have the advantage of being able to fully identify the individual student however!

Exams using case studies or open book exams that seek problem solving skills can be very useful in assessing higher level skills — often those outcomes the programme of study sets out to achieve. Although 6 (14%) responses were impossible to classify the remaining 17 (41%) showed some innovation and good practice.

5 responses indicated that written assignments were used and a further 12 that classroom

<sup>1</sup> AACSB (2018). Eligibility Procedures and Accreditation Standards for ...

participation, including discussions took place. Discussions can be both formative and the basis for summative assessment. They also engage collaborative learning as such activities are naturally better achieved by groups.

Some innovative assessments not only test the outcomes we seek to test but also help to develop key skills that students will require after graduation. Such skills include:

- Time Management (to plan, research, write and submit an assignment).
- Effective communication with others (in a group assignment).
- Reflection (as evidence of skill development can be captured individually as a portfolio).

Examples given in the seminar are summarised in Table 3.

Exams are typically “unseen” and time constrained. They can test knowledge acquisition and can show clarity of communication. Exams are typically handwritten whereas on-line exams do reflect the writing that most graduates will engage with in their future lives. The technical difficulties of invigilation of on-line exams, however, is prohibitive for many institutions.

By adding a case study element to some exams, the range of competencies and ILOs tested can expand. The case may be “seen” or “unseen” at the time of the exam. “Seen” case studies can also test research skills as students can engage with the materials before the exam. “Unseen” case studies test a smaller range of skills.

The level of test and assurance of learning envisaged in the ILOs will also depend on the careful wording of exam, assignment or presentation and video briefings. What is it that students should do to provide evidence that they have achieved the ILOs? The verbs in the ILOs themselves provide significant clarity. Exams that are designed to test learning, rather than to find out how much students have failed to learn will use the ILOs as a guide.

## Conclusion

This paper has summarised and reports upon a seminar in a Ukrainian Faculty of Economics. It is not conceived as a research paper and so conclusions are not backed by rigorous evidence or testing. The conclusions are, however, backed by over 30 years of teaching experience, programme design and management and, more recently, school management in respect of standards in learning and teaching.

There is enough evidence, therefore, to conclude that the Constructivist paradigm is understood by many in the seminar. The importance of clarity in the planning and design of curricula and the format of assessment is also well evidenced.

What is less evident is the opportunity, experience or confidence to use assessments that are more innovative, more designed for learning than merely for judgement and may even be more engaging for our students.

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Table 3

## USING DIFFERENT ASSESSMENTS MATRIX

ILO / Assessment type	State / Describe	Explain	Analyse	Research	Organise	Structure	Communicate
Multi-Choice Test	√	?	X	X	X	X	X
Exam	√	√	?	X	X	X	√
Case based exam*	√	√	√	√	√	√	√
Assignment / Essay	√	√	√	√	√	√	√
Case based essay	√	√	√	√	√	√	√
Presentation	√	√	√	√	√	√	√
Video	√	√	√	√	√	√	√

\* based on a “seen” case delivered to students before the exam.



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June 2018

# State Support of Higher Education for Global Leadership in the 21<sup>st</sup> Century



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favourable business climate, important structural measures for the country's, its separate regions' and industries' innovative development include increasing measures for the country's innovation development, its separate regions and industries are increasing public expenditures for research and development, as well as investments in education.

Therefore, the purpose of this study is to summarize the international experience of state support to the field of higher education, as well as to identify the preconditions and prospects for the formation and implementation of state policy in the field of higher education focused on the technological and socio-economic development of Ukraine.

The article analyses the experience of the leading countries in relation to the state policy of promoting the competitive development of the higher education system. On the basis of the analysis of domestic and foreign publications, statistical data, analytical materials, international policy documents and systematic approach, the main directions which deserve attention when improving the state policy in the sphere of higher education in Ukraine are determined. The expediency and necessity of elaboration of a complex of incentive measures by the state to increase the international competitiveness of the higher education system of Ukraine, its greater integration into the European Higher Education Area and the European Research Area, strengthening of the innovative component of the domestic economy are substantiated.

**Keywords:** higher education institution, higher education system, competitiveness, university science, higher education funding.

## Abstract.

In today's world, innovation is not only a powerful driver of economic growth, but also an important prerequisite for competitiveness of enterprises and countries. And while in the traditional economic model they were more seen as independent forces, the role of state policy is aimed at encouraging innovation and supporting the generation of new knowledge, human capital development. Technology and entrepreneurship became more significant in the knowledge economy, innovation and global information networks. In addition to the formation of a

Universities have always been the main producers and suppliers of knowledge in society, but today they are recognized as the main drivers of knowledge economy. In conditions of global competition, a diversified complex of interconnections among high-quality higher educations, scientific research (both in academic environment and beyond), and the innovations in all sectors of the economy, and the networks of cooperation between academic and non-academic institutions becomes increasingly more important for the provision of innovative and productive development of a state. Today, Ukraine needs to rethink its place in the global economic environment, urgently seeking and implementing the ways to accelerate innovative growth, aimed at raising prosperity level and improving the country's

position in global competitiveness ratings. Taking into account the crucial role of higher education in economic, technological, and social development of countries, higher education institutions should become key partners of Ukraine's government in achieving these goals, which includes the development of a comprehensive, targeted and favourable state policy in this area.

Over the last decade, against a background of liberalization processes, privatization and marketization in higher education systems in many countries, as well as an increasingly global nature of educational services' competition and growing role of universities in ensuring the competitive development of countries, the issue of public policy in higher education area, including state financing, has become very relevant and turned into the subject of numerous studies in different countries of the world. Many papers are devoted to the study of this issue, including those by Bogolub T.M., Boyko A.I., Ganzhela V.Y., Dzyuba S.G., Zaychenko V.V., Ilnitsky D.O.<sup>1</sup>, Kalenyuk I.S.<sup>2,3</sup>, Kovalenko D.I., Kuzmina N.G., Levchenko A.O., Levchenko O.M., Pavlyutkin I.V., Platonov Y.A., Plotnikova N.V., Radionova N., Savchenko I.G., Chumak O.V., Tsybmal L.I., Yurga V.A., Dougherty K.J., Doyle W.R., Jongbloed B., Kinne A., Reddy V., Ronca J.M., Tandberg D.A., Vossensteyn H., Weerts D.J., Zumeta W. and many others.

Despite the growing interest of the scientific community towards the study of certain models of state funding in higher education, the issues of wider state support for the purpose of the competitive development of the higher education system and the state as a whole remain insufficiently studied in Ukraine. The purpose of this article is to summarize the international experience of state support in the sphere of higher education, as well as to identify the preconditions and prospects for the formation and implementation of public-oriented public policy in higher education in Ukraine.

Today, public and private research universities of the world's leading countries play a key role in generating new knowledge *that builds* on innovation. Also, the global experience proves that higher education and innovation are important drivers of a country's competitiveness in the global economy. This is confirmed by the comparison of the positions of leading countries in *Global Competitiveness Index*, *Global Innovation Index*,

*and Ranking of the National Higher Education Systems* (fig. 1). In 2018, Ukraine ranked 83rd in the *Global Competitiveness Index*, 43rd in the *Global Innovation Index* (INSEAD, WIPO), and 38th in the *National Higher Education Systems Ranking* (Universitas21).

In order to facilitate the exchange of innovative and successful initiatives among countries and to identify policy decisions for maximizing the contribution of higher education to the achievement of national economic and social objectives, the Organization for Economic Cooperation and Development conducted a comprehensive international study on higher education policy<sup>4</sup>. It identifies eight key challenges in higher education, namely: governance, financing, quality assurance, equality, contribution to R&D and innovation, academic careers, labor market relations and internationalization. New imperatives of countries' development in such conditions are: ensuring high-quality training of specialists; supporting scientific research centers, which are globally competitive; improving the process of disseminating knowledge for the benefit of society.

In order to respond to the challenges of the new era, universities adapt their core functions while creating opportunities for entering the emerging markets with new types of educational services, research, as well as geographically new markets. At the same time, the universities in most European countries, in particular in Germany, France, Italy etc. are guided by the priorities for development indicated in a national research and innovation strategy (or program, the names of the documents vary from country to country). The purpose of such a program document is to ensure coordination between studies and other national policies, and target the country to achieve strategic goals at the national and European level, while facilitating the gradual integration between public and private research and education institutions.

In particular, the National Strategy for the Development of Higher Education in France sets out 5 strategic directions, namely, the construction of learning society and the support of domestic economy; development of European and international dimensions in the national higher education system; promotion of real public involvement and inclusiveness; invention of higher education of the 21st century; meeting the expectations and aspirations of youth<sup>5</sup>. For each

<sup>1</sup> Antonyuk L., Ilnitsky D., Barabas D., Sandul M. International competitive disposition of national higher education systems. *International economic policy*. 2017. #2 (27). pp. 7-32.

<sup>2</sup> Kalenyuk I.S. Napryamy transformaciyi mexanizmiv finansuvannya osvity ... 2017...

<sup>3</sup> Kalenyuk I.S., Tsybmal L.I. Osoblyvosti reguluyannya rynku osvitnih poslug. 2011...

<sup>4</sup> Santiago P., Tremblay K., Basri E., Arnal E. Tertiary Education for the Knowledge Society. Paris: OECD. 2008. URL: <http://www.oecd.org/education/skills-beyond-school/41266690.pdf>.

<sup>5</sup> Stratégie nationale de l'enseignement supérieur — StrANES. Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation. 2015...



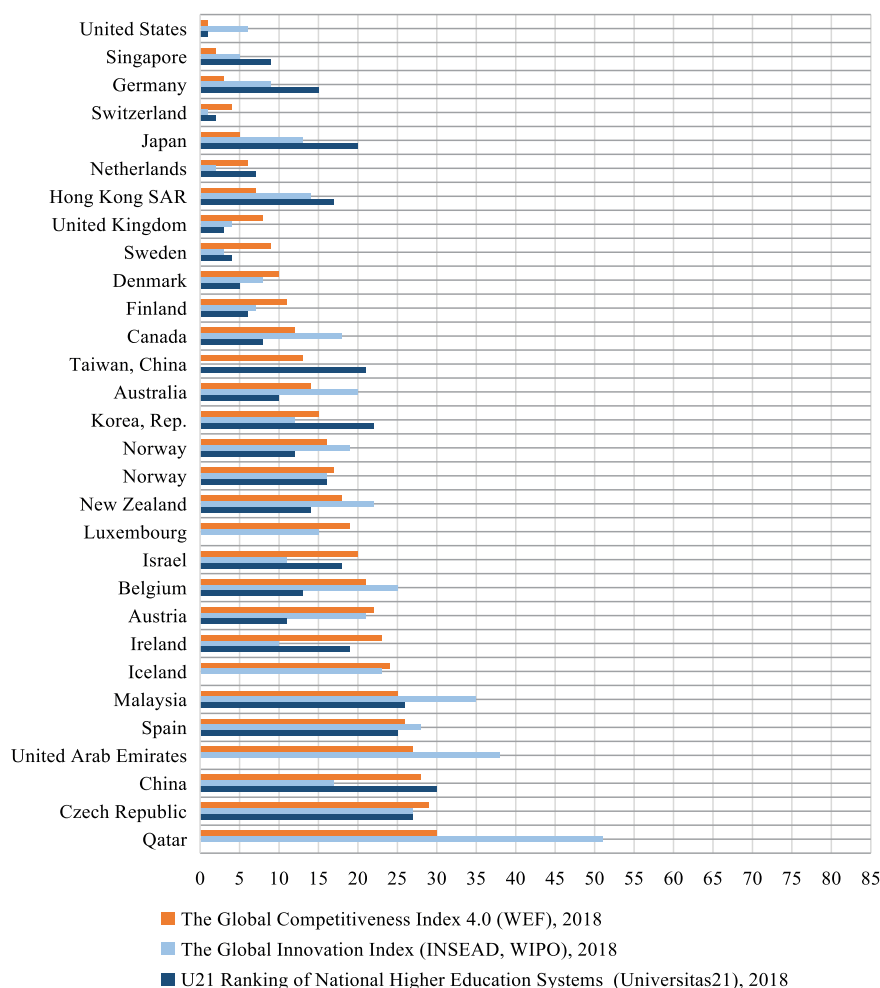


Figure 1. Top 30 countries in Global Competitiveness Index, Global Innovation Index and National Higher Education Systems Ranking (2018)

Source: compiled based on <sup>1,2,3</sup>

strategic direction in this strategy, specific practical proposals are identified. Thus, achieving the goal of “constructing a society that trains and supports the domestic economy” is foreseen by raising the level of skills of the population, developing mobile professional skills, innovation and creativity; preparing for new professions; increasing access and opportunities for obtaining multidisciplinary and interdisciplinary competences (digital, linguistic, design skills, etc.); improvement of

curricula for the future professions. There is a goal to implement the principle of “life-long learning”, so that 10% of the market for vocational training is taken by public higher education institutions or those accredited by the state.

According to the Strategy, the role of universities in France should grow and they should become centers for the establishment of public relations and “laboratories” of the future society. The Strategy is aimed at increasing the number of academics in the country (Ph.D., Doctors of Sciences) and improving their employment in the industry and public administration (by 2025, it is planned to educate 20,000 scholars annually). It is also planned to promote the expansion of real public involvement and stimulate inclusiveness; thus, by 2025, the gap between people of different social classes in higher education should

be halved: at present, only 28% of children from the families of workers receive higher education, compared with 65% of children from the families of engineers and managers.

Much attention in the National Strategy for the Development of Higher Education in France is devoted to scientific and educational components. Educational activity is regarded as a central component and priority of careers of faculty members and lecturers-researchers, which means that there is a requirement to pay same importance to both education and research. Also, in France, it is foreseen to create a special budget for transitional, reformation stage, and adaptation of economic model of the higher education system, ensuring coherence of funding in accordance with the goals set. It is planned to strengthen France’s role in the European Higher Education Area to this end. It is also important to create

<sup>1</sup> The Global Competitiveness Report 2018. WEF. 2018. URL: <http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf>.

<sup>2</sup> The Global Innovation Index 2018: Energizing the World with Innovation. Ithaca, Fontainebleau, Geneva: Cornell University, INSEAD, WIPO, 2018...

<sup>3</sup> U21 Ranking of National Higher Education Systems 2018. University of Melbourne, Universitas 21, University of Birmingham, May 2018...

# DEVELOPMENT OF WORLD CLASS UNIVERSITIES

Table 1

SHARE OF PUBLIC FINANCING IN TOTAL EXPENDITURE ON HIGHER EDUCATION IN THE EU AND OECD COUNTRIES, % (2017)<sup>1</sup>

Country	Share of public financing in total expenditure on higher education	Country	Share of public financing in total expenditure on higher education
Finland	97	Lithuania	75
Norway	96	Ireland	74
Luxembourg	96	Mexico	71
Austria	94	Netherlands	71
Iceland	92	OECD average	70
Sweden	89	Portugal	68
Greece	88	Spain	68
Slovenia	87	Russian Federation	65
Belgium	86	Italy	65
Germany	85	Hungary	63
Poland	84	Israel	58
Slovak Rep.	80	New Zealand	52
Czech Rep.	80	Canada	49
France	80	Australia	38
EU 23 average	78	Korea, Rep.	36
Latvia	77	USA	35
Estonia	76	Japan	32
Turkey	75	UK	29

incentives for enterprises to invest in higher education: in particular, the Strategy proposes to allocate 0.25% of the wage fund of enterprises to higher education, as well as to encourage industry of regions to support educational institutions of different levels.

While analysing the state role for competitive development of the higher education system, it should be noted that public funds are the main source of funding for higher education in OECD countries, although private funding for higher education is also significant. The share of public expenditure on average in OECD countries is up to 90% for primary, secondary, and vocational higher education, and 66% for higher education. Direct public spending on education institutions from primary to higher education in these countries is 4.2% of GDP on average, but there are significant differences between certain countries. In the Czech Republic, Greece, Hungary, Ireland, Italy, Japan, Lithuania, Luxembourg and the Russian Federation, direct public investment in education amounts to about 3% of GDP, and countries such as Finland, Norway and Costa Rica target around 6% of GDP as direct government expenditures for educational institutions<sup>2</sup>. The share of public expenditure in total funding of higher education is

highest in Finland, Norway, Luxembourg, Austria, and the lowest among OECD countries — in the USA, Japan, and the United Kingdom (table 1).

Public spending on households for education at all levels (e.g., scholarships and student loans, etc.), and subsidies to other private educational organizations amount to, on average, 0.2% of GDP of OECD countries, and in Australia, Chile and New Zealand they make up more than 0.4% of GDP and even more in the UK — 0.6% of GDP<sup>3</sup>.

The annual Report of the Center for University Achievement Measurement, “The Best American Research Universities”, analyzes and provides statistical data on research performance in American higher education institutions. In this regard, it is interesting to note that the share of public expenditure on research funding in US universities ranges from 37.1 to 93.3% and remains relatively stable over the last years. In particular, Harvard and MIT spend around 50% of their budget on research, and mostly it is public funds received on a competitive basis. It should also be noted that in the United States, public research funding also covers non-direct costs, that is, 35-55% of direct costs, as opposed to, for example, Germany, where all indirect research costs are covered by universities themselves.

<sup>1</sup> Education at a Glance 2018: OECD Indicators. p. 260-262

<sup>2</sup> Education at a Glance 2018: OECD Indicators. p. 270

<sup>3</sup> Education at a Glance 2018: OECD Indicators. p. 260-262

Historically, state support to science in the US has increased significantly since the Second World War; universities were seen as a strategic source of capacity building for the country's defense industry. Because of this, in the United States, the best higher education institutions began to receive funding for both applied and fundamental research, and turned into research universities<sup>1</sup>. In comparison with another country model of fundamental and applied research, in which individual, highly specialized research institutes are being established in the country, and are financed both by state and private funds, the American model has proven its greater stability and success, having gained a stable leading position among national higher education systems in the world, and simultaneously its universities are leading in the country's national innovation system.

In the USA, government funding for research is distributed on a competitive and grant basis, playing a major role in stimulating research in universities and amounting to a quarter of all universities' revenues. Tuition fee that exists in virtually all higher education institutions is the main source of funding for American colleges and universities. However, in most cases, it is not the main source of funding: private universities account for 30-40% of the budget revenues, while in the state — less than a quarter<sup>2</sup>. In the US, scholarships for students from public funds are provided either as support for outstanding achievements or because of low incomes of students' families. The state also guarantees student loans. Public universities (which are usually accountable to state governments, and not federal agencies) also receive direct public financing, which, according to average estimations, account for about 1/4 of all revenues<sup>3, 4</sup>.

Another source of higher education funding (which also accounts for about a quarter of total funding) is a variety of charitable foundations, as well as business entities and individuals. The tradition of maintaining links between universities and graduates, which in turn often provides financial support, including scholarship funds,

plays a significant role. It should also be noted that most of the university campuses are built at the expense of sponsors, which are graduates or other people who support certain university departments or research areas. Also an important part of the American universities' income is the proceeds from sale of various products and services<sup>5, 6</sup>.

It should be noted that the global economic crisis, which began in 2008, affected the level of public financing of education in virtually all countries. In 2009, there was a significant adjustment to state budgets, and in particular, a significant reduction in expenditures on educational institutions at all levels of education. However, already in 2010, public spending on educational institutions began to grow, albeit at a slower pace than GDP. Expenditures at different levels of education changed in different ways during 2010-2015: while around one third of countries increased investment in higher education at that time and it remained fairly stable respectively to GDP, costs for educational institutions at other education levels decreased (slightly more than by 6%). Bright examples of the countries that increased the share of GDP invested in higher education are Australia (21% growth) and the Slovak Republic (an increase of 74%), but during the period their investment in education institutions at lower educational levels decreased by at least 4 %<sup>7</sup>.

Transfer of public funds to private sector (through scholarships, loans for education, etc.) plays an important role in financing higher education, accounting for 5% of total amount of the funds for higher education in OECD countries. Australia, New Zealand and the United Kingdom are the countries with highest levels of public funds transfer to private individuals (from 20% to 35% of the total amount of funds allocated to higher education institutions).

On average, OECD countries account for 83% of total educational institutions funding — from primary education to higher education institutions — coming from public sources (from the state budget, budgets of state-territorial units within the country or from lower-level budgets). In Finland, Luxembourg, Norway and Sweden, the share of private funds allocated for education funding is up to 3%. On the contrary, private

<sup>1</sup> Research universities: international experience and Ukrainian perspectives: monography... p. 102

<sup>2</sup> Darmody B. (Moderator). National Research Council (US) Committee on Competing in the 21st Century... 2012 ...

<sup>3</sup> Dahlman C. (Moderator). National Research Council (US) Committee on Comparative National Innovation Policies ... 2012 ...

<sup>4</sup> KeshavanM. JLL Report: The top life science cluster is Boston. But second place goes to... North Carolina? Med-CityNews. 2015. URL: <https://medcitynews.com/2015/07/jll-report-the-top-life-science-cluster-is-boston-but-second-place-goes-to-north-carolina/>.

<sup>5</sup> Romanovskij O.O. Derzhavna polityka USA i UK shhodo pidtrymky ... 2015 ...

<sup>6</sup> Romanovskij O. Doslidnyczki pidpryemnyczki US SHE ... 2012...

<sup>7</sup> EUA Public Funding Observatory. Belgium: European University Association. 2017. URL: <https://eua.eu/resources/publications/718:eua-public-funding-observatory-2017.html>.



sources of funding account for about one third of all educational spending in Australia, Chile, Colombia, Korea, the United Kingdom and the United States. At the same time, international sources account for (averagely) 1% of the educational institutions' funding. In about 30% of OECD countries this number is above the average, and it is highest in the Czech Republic, Greece and Portugal (about 4%)<sup>1</sup>.

Consequently, in most countries, the sources of funding allocated for covering costs of educational institutions are: government expenditures, funds from international institutions, private institutions, as well as students and their families. Much of government spending is directed to educational institutions, but governments also distribute funds to educational institutions through other mechanisms — by providing subsidies for education, or by direct state funding of institutions based on the number of students enrolled or credit hours; by subsidizing students, households and other private organizations (through scholarships, grants and loans that can be attributed to tuition fees received by educational institutions).

State support plays a particularly important role in the higher education systems of the new industrialized countries. The development of higher education in these countries is characterized by the presence of many common features, including active participation of the state, planning, use of best international experience, and focus on transforming the higher education system into a driver of innovation.

In particular, Singapore's higher education system, being founded on British education system's traditions, undergone significant transformations during the reign of Lee Kuan Yew, whose strategy was based on the desire to "develop Singapore's only natural resource — its people"<sup>2</sup>. The decision to make the most of the past, and a comprehensive approach to reforming higher education allowed Singapore to build one of the most advanced and most competitive higher education systems in quite a short time (9th in Universitas21 ranking in 2018)<sup>3</sup>.

According to the World Economic Forum experts, the Singapore government is the most "future-ready", which is one of the fundamentals for maintaining competitiveness in times of the

4th Industrial Revolution<sup>4</sup>. The Singapore budget for 2018 provides USD 12.8 billion financing for the education system, about 40% of the funds to be received by higher education<sup>5</sup>. The higher education system of the country consists of five technical universities, three universities, a national pedagogical institute and a polytechnic institute, which provides postgraduate education. Since the 1970's, teaching is in English; the official languages of the country are Chinese, Malay and Tamil languages. The National University of Singapore (founded in 1905), a member of the International Alliance of Research Universities<sup>6</sup>, ranked 26<sup>th</sup> in the ranking of the world's top 100 universities in 2015–2016<sup>7</sup>. The well-known scientific institutions include Nanyang Technological University (founded in 1991, 55th in top 100 universities in 2016, and 11th in 2017), Singapore University of Management (founded in 2000), and polytechnics (Republican (2002), Singapore (1954), Temasek (1990), Ngee Ann (1963). In Singapore, there are also campuses of such leading world universities as Stanford, Chicago, MIT, Johns Hopkins University, the French INSEAD, etc., which actually makes Singapore an international higher education center, attracting the best students from all over the Asia.

The results in terms of increase in the potential and competitiveness of the Chinese higher education system over the past 20 years are outstanding<sup>8</sup>. In 2018, it ranked 30th among 50 countries in the National Higher Education Systems Ranking (Universitas21), and 43rd out of 119 countries in the Talent Competitiveness Ranking (in 2017 — 54th). Among educational programs, technical, mathematical, and scientific disciplines dominate. Over the past 15-20 years, international academic mobility and cooperation with foreign institutions has accelerated and received huge state support, which has led to a significant increase in higher education diversification in China, while at the same time, thanks to comprehensive state support the leading Chinese universities have substantially increased their scientific and educational capacity. The level of higher education enrolment, which

<sup>1</sup> Education at a Glance 2018: OECD Indicators. Paris: OECD Publishing. 2018. DOI: <http://dx.doi.org/10.1787/eag-2018-en>. p. 270.

<sup>2</sup> Syngapurska istoriya. Memuary Li Kuan Yu ... 2011 ...

<sup>3</sup> U21 Ranking of National Higher Education Systems 2018. University of Melbourne, Universitas 21, University of Birmingham, May 2018. URL: [https://universitas21.com/sites/default/files/2018-05/U21\\_Rankings%20Report\\_0418\\_FULL\\_LR%20%281%29.pdf](https://universitas21.com/sites/default/files/2018-05/U21_Rankings%20Report_0418_FULL_LR%20%281%29.pdf)

<sup>4</sup> The Global Competitiveness Report 2018. WEF. 2018. URL: <http://www3.weforum.org/docs/GCR2018/05FullReport/TheGlobalCompetitivenessReport2018.pdf>.

<sup>5</sup> Tan A. Singapore Budget 2018: Spending needs to grow in healthcare, infrastructure, security and education. Business Times. 2018.

<sup>6</sup> International Alliance of Research Universities: About. IARU. URL: <http://www.webcitation.org/69q0Utkub>

<sup>7</sup> Top 100 world universities 2015/16 — THE rankings. URL: <https://www.timeshighereducation.com/world-university-rankings/2016/world-ranking#!/page/0/length/25>.

<sup>8</sup> Education in China: a Snapshot. OECD. 2016. URL: [www.oecd.org/china/Education-in-China-a-snapshot.pdf](http://www.oecd.org/china/Education-in-China-a-snapshot.pdf). p. 11.

is considered to be extremely prestigious in the country (the competition reaches 200-300 people a seat), increased from 21% in 2006 up to 43% in 2016. Higher education in China is to be paid for, despite the fact that more than 60% of universities are public; however, the practice of targeted financing for higher education by enterprises' and organizations' lending, and part-time training combined with full-time job is widespread. In general, during the period of active reforms of the Chinese education system, public expenditure on the development of higher education and research has increased significantly, although financing is uneven over the years (on average, about 0.7% of GDP).

In China, in recent years, the number of world-class universities increased faster than in the rest of the world: from 13 in 2009 to 39 universities in 2018 in QS ranking<sup>1</sup>. Further expansion of the Chinese universities' capacity is envisioned by the National Plan for medium and long-term prospects for education and development reforms (2010-2020). The best research universities in China are Beijing University, Tsinghua University, Fudan University, Shanghai Jiao Tong University, Zhejiang University, Harbin Institute of Technology, China Science and Technology University, and others. The accelerated development of universities and their transformation into leading world scientific, research and educational centers took place under conditions of significant state support, in particular within the framework of the "Project 211" initiatives (1995, aimed at achieving university leadership in the world by improving curricula in line with international standards and principles of interdisciplinarity, enhancement of research potential through the development of teaching staff and academic mobility, higher education infrastructure reforms and development of electronic and distance education), "Project 985" (1998, aimed at increasing financing of the best universities / faculties in order to strengthen their research productivity, etc.)<sup>2</sup>. This created prerequisites for increasing disparities between leading universities and the rest of the higher education institutions of the country, but currently, in China there are also programs aimed at the development of regional universities, which provides prerequisites for reducing the gap in higher education quality in the West and East of China, and also satisfying regional needs in skilled

personnel. At the same time, leading Chinese universities are pursuing strategies to expand their presence in the global academic environment, attracting scholars and students from around the world, and opening their own campuses in other Asian countries.

The problems inherent in this stage of higher education system development in China relate primarily to higher education inadequate quality in different parts of the country, relatively small aggregate experience of reformers and administrative staff, lack of flexibility of managers, limited autonomy of universities and lecturers, and the very scale of this task. However, given the comprehensiveness of state reform efforts, high national motivation, GDP growth and, consequently, the growth in volumes of higher education and research funding, as well as improvement of academic culture and the practice of using the best world experience, there is no doubt that the Chinese higher education system competitiveness further growth will continue to strengthen its position among the key innovation countries, and will lead to an increase in the intellectual potential of the national economy and its transformation into a country with highly educated human resources.

The South Korean higher education system has undergone significant changes over the past 25 years. Thanks to consistent reforms and strong state support, the universities of the country have significantly increased their potential and have taken a worthy place among the best in the world (22nd place in the National Higher Education Systems Ranking in 2018). Since the 1990's and until now, the main goal of national government policy has been the qualitative changes in higher education. The higher education reform in South Korea was conducted in several stages. In 1995–1999, the main focus was on diversification and specialization of universities, creation of an autonomous and democratic scientific community, creativity and diversity of curricula. It was during the period that the financing of higher education was up to 5% of GDP. Also, the reform granted a state permit for the establishment of private higher education institutions. In 1999, the "Brain Korea 21" program, which stayed in force until 2012, was launched, with the main tasks being the creation of world-class universities, the introduction of an interdisciplinary approach to research, the increase of mobility options in terms of subjects, programs and educational institutions, as well as the wider use of the latest technological advances, and more flexible approach to teaching. Total funding of the program amounted to USD 3.2 billion. The main attention was paid to scientific and engineering research, which allocated 87.1%

<sup>1</sup> QS World University Rankings. QS. 2018. URL: <https://www.topuniversities.com/university-rankings/world-university-rankings/2018>

<sup>2</sup> Higher Education and Research in China. Federal Department of Foreign Affairs, Embassy of Switzerland in China, Science, Education, and Health section. 2014..

of funding (research in humanities and social sciences received only 4.2% of the total funds).

The universities — recipients of funds were required to implement significant organizational reforms in line with the global standards (it included, in particular, changes in enrolment procedures, academic standards, assessment systems, etc.). The government also paid considerable attention to the development of universities in the regions in order to reduce imbalances in skills over the country. Since 2008, the higher education system reform in South Korea was concentrated on the establishment of a more rigid system of hiring university lecturers, increasing the number of English-taught programs, granting the universities a greater autonomy in terms of choosing curricula, strengthening interconnections between industry and universities, strengthening government support for universities in relation to their internationalization activities. Also, during the period there was a certain revitalization of humanities in South Korea.

The contemporary higher education development program “Brain Korea 21 Plus” (2013-2019, total funding — USD 2 billion) is aimed at a qualitative leap in education and research potential of the country. At this stage, the state policy focuses on the development of world-class research universities, high-level experts, convergence of departments, enhancement of education and research quality. The results of the country’s higher education system consistent reform are quite impressive. Currently, 4 Korean universities are among the top 100 universities in the world according to the QS 2018 ranking (in 2015 there were 3 universities)<sup>1</sup>. The most competitive Seoul National University ranked 36th, the Korean Advanced Scientific and Technological Institute (KAIST) ranked 41st (in 2015 — 51st).

A comparative analysis of research sector funding in different countries shows that the highest direct government R&D spending among OECD countries is in Luxembourg, Estonia, Poland, Hungary, Ireland, and the USA. And according to the indicator of total research expenditures among OECD countries, the leading ones are Israel (about 4.3% of GDP) and South Korea (4.2% of GDP), followed by Switzerland, Japan, Sweden, Austria, Denmark, Germany, Finland, and USA<sup>2</sup>. According to the Battelle research institute experts, the higher education expenditures will continue to increase, and especially — in China

(fig. 2). The long-term forecast assumes that even although the commitment of the US and the EU countries to the latest research and development is not diminishing, the growth of Chinese economy will stimulate the level of research funding in this country and that will make China a leading country by the volumes of research funding from 2020s.

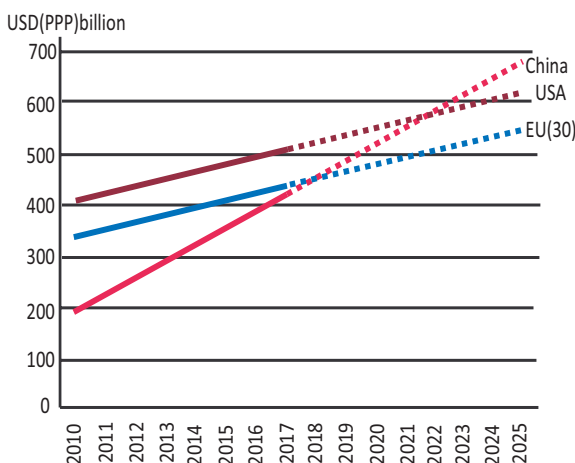


Figure 2. Research expenditures in USA, EU and China, 2010–2017 (2018–2025 — forecast)<sup>3</sup>.

In times of the 4th Industrial Revolution, state support for higher education and research remains one of the most important imperatives of a country’s innovation development, which is confirmed by the World Economic Forum experts<sup>4</sup>. According to their findings, “future-readiness” and flexibility of institutions, governments and individuals are of particular importance for successful economic development in contemporary conditions, along with the openness of the economy. At the same time, taking into account the principles of sustainability, achievement of the development goals and reduction of inequalities are impossible without proactive and far-reaching leadership. Higher education systems supported by governments can become key players in addressing the institutional weaknesses (in terms of security, property rights, social capital, finance, ethics and transparency, corporate governance, etc.), which significantly impedes the increase of living standards and incomes, as well as economic and social progress in many countries.

<sup>1</sup> QS Stars University Ratings. 2015. URL: <http://www.topuniversities.com/>

<sup>2</sup> Gross domestic spending on R&D. OECD. 2017. URL: <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>

<sup>3</sup> 2015 Global R&D Funding Forecast, Battelle and R&D Magazine. 2014. URL: [http://battelle.org/docs/default-document-library/2015\\_global\\_forecast.pdf](http://battelle.org/docs/default-document-library/2015_global_forecast.pdf)

<sup>4</sup> The Global Competitiveness Report 2018. WEF. 2018...

### Conclusions

To ensure the competitive development of Ukraine in the XXI century, there is a need for a balanced and development-focused state policy in the field of higher education, research and innovation, which should provide for a specification of the country's development strategic priorities based on a thorough analysis, creation of favourable conditions for economic agents, coordination and stimulation of their outstanding achievements through a well-established and effective funding mechanism and other tools. At the same time, it is important to take into account the existing potential, national peculiarities, and the best world experience.

Taking into account the experience of many leading countries and the basic public higher education institutions funding, a mechanism for additional financing on a competitive basis should be developed and introduced. It must take into account the results of research and educational activities of institutions, as well as their development concept and missions. The winners of competitive selection for additional funding should be determined on the basis of independent national and international experts' recommendations, and not by the government. Additional funding programs should include the higher education institutions autonomy in selecting research areas and themes, strategic partners and resources for projects that will encourage universities to concentrate their efforts on scientific areas, in which they have competitive advantages, and to increase the effectiveness and efficiency of research through the personal interest of projects' performers in selected themes. At the same time, real financial autonomy should be ensured, which is connected with the right to independently and freely involve, dispose and use financial resources.

Important dimensions of state higher education support are: promotion of preservation, development of the higher education institutions resource base and social infrastructure, including provision of the targeted state preferential loans. The review and improvement of encouragement and motivation system of scientific, educational and innovative activities is required, as it should provide economic and social guarantees to scientific and pedagogical staff, increase in their social status and professional prestige. Favourable lending may also be provided for the purchase and construction of housing for scientific and pedagogical staff. Improving the material base, the quality of education, and creating a system of affordable loans for higher education will increase the competitiveness of domestic higher education

institutions among Ukrainian young professionals and attract foreign students.

Sufficient provision of priority-based budget funding to higher education and research, strategic investment in the development of research universities, and formation of a favourable legal environment for the implementation of their autonomous rights, limited by the legislation, will allow the universities to enhance their contribution into the acceleration of economic growth, productivity increase, improvement of development of personality and society as a whole, reduction of social inequality.

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# The Global Higher Education Market: Dynamics and Turbulence



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## Abstract.

The relevance of the article is explained by the dynamics of the global education market development. The purpose of the article is to identify the main trends in higher education, i.e. the rapid increase in the number of students, the population with higher education, and international students. The increase in demand for higher education is reflected not only by the increase in the number of students, but also by the increase in the level of education of the population in general. The rapid growth in the number of students in the world is accompanied by another important trend — an increase in its international segment. The process of internationalization of education is manifested in the growth of the number of foreign students in the world in absolute and relative terms. The structure and development trends of the global education market have been disclosed (the increase in the number of international students by countries and in general, the market share of countries). This trend means that along with the rapidly growing part of other countries in the global market,

there are new actors, who have chosen an active strategy of educational services exports.

**Keywords:** higher education, global market, international students, foreign students.

The competitive advantages of the country and its actors in the modern globalized and computerized world are provided not so much by the capacity of basic industries as by many factors related to the quality and activity of human resources. The education sector is becoming an important bridgehead to ensure international competitiveness of each country and, moreover, it is involved in the process of internationalization.

Strengthening of internationalization and globalization have a transformative impact on the economic conditions and the forms of organization of educational activities. The main current trends should include the following: increasing the scale of education in the knowledge economy; diversification of funding sources and the organizational forms of educational activities; internationalization and globalization of education.

The availability of intellectual resources is a prerequisite for achieving intellectual leadership of the country, expanding its capabilities in the knowledge economy in a globalized world. The growth in demand for higher education is explained by such indicators as the increase in student population and the proportion of the population with higher education. According to Table 1, you can follow the process of the rapid growth in the number of students in higher education institutions in individual countries and the world at large. For 17 years, from 1999 to 2016, the student body in the world grew by 232%, reaching from 93 to nearly 216 million. The increase in the number of students is observed in all countries, but mostly in the countries with transition economies and dynamic development (Table 1).

The majority of the countries in the TOP-10 are developing countries, showing an increase at least at the level of the average global growth over a specified period. Absolute championship is held

Table 1

## TOP-10 COUNTRIES BY INCREASE IN NUMBER OF STUDENTS, 2005–2016

	Total numbers				%
	2005	2006	2015	2016	
Turkey	2 106 351	2 342 898	6 062 886	..	287,84
India	11 777 296	12 852 684	32 107 419	32 391 800	275,04
Luxemburg	..	2 692	6 896	..	256,17
China	20 601 219	23 360 535	43 367 394	43 886 104	213,03
Hong Kong (China)	152 294	155 324	298 643	300 316	197,19
Colombia	1 223 594	1 314 972	2 293 550	2 394 434	195,69
Chile	663 694	661 142	1 221 774	1 236 701	186,37
Brazil	4 572 297	..	8 285 475	..	181,21
Mexico	2 384 858	2 446 726	3 515 404	4 244 401	177,97
Netherlands	564 983	579 622	842 601	836 946	148,14
Switzerland	199 696	204 999	294 450	295 149	147,80
<b>World</b>	<b>139 648 065</b>	<b>147 371 357</b>	<b>214 083 295</b>	<b>215 945 197</b>	<b>154,64</b>

Source: compiled after<sup>1</sup>

by Turkey, India and China with the increase of more than 200%. Of course, one of the reasons for such an increase in student contingent is the large population and the presence of significant potential for the expansion of higher education. It is noteworthy that the advanced countries of the world do not demonstrate the high dynamics of the number of students because of the high level of education of the entire population.

Thus, among the leaders there are 4 countries, where the number of students exceeds one million. There are also more than one million students in countries such as China, India, the USA, Brazil, Russian Federation, Turkey, Japan, Mexico, Korea, Germany, France, Great Britain, Colombia, Spain, Australia, Ukraine, Poland and Chile. These countries account for 68.65% of the total number of graduates.

In general, countries have rather significant differences not only in the number of students, but also in the total number of people with higher education. For instance, despite the high growth of the number of students, in China, less than 10% of the population have higher education, which is one of the lowest rates among the countries under investigation. A similar situation can be noted for India, Colombia and Argentina. In general, according to the OECD, the proportion of people with higher education varies greatly (Fig. 1).

The 21st century has brought new waves and processes for the development of higher education and the global market for educational services. These are rapid processes and undeniable tendencies of globalization, the internationalization of higher education, the spread of its mass character and the intensification of competition at all levels, and



Figure 1. Share of people with higher education in OECD countries, 2016, %<sup>2</sup>

<sup>1</sup> Enrolment in tertiary education, total number. UIS. UNESCO. URL: <http://data.uis.unesco.org/#>

<sup>2</sup> Educational attainment and labour-force status. OECD. URL: [https://stats.oecd.org/Index.aspx?DataSetCode=EDU\\_ENRL\\_MOBILE#](https://stats.oecd.org/Index.aspx?DataSetCode=EDU_ENRL_MOBILE#)

so on. These trends were so clear that they were identified as dynamic vectors for the development of higher education. The first confirmation of this was the rapid increase in the number of foreign students in the world, with rates higher than the total number of students. The number of foreign students slowly increased from 0.8 million in 1975 to 1.7 million in 1995. From the beginning of the XXI century it is gaining momentum: in 2005 — 3.0 million, in 2010 — 4, 2 million, in 2011 — 4.4 million, in 2014 — 4.6, in 2016 — 5,0 million people. Table 2 presents data on the general and regional dynamics of the number of foreign students in the world.

Table 2

### DYNAMICS OF THE NUMBER OF FOREIGN STUDENTS IN THE WORLD <sup>1</sup>

	2000	2005	2010	2011	2016
Worldwide	2,1	3,0	4,1	4,3	5,0
OECD	1,6	2,4	3,2	3,3	3,5
Non-OECD	0,5	0,6	0,9	1,0	1,5

In recent years, the turbulence of the global educational environment has undergone rapid changes, which rapidly change the balance of forces and cause the emergence of new processes and phenomena. This is manifested, above all, in reducing the market share of OECD countries. In general, the share of OECD countries fell from 76.2% to 70.0% during 2000-2016. The positions of many active figures (Australia, Austria, Germany, France, Great Britain and others) have decreased or remained at the same level, although the total number of foreign students has increased.

The most attractive for students are the educational systems of the United States, Great Britain, Australia, Russia, France, Canada, Germany and Japan, where the number of students from abroad exceeds the number of those who left the country by more than 100,000 people. Table 3 presents data on the number of foreign students in the countries with the highest dynamics for 2012–2016. These countries have the largest share of the world market of foreign students (more than 1%) (Table 3).

At the same time, volatility in attractive countries is much lower and demonstrates a steady tendency to an increase of the balance. Australia, Canada, the USA, the Russian Federation and the Netherlands have the highest growth, with rates of 68%, 375%, 56% and 233%, respectively. It should be noted that the growth of the number of foreign students in Russia is due to the involvement of students from Asia, while European countries have a broader geography of students.

<sup>1</sup> Education at glance 2013-2016. Paris: OECD...

Table 3

### THE NUMBER OF FOREIGN STUDENTS IN SOME COUNTRIES OF THE WORLD AND THE SHARE OF THE WORLD MARKET (%), 2012–2016<sup>2</sup>

Countries	Number of foreign students, 2012	Number of foreign students, 2016	Share of global market	
			2012	2016
Australia	249 588	335 512	6,2	6,6
Austria	58 056	70 484	1,4	1,4
Belgium	42 914	61 102	1,1	1,2
Canada	135 187	189 478	3,3	3,7
France	271 399	245 349	6,7	4,8
Germany	196 619	244 575	4,9	4,8
Italy	77 732	92 655	1,9	1,8
Japan	150 617	143 457	3,7	2,8
Korea	59 472	61 888	1,5	1,2
Netherlands	57 506	89 920	1,4	2,2
New Zealand	40 995	53 854	1,0	1,1
Poland	23 525	54 734	0,6	1,1
Spain	55 759	53 409	1,4	1,1
Switzerland	44 468	51 911	1,1	1,0
United Kingdom	427 686	432 001	10,5	8,5
USA	740 482	971 417	18,3	19,1
China	88 979	137 527	2,2	2,7
Malaysia	56 203	124 133	1,4	3,1
RF	173 627	243 752	4,3	4,8
Saudi Arabia	46 566	79 854	1,2	1,6
Singapore	48 938	53 122	1,2	1,0
South Africa	42 180	82 553	1,0	1,6
Turkey	38 590	87 903	1,0	1,7
Ukraine	43 609	54 144	1,1	1,1
UAE	54 162	77 463	1,3	1,5
<b>World</b>	<b>4 058 385</b>	<b>5 085 893</b>	<b>100</b>	<b>100</b>

The most attractive for foreign students is the United States, while it is possible to maintain its leadership positions through very active actions to attract foreign youth. At the same time, due to President Trump's adjustment policies, the United States has suffered a sharp decline in the inflow of foreign youth over the past year.

Against this background, Canada and European countries are improving their position. There were new active actors in 2007-2016: China (increased its share from 1.4 to 2.7%, and the total number of foreign students by 2.5 times — from 42.1 thousand to 137.5 thousand), Saudi Arabia (from 0.6% to 1.6%, the number of students increased by more than 4 times — from 17.7 thousand to 79.9 thousand), the Russian Federation (from 2% to 4.8%, the number of students increased by 3.5 times — from 60.3 thousand to 243.8 thousand) and others. In general, among the countries — leaders of the world market of educational services are: the USA, Great Britain, Australia, Germany, etc.

<sup>2</sup> Systematized by the author according to UNESCO. UIS. UNESCO...



Internationalization of education is manifested not only in the growth of the number of foreign students. Academic mobility as an expression of the internationalization of higher education itself is extremely diverse and has the following forms: the outflow of scientists abroad for work, internship, teaching (for a short time), participation in conferences; joint scientific work (writing articles, monographs, performing research grants); participation of students, postgraduates and teachers in various short-term training programs (courses, certificate programs, summer schools, etc.).

An important indicator of the export orientation of the economy is the ratio of foreign students and the total number of students in their country. Among OECD countries, the number of foreign students in relation to the total number of students in the country is the largest (44%) in Luxembourg. This figure is 19% in New Zealand, 18% in Australia and the United Kingdom, 17% in Switzerland, and 15% in Austria. On average, foreign students account for 6% in OECD countries, and 8%<sup>1</sup> in the EU-22.

Of course, for each country, the issue is important not only to attract foreign students to

their national education system, but also to manage the dynamics of their youth outflow for studying abroad. It should be noted that this indicator is under the influence of many factors. The increase in the abroad travels for training is not always due to the unfavourable situation in the country. The impact of globalization manifests itself in the fact that young people are increasingly active in their search. As a result, we can see that both emerging and developed countries are leading importing countries.

Table 5 shows data on the number of foreign students by country of origin. Among the main leaders of the importing countries, we can see different countries: China, the USA, Saudi Arabia, Turkey, Japan, Vietnam, Russia, etc. Characteristically, the dynamics of the departure of young people abroad for the purpose of education is also very diverse in different countries. In countries such as Greece, Turkey, Japan, and the United Kingdom, the number of student dropouts tends to decrease. While countries such as Saudi Arabia, Vietnam, Brazil, Russia, Mexico, Ukraine, the USA, Georgia, Tajikistan and others, show a clear upward trend.

Table 4

## INTERNATIONAL STUDENT MOBILITY IN OECD COUNTRIES,<sup>2</sup> %

Countries	Share of foreign students on different levels of higher education					Δ%, 2014/2013
	All higher education	Short programs	Bachelor programs	Master programs	Doctoral programs	
Australia	18	13.3	13.1	40	34	6
Austria	15	1.0	18.6	18	25	8
Belgium	11	4.9	8.2	20	37	24
Canada	10	9.0	8.1	14	27	12
Denmark	10	13.1	5.5	17	30	2
Finland	7	-	5.2	12	19	4
France	10	4,4	7,3	13	40	3
Germany	7	0	4,4	12	7	7
Ireland	7	1,1	5,8	14	23	11
Japan	3	3,4	2,5	8	19	2
Luxembourg	44	11,3	25,3	68	85	3
New Zealand	19	27,4	14,3	23	45	18
Sweden	6	0,2	2,4	9	33	0
Switzerland	17	0	9,9	28	53	5
United Kingdom	18	5,5	13,7	37	42	3
USA	4	2,0	3,5	9	35	7
OECD	6	3,0	4,9	12	27	5
EU22	8	4,5	6,1	13	22	4

<sup>1</sup> Education at a Glance 2016: OECD Indicators ...

<sup>2</sup> Education at glance 2016 Paris: OECD. URL: [www.oecd.org/](http://www.oecd.org/)

*Table 5*
**THE NUMBER OF STUDENTS STUDYING ABROAD — EMIGRANTS FROM THE COUNTRY OF ORIGIN<sup>1</sup>**

Countries	1998	2000	2010	2015	2017	Δ %, 2017/1998
China	151 055	165 348	570 449	818 803	847 259	561
USA	38 208	43 482	57 506	67 356	68 580	180
Saudi Arabia	9 941	10 626	42 651	86 223	85 277	858
Vietnam	7 858	9 148	47 268	68 038	70 328	895
Russia	26 096	28 634	50 403	57 332	56 915	218
Turkey	51 067	51 604	51 885	45 921	45 331	89
Ukraine	13 064	20 891	36 203	68 279	76 181	583
Greece	62 059	63 676	29 226	37 092	37 484	60
Latvia	2 875	3 005	5 064	5 804	5 737	200
Japan	57 088	59 302	40 330	30 491	30 850	54
Brazil	15 596	17 274	27 753	42 645	43 438	279
United Kingdom	28 142	22 328	24 600	31 433	33 109	118
Mexico	13 149	14 230	26 072	30 194	30 646	233
Thailand	21 553	21 007	28 304	28 672	29 768	138
Sweden	12 819	12 601	15 540	17 378	17 567	137
Azerbaijan	4 882	4 862	14 302	39 970	41 762	855
Georgia	3 857	4 367	8 736	8 888	9 084	236
Tajikistan	1 292	1 396	8 342	15 677	20 623	1596

In Ukraine, the number of foreign students demonstrates high, but not stable dynamics (Table 6), since from 2000 to 2014 it increased by more than three times — to 60 thousand people.

But from 2014, with the onset of dramatic events in the south and east of the country, the number of foreign students is constantly decreasing. Among foreign students there are 1.3 thousand

*Table 6*
**DYNAMICS OF FOREIGN STUDENTS IN UKRAINE, 2000 — 2017<sup>2</sup>**

	2000	2005	2010	2012	2013	2015	2016	2017
Number of foreign students in the country, total	17 210	29 614	38166	49 044	59391	53493	52147	48991
% of the total number of students in the country	0,8	1,0	1,3	2,3	2,9	3.33	3.3	3.2
Number of Ukrainian students studying abroad, total	20 891	26 698	36 203	37 425	42 441	68 279	76 185	76 181
% of the total number of students in the country	1.0	0.9	1.2	1.8	2.1	4.3	4.8	5.0

<sup>1</sup> Education. UNESCO UIS Database ...

<sup>2</sup> State Statistic Service of Ukraine. URL: <http://www.ukrstat.gov.ua/>

from China, 3.7 thousand from Turkmenistan, 7.7 thousand from India, 6.7 thousand from Azerbaijan. Along with this, the opposite is the alarming trend: a sharp increase in the outflow of Ukrainian youth to study abroad. If earlier their number was at the level of the number of foreign students in the country or even less, at the beginning of the 2017/18 academic year, 76 181 Ukrainians (1.5 times more than the number of foreign students in Ukraine) were already studying abroad.

### Conclusions

The development of the modern education market at the global level is characterized by dynamics and complex structural processes associated with increased competition among countries. The centres and, respectively, the leading export-education countries have been formed. Rigid competition is constantly changing the position, however, the unconditional leaders remain: the United States, Great Britain, Australia, France, Germany, Russia, Japan, and Canada. New actors gradually

replaced the leaders: China, Turkey, Saudi Arabia, Korea, South Africa, and others. The most attractive for foreign students is the curriculum of the master's and doctoral levels. The landscape of imports of educational services is also changing. The most active donors of foreign students are very different countries: strong countries (the USA, the UK, Japan), successful developing countries (Turkey, Brazil, Mexico), as well as the countries with some developmental problems (Ukraine, Vietnam, Georgia and etc.).

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State Statistic Service of Ukraine. URL: <http://www.ukrstat.gov.ua/>

# Collaborative Online International Learning Practice as a Teaching Pedagogy in Higher Education: Japanese University Experience

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**Abstract**

With the growth of collaborative online learning, more students are experiencing educational environments characterized by cultural diversity. This paper shall discuss recent COIL (Collaborative Online International Learning) practices between Kansai University and International Islamic University of Malaysia from April 2016 to December 2017, and how these initiatives helped enhance academic discourses in a Japanese learning environment. Various experiential learnings in understanding culture and critical issues prevailing in Southeast Asia and Japan were also pinned down in this paper. Finally, this intends to encourage learners and instructors to set out an online academic partnership and adopt COIL as a teaching pedagogy which may be relevant in the rapidly expanding field of global education.

**Keywords:** Japan, online learning, ICT, international communication, social network, internationalization student.

**1. Introduction.**

COIL, Collaborative Online International Learning, is teaching and learning approach through use of Information and Communication Technology (ICT) to create virtual learning environments to provide shared courses across educational institutions worldwide. COIL Center at SUNY, the State University of New York, which pioneered this teaching pedagogy, has been providing a multitude of COIL courses across the world. Kansai University is the first institution in Japan to join COIL's Global Partner Network<sup>1</sup> to enable collaborations with the SUNY COIL Center.

The *ASEAN Studies* course offered by Kansai University Global Frontier (KUGF) Program intends to provide students a fundamental understanding of Southeast Asia through a cultural learning experience by studying the region's common historical, cultural, and regional identity. This is one of the many KUGF courses offered to boost the university's target in attracting more international students and is designed to embolden students from both Japan and overseas to engage themselves in a global interaction resulting to more socially relevant young citizens. *ASEAN Studies*, being an English-mediated course, is aligned with the university's endeavor in internationalizing its curricula. And it thereby pushes to enhance the student body's English-language communicative competence.

<sup>1</sup> Collaborative Online International Learning Center of Global Partner Network. The State University of New York. URL: <http://coil.suny.edu/index.php/page/global-partner-network>



Furthermore, it is also one of the courses offered in the university where a *Collaborative Online International Learning* (COIL) project is being run-through. COIL is a relevant learning mode employing ICT tools maximized to engage academic activities among students enrolled overseas.

A colossal number of researches abound all relating to online learning cultures. They imply many range of discussions and analyses. But this paper will only focus on several issues of concern — 1) learnings gained by the students, instructors and 2) future development of COIL and global education at Kansai University. This will also emphasize the importance of building effective collaborative online partnerships between two different courses in a Japanese and a Malaysian university.

## II. COIL Practices: Japanese University Experience

As part of Kansai University's (KU<sup>1</sup>) commitment and efforts towards campus internationalization, *ASEAN Studies* class has employed a COIL-based collaboration with International Islamic University of Malaysia's (IIUM<sup>2</sup>) *Introduction to International Communication* class. Four (4) consecutive COIL activities have been steered since April 2016. The general objective of the COIL projects is to increase the Japanese and Malaysian students' awareness on stereotypes on different social issues created by the local mass media.

While the IIUM's *Introduction to International Communication* particularly aims to learn about the international issues associated with communication and mass media, the specific aim of the *ASEAN Studies* is to learn about Southeast Asian countries; geography, politics, history and cultures. However, with the recent COIL projects at hand, *ASEAN Studies* is more focused on **intercultural awareness** and **communicative competence** that are vividly manifested by voicing out student opinions — a process of learning about and understanding culture. Through these opinions, linguistic competence plays a central role and is very much associated with the learning of new culture. However, the focus has always been limited to Malaysia with this recent COIL projects.

The main activities engaged during the projects involved exchanging video presentations and having a one-time live video discussion (every

semester) using a communication tool, Zoom. Here are some of the basic highlights of our activities.

### A. Topics Discussed

- The Mass Media and the Portrayal of Islam;
- Japanese Culture and Identity;
- Refugee Crisis in Myanmar: The Rohingya Muslims.

*ASEAN Studies* has espoused issues on how Japanese perceive Muslims in Japanese society; the depiction of mass media on Muslims and Islam; and some pertinent reasons why Japan's willingness to accept refugees from the Middle East is beyond huge possibilities.

### B. Facebook Discussion Page

KU and IIUM students created short video clips and uploaded them to the created Facebook discussion page. This space provided opportunities for students — both from Malaysia and Japan, to introduce themselves before pitching the discussions, questions and comments posted by the members of the two groups.



Figure 1. Facebook Page of Kansai University and International Islamic University of Malaysia in Spring Semester, Academic Year 2017 — 2018.

### C. Video Presentations

IIUM students created videos discussing the image of Japan in Malaysian mass media. In Spring 2017, they created videos focusing on the refugee children's plight during the Rohingya Muslims in Myanmar. On the other hand, KU students created videos discussing the Muslim and Islam images perceived from the Japanese mass media portrayals. In Spring 2017, KU students discussed several reasons why Japan has limitations opening its doors to refugees from the Middle East.

### D. Live Online Discussions

Reinforcement of the issues and views discoursed in the Facebook page is necessary for KU and IIUM students. Live communication on a specific date and time agreed upon (by the two groups) provided better spaces for interaction. This proves to be a suitable learning venue for clarifications and identifications of other concerns

<sup>1</sup> KU-COIL Workshops and Symposiums. Kansai University Division of International Affairs. URL: <http://www.kansai-u.ac.jp/Kokusai/english/>

<sup>2</sup> International Islamic University of Malaysia. URL: <http://www.iium.edu.my/>

not conversed or tackled in during the course of written discussions. The two parties decided to use Zoom which is known for its reliability, thereby limiting the chances of disconnection. Disruptions during live discussions upset the communication flow of the two learning groups.

### III. Students' Experiential Learnings

COIL activity is part of the grading requirements in completing the *ASEAN Studies* course. Assessment is done by asking the students to write a reflection paper about the COIL activity. The feedbacks from the students can be summarized in three important themes:

#### A. Academic Discourse Engagement

The reflection papers have revealed that as most students enrolled in the *ASEAN Studies* class are freshman and sophomore students, they have their limitations in terms of international exposure. The class has manifested a great deal of academic discourse on critical issues faced by the ASEAN region. While Japanese students are very much active to learn geography, culture and history of Southeast Asia — a new region to learn about to most of them; but they have their own shares of unfamiliarity within the own culture. Evidence of this process of own identity awareness emerged when Japanese students engaged themselves in unfamiliar or newer forms of discourse and their ideas collide with non-Japanese students' expectations, intervention or inquiry.

#### B. Re-Discovering Own Culture

After each COIL activity, Japanese students have mentioned that they gained recognition of the differences and similarities of other cultures from their own — either a celebration of the uniqueness of Japanese culture; or a further critical awareness on why such culture or perspective exists in the Japanese societies, in general. Moreover, it is in these moments that Japanese university students assert their opinions and explain why certain notions exist, while making use of social network and technologies, and as they put their everyday electronic media into action.

#### C. COIL as Social Interaction

The COIL activity exemplifies how an educational method creates knowledge, culture, and social interaction together, and how media production can foster students' abilities to creatively communicate, alternatively represent, and impact others. The collaborative video production is a medium through which young students develop "critical literacy" and recognize their potentials for leadership and for peer-to-peer-mentorship. The COIL project illustrates how important it is to create an academic environment where students can learn to lead in demonstrable and powerful ways.

### IV. Instructional Learnings in Pedagogy

As the primary instructor in this COIL collaboration, the COIL activity is an insightful academic practice which responds to my professional interest in the place of English language education within the scholarship on online learning. I find the practice engaging as this vividly exemplifies a positive way of learning culture as it emerges during the online interactive sessions. This practice is promising in a sense that it discusses several areas of inquiry associated with cultural contact. They are (1) cross-border education; (2) the growth of new forms of knowledge from the issues of identity and media; and (3) the range of social networks and their use in education.

#### A. Cross-Border Education

*Cross-border tertiary education refers to the movement of people, programs, curricula, projects, research and services in tertiary (or higher) education across national jurisdictional borders (OECD, 2017<sup>1</sup>).* COIL has provided me a teaching experience on cross-border education. COIL is a subset of "internationalization at home" initiative and may be part of any future inter-university research projects, academic exchanges and other learning initiatives. There is a recognition that the Internet and virtual learning platforms have become an integral part of education in Japan--learning without having to fly out from the home university-- and have shaped the learning process of the *ASEAN Studies* students. This personal learning is supported by Roth<sup>2</sup> when he pointed out that *transitional processes from face-to-face to online teaching and learning and new institutional e-learning policies may take different shapes and he suggested that the impact of online learning and teaching is intrinsically related to the general culture of learning.*

#### B. Growth of New Forms of Knowledge on Identity and Media

The topics discussed during the COIL projects include Japanese identity, Southeast Asian images, Islam, refugee crisis and national security. These outlined themes are directly concerned with the complex issues discussing social identities and cultural differences between Japanese and Southeast Asian perspectives. The discussion of identity and culture obviously should be more than the ones we had. It is interesting to note that during the courses of our discussion, further critical thinking is desired with many raised

<sup>1</sup> OECD (2017) Developing capacity through cross-border tertiary education. Retrieved 3 November 2017. URL: <http://www.oecd.org/education/innovation-education/39169515.pdf>.

<sup>2</sup> Roth, K. (2006) Deliberation in national and post-national education. *Journal of Curriculum Studies*, 38(5): 569-589.

broader questions about the changing nature of identities, be it Japanese or Southeast Asian.

### C. Social Networks in Education

*Social networks have escaped the boundaries of professional and formal practice. Now, they have been taken up by diverse populations, including the peer activities of youth. A generation is growing up in an era where social network is part of their lives (Jenson & Droumeva, 2017<sup>1</sup>).* At COIL, it has been proven that social networks are an excellent platform in engaging students to discussion and peer learning. It is interesting to note that while digital media and networks have become embedded in our everyday lives, these could provide a wide array of educational learning experience in terms of interacting with other university students outside Japan. COIL practices conducted in the *ASEAN Studies* class have highlighted an effective educational tool engaging knowledge production, communication, and creative expression.

### V. COIL: Future Developments Towards Internationalization at Universities

As for future COIL projects and collaborations, establishing partnership with the International Islamic University of Malaysia is an essential ladder in building relationships with institutes of higher learning in the ASEAN region. Successful and continuous COIL projects with IIUM may serve as working stencil to effectively encourage potential partnerships to forge into institutional collaborations.

Student mobility at Kansai University remains at a relatively growing stage, but has grown at an unprecedented pace in the past years. To maintain its momentum, COIL activities could be essential initiatives in introducing to Kansai University students how academic discussions are conducted outside Japan. COIL could be a fitting provision of how tertiary education abroad functions. Potentials could range from academic partnerships, research collaborations or field visits. A lot of gains can be gleaned from what has been accomplished the past four COIL-enhanced projects. While COIL seems to be a promising educational initiative, it has its difficulty in terms of preparations and communications with partner universities. The biggest one entails recognizing the importance of taking flexible yet plausible approaches and attitudes towards the project. The more is necessary during the conceptualization process where this would certainly require time, effort and patience.

Finally, it is also essential to emphasize that it is imperative not to underestimate the difficulty

of persuading university faculty members. A lot of awareness and exposure must be done which include modifying the attitudes, behavior and perceptions of the teachers on online collaborative learning practice.

### VI. Conclusion

Since Kansai University started the COIL initiatives in Japan and being one of the few ones practicing them, the university may invest on peddling “Japanese culture” as the university’s main strength. Japanese culture, as a field of study, is one of the most sought cultures in the world. Graham and Mayes<sup>2</sup> pointed out that *cultural identities incorporate areas such as curriculum, interaction, collaboration, pedagogy, language, and assessment. They are frequently raised in research literature but are not often addressed satisfactorily.* Given this finding, *ASEAN Studies* proves how Japanese culture and identity is a marketable field of study sparking interests among international students in their home countries. Finally, Kansai University should maximize the fullest potential of this digital media culture and in providing a well-rounded global education in the coming years. And Collaborative Online International Learning could serve as one of its finest benchmarks.

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<sup>1</sup> Jenson, J., & Droumeva, M. (2017). Revisiting the media generation: Youth media use and computational literacy instruction. *E-Learning and Digital Media*, 14(4), 212-225.

<sup>2</sup> Graham, C., & Mayes, C. (2007) Cultural Competence and instructional design: Exploration research into the delivery of online instruction cross-culturally. *Education Technology Research and Development*, 55: 197-217.

# The Phenomenon of Atrophy of the Role Among Working Students and Its Determinants



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## Abstract

The paper addresses the phenomenon of atrophy of the social role among working full-time students. The term 'atrophy' must be understood as the disappearance of duties binding upon the individual that regulate his/her role. In the case of students, this phenomenon may result in the noticeable decrease of their commitment in education process. For the purpose of identifying the origins of the atrophy, a survey was conducted among undergraduate students (N=306) from Faculty of Economics and Sociology at University of Łódź. The analysis of data acquired from this survey shows that the atrophy may be influenced by the weakening of these cognitive structures that are responsible for the formation of the sense of meaning, sense of belonging and belief about compliance with these duties by others. In addition, it seems that impact on atrophy has an intensity of students' social life.

**Keywords:** atrophy, higher education, social norms, social role, students.

## Introduction

The subject of interest in the paper is the phenomenon of role's atrophy among working students as well as the factors that can potentially influence it. Because atrophy means the disappearance of obligations binding upon individuals fulfilling a given social role, in the case of students it manifests itself in a decrease of commitment and in the non-fulfilment of expectations set towards them. The phenomenon in question seems particularly significant in the case of those young persons who fulfil two social roles at the same time: a student of full-time studies and an employee, dividing their time between professional duties (concerning casual paid work) and university duties. There is a question whether the fulfilment of the former does not occur at the expense of the latter (Parchomiuk, 2017<sup>1</sup>). Although universities have mechanisms organising students' behaviour, it is unclear to what extent they are effective in the case of students performing paid work. As a consequence of the fact that the phenomenon of reconciling work and studies is increasingly frequent, universities face the need to elaborate new strategies that allow them to maintain ties with students and, therefore, affect their involvement in the education process.

The issue of atrophy of the role among working students is reflected in this paper. It presents the results of an empirical study carried out among students of the 2<sup>nd</sup> and 3<sup>rd</sup> year (undergraduate studies) of the Faculty of Economics and Sociology of the University of Łódź in 2017. In the first part, I focused on theoretical issues concerning the phenomenon of atrophy. In the second part, I dealt with methodological issues. In the third part,

<sup>1</sup> Parchomiuk, M., Zubrzycka-Maciąg, T. (2017). Pracujący studenci. Wybrane korelaty konfliktu i wzbogacenia. Forum Oświatowe, vol. 29(1), 149-166.



I presented the results of the study, and in the fourth, I interpreted them. The paper is concluded with a summary containing general reflections.

### The atrophy of the social role of the student

The term “atrophy” should be understood as the disappearance of obligations binding upon individuals playing a given social role. This phenomenon manifests itself, among others, in the non-fulfilment of social expectations that are expressed towards them or in the decrease of their involvement. Although we have become accustomed to looking at human behaviour from the nominalist perspective, treating them as a consequence of individual processes in this way, this perspective is not only superficial but fundamentally false in the case of socially important activities that are normatively regulated by the society. Atrophy is a good example of this. Because this phenomenon means the deregulation of the given social role, its reasons should be attributed not only to the individual, but mainly to the social environment in which he/she functions.

Assuming that atrophy manifests itself in the disappearance of obligations inscribed in a given social role, we should begin by focusing on what these obligations mean. This concept implies social norms. Before I start reflecting on them, it is worth realising the ambiguity of this concept, which results not only from its common use in colloquial speech, but also from a multitude of definitions existing within the scope of particular branches of science that often significantly differ from one another (Bicchieri 2005<sup>1</sup>, 2010<sup>2</sup>). In this paper, I have assumed that the social norm is a set of expectation formulated by the society towards the individual occupying a given social position or functioning in a certain social context. More importantly, this expectation becomes institutionalised and ultimately turns into a pattern of behaviour — a pattern for which a certain social consensus exists (Hechter, 2001<sup>3</sup>, Horne, 2001<sup>4</sup>, Sztompka, 2012<sup>5</sup>).

The social role consists of a series of such institutionalised expectations and instructions how it should be played (Loudfoot, 1972<sup>6</sup>, Merton 1957<sup>7</sup>). These social dispositions are characterised by various levels of detail, thereby creating space for individual interpretations and, to some extent, making it possible to experiment with the role (Bandura, 1986<sup>8</sup>, Turner, 1996<sup>9</sup>). In the case of students, these expectations can be formulated both by the university and by various groups in which they function. What bears relevance to our considerations, is not any kind of obligations set towards students, but obligations related to their education and their process of acquiring knowledge, skills and competence. Decisive norms in this respect, which are responsible for the student's involvement in learning and guide his/her activity to the education process, not only make it possible to fulfil individual plans, e.g. involving the will to obtain higher education, but also to achieve collective goals (e.g., concerning the formation or reproduction of the elite, or providing members of the community with relevant qualifications). When considered in this context, atrophy means the disappearance of these standards that put the student under an obligation to attend and participate actively in classes or to become familiar with the literature of the subject required within a given course. This phenomenon makes the education process difficult or impossible. Because norms being in the centre of our attention are a social rather than individual product, origins of the atrophy should rather be sought in the environment in which the role is played.

An element of essential importance for compliance with norms by members of the society is the institutionalisation process that gives sense to a certain social expectation, and the expectation itself is sanctioned and disseminated. In the case of students, an important role in this process is played by universities, which have relevant mechanisms of social control at their disposal (Braxton, 2010<sup>10</sup>). Among them, we can distinguish discursive mechanisms — which are probably more important because they

<sup>1</sup> Bicchieri, C. (2005). *The grammar of society: The nature and dynamics of social norms*. Cambridge: Cambridge University Press.

<sup>2</sup> Bicchieri, C. (2010). Norms, preferences and conditional behavior. *Politics, Philosophy & Economics*, 9(3), 297-313.

<sup>3</sup> Hechter, M., Opp, K. (2001). Introduction. In M. Hechter, K. Opp (eds.), *Social Norms* (pp. xii-xiii). New York: Russel Sage.

<sup>4</sup> Horne, Ch. (2001). Sociological perspectives on the emergence of norms. In M. Hechter, K. Opp (Eds.), *Social Norms* (p. 5). New York: Russel Sage.

<sup>5</sup> Sztompka, P. (2012). Normy społeczne i ich respektowanie. In G. Mazurkiewicz (ed.), *Jakość edukacji. Różnorodne perspektywy* (pp. 180-184). Kraków: Wyd. Uniwersytetu Jagiellońskiego.

<sup>6</sup> Loudfoot, E. M. (1972). The Concept of Social Role. *Philosophy of Social Science*, vol. 2(1), 133-145.

<sup>7</sup> Merton, R. (1957). The Role-Set: Problems in Sociological Theory. *The British Journal of Sociology*, vol. 8(2), pp.110-111.

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<sup>10</sup> Braxton, J.M. (2010). Norms and the work of colleges and universities: Introduction to the special issue — Norms in Academia. *The Journal of Higher Education*, 81(3), 243-250.

produce a sense of meaning among members of the society and, therefore, make it possible to internalise norms — and non-discursive mechanisms (“last chance” mechanisms). Among the former, we can distinguish, e.g., group prototypes that are decisive for the formation of the collective identity and a sense of belonging (Hogg, Reid, 2006<sup>1</sup>; Tajfel, Turner, 1986<sup>2</sup>; Turner et al., 1999<sup>3</sup>). They consist, e.g., of cognitive representations of social norms that allow us to distinguish a given social group (e.g., students of a prestigious university) from other social categories (Reynolds et al., 2014<sup>4</sup>). Other examples of discursive mechanisms are role models that cause the exemplification of social expectations. They provide a description of individuals who should serve as role models along with relevant repertoires of behaviours (Lockwood et al., 2002<sup>5</sup>). Although the media often serve as sources of these models today, we must not forget about teachers and about their impact on students (Braxton et al., 1996<sup>6</sup>). Among non-discursive mechanisms, we can mention social sanctions — these are triggered when the individual fulfils expectations expressed for him/her (positive sanctions) or fails to fulfil them (negative sanctions). They serve as a stimulus (a gratification stimulus or an aversive stimulus) that is supposed to reinforce or correct the behaviour manifested by the individual (Chekroun, 2008<sup>7</sup>). In the literature of the subject, more attention is devoted to negative sanctions — maybe because they surround mainly the norms that are particularly important for the fulfilment of collective goals (Chekroun, Brauer, 2002<sup>8</sup>; Williams, 2007<sup>9</sup>).

The institutionalisation process is not completely exogenic towards the individual. It has a substantial impact on the formation of intermediary structures — cognitive scripts intermediating between the social expectation formulated towards the individual and his/her actual behaviour. They activate and support certain modes that are ultimately responsible for compliance with social norms. The first of these modes is the personal mode. It consists of structures that give sense to the given activity or the playing of a certain social role. They result not only from the individual's rational calculations — an important role in their formation is played by the society, which, for example, puts more emphasis on some values and depreciates others. More importantly, the personal mode and the structures of which it consists should not be identified with the concept of the personal norm (Schwartz, 1977<sup>10</sup>). Attempts to define this concept in the literature of the subject, which emphasise that this norm is a strictly internal method of regulating the behaviour (Kallgren et al., 2000<sup>11</sup>), seem to be a symptom of excessive reductionism — this norm is usually created as a result of the internalisation of social expectations (Etzioni, 2000<sup>12</sup>). However, even if we take this remark into account, it is worth remembering that this kind of norm can be only one of the consequences of the impact of structures forming the personal mode. They do not need to result in the internalisation of a given pattern of behaviour, but only in its assimilation as an exogenic rule with which we comply because it makes sense and leads to desirable results.

The two other modes include the injunctive mode and the descriptive mode. The former consists of structures that cause us to believe that a given behaviour meets with a certain reaction from the environment. Although the concept of the injunctive norm is present in the literature of the subject (see Cialdini et al. 1990<sup>13</sup>:1015; Lapinski, Rimal, 2005<sup>14</sup>), it does not fully overlap with the term “injunctive mode” or with scripts creating it.

<sup>1</sup> Hogg, M.A., Reid, S.A. (2006). Social identity, self-categorization, and the communication of group norms. *Communication Theory*, 16(1), 7-30.

<sup>2</sup> Tajfel, H., Turner, J.C. (1986). The social identity theory of intergroup behavior. In S. Worchel, W.G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Chicago: Nelson Hall.

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<sup>7</sup> Chekroun, P. (2008). Social control behavior: The effects of social situations and personal implication in informal social sanctions. *Social and Personality Psychology Compass*, 2(6), 2141-2158.

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<sup>9</sup> Williams, K.D. (2007). Ostracism: The kiss of social death. *Social and Personality Psychology Compass*, 1, 236-247.

<sup>10</sup> Schwartz, S.H. (1977). Normative influences on altruism. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 10) (pp. 221-279). New York: Academic Press.

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<sup>12</sup> Etzioni, A. (2000). Social norms: internalization, persuasion and history. *Law & Society*, 34(1), 157-178.

<sup>13</sup> Cialdini, R.B., Reno, R.R., Kallgren C.A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 58(6), p.1015.

<sup>14</sup> Lapinski, M.K., Rimal, R.N. (2005). An explication of social norms. *Communication Theory*, 15, 127-147.

The definition of this norm, which assumes that it reflects the individual's belief concerning the kind of behaviour expected from him/her in a given situation, emphasises an important element of norms that is the essence of the mode discussed here — i.e., social responsiveness (both the positive one and the negative one). In turn, the descriptive mode consists of the scripts that cause us to believe to what extent other persons in our environment comply with these institutionalised expectations. Again, this term is not identical to the concept of the descriptive norm (see Cialdini et al. 1990<sup>1</sup>:1015). It only specifies the contradiction existing between expected patterns of behaviour and patterns under fulfilment in the given environment.

When looking for reasons of the atrophy among students, it is important to consider the factors that are responsible for the institutionalisation of norms. Taking into account methodological limitations of sociology, particularly its characteristic methodological individualism, intermediary structures have ultimately become the subject-matter of research. In other words, I assumed that atrophy is determined by the deactivation of modes responsible for compliance with norms. Moreover, I assumed that this phenomenon may also be influenced by excessively intense social life. In certain situations, rather than serving as a respite from learning, this kind of activity distracts students, particularly those additionally charged with paid work, from the fulfilment of their obligations inscribed in the role (the obligations that determine their involvement in education). I subjected these assumptions to empirical verification.

## Method

### Participants

The study was conducted among 2<sup>nd</sup> and 3<sup>rd</sup> year students of the undergraduate full-time studies at the Faculty of Economics and Sociology of the University of Łódź. First, dean's groups were drawn, and then the study covered all students that were present in them during its course. The study was conducted using the auditorium questionnaire technique. The questionnaire consisted of 23 general questions and 6 additional questions referring to social & demographic characteristics. The study covered 350 students. Eventually, 306 questionnaires were filled in. In the entire group, 38.2 per cent (N = 177) of respondents not only studied, but also worked.

### Operationalisation of variables

*Non-compliance with norms forming the role of the student.* Before the study was completed,

4 group interviews with students from the Faculty were conducted. They served as a basis for elaborating a set of norms making up the role of the student that guide him/her towards the acquisition of knowledge, skills and competence. It covered patterns suggesting that a student *should*: pay attention during classes; attend classes or lectures even when the attendance list is not checked there; make notes during classes and lectures; actively participate in exercises (e.g., take part in discussions); prepare for examinations and credits as best as possible; read texts required for classes and publications assigned by teachers. Participants of the interviews also thought that a student *should not*: copy assignments from the Internet or use the phone, the Internet or social media during classes. In order to obtain information about to what extent students comply with these norms, the following question was expressed in the relevant study: "Please specify to what extent the behaviours listed below, reflecting your attitude to studying, are or are not true for you?" Then respondents were asked to express their opinions on the statements listed below (e.g., "I make notes during classes, lectures, etc.") that help to measure the level of their compliance with norms regulating the role of the student. The scale created in this way proved to be reliable ( $\alpha = 0.751$ ). Having recoded their answers, I obtained the variable I was interested in — *non-compliance with norms*. The subject of attention was its average value, which ranked in the range from -3 to 3. The higher it was, the lesser was the degree to which the respondent complied with norms regulating the role of the student.

*Sense of meaning.* The structures that form the personal mode are responsible, e.g., for creating a sense of meaning of the role being played. Eight statements were used for measuring this variable. The respondents were asked to specify to what extent studies taken up by them at the Faculty would: make it easier for them to find a job in the future; allow them to find a well-paid job; allow them to meet interesting people; help them to build plans for the future; increase their self-confidence; help them to acquire practical skills. The scale built on the basis of these statements proved to be reliable ( $\alpha = 0.783$ ). The subject-matter of the analysis covered the average value of the variable, which ranked in the range from 1 to 5. The higher it was, the higher was the sense of meaning of the role felt by the respondent.

*Sense of belonging.* The study conducted by M. Walker and F. Lynn (2013<sup>2</sup>) was a source

<sup>1</sup> Cialdini, R.B., Reno, R.R., Kallgren C.A. (1990). A focus theory of normative conduct..., p.1015

<sup>2</sup> Walker M.H., Lynn F. (2013). The embedded self: A social network approach to identity theory. *Social Psychology Quarterly*, 76(2), 151-179.

of inspiration in the creation of this variable. First, the respondents were asked to imagine that they meet someone for the first time in their life, they meet an old acquaintance, they are supposed to give a speech and to start by saying a few words about themselves. Then, they were asked how likely it was that in each of these cases they would mention their university studies. The scale elaborated in this way did not prove reliable to a sufficient degree ( $\alpha = 0.656$ ; below Nunnally's criterion). However, I decided that it was worth using in the study. The subject-matter of the analysis was the average value of the variable, which ranked in the range from 1 to 5. The higher it was, the larger was the degree to which the respondent identified with the role of the student.

*Negative responsiveness.* In the case of structure forming the injunctive mode, my analysis covers only those that are responsible for negative responsiveness. This concept reflects the feeling that the violation of norms inscribed in the role of the student meets with a negative reaction from the environment (e.g., academic teachers, other students). In order to measure this variable, I created eight statements containing the aforementioned norms. The respondent was asked to specify to what extent their violation exposes him/her to negative sanctions from the environment. The scale built in this way proved to be reliable ( $\alpha = 0.729$ ). The subject-matter of the analysis was the average value of the variable, which ranked in the range from 1 to 5. The higher it was, the more strongly the respondent felt that the violation of norms inscribed in the role of the student meets with a negative reaction from the environment.

*Compliance with norms by others.* The structures activating the descriptive mode were measured by means of the question in which the respondent was asked to specify to what extent students from his/her environment comply with the aforementioned norms. As previously, I created eight statements that contain indicated patterns of behaviour. The scale built in this way proved to be reliable ( $\alpha = 0.756$ ). The subject-matter of the analysis was the average value of the variable, which ranked in the range from 1 to 5. The higher it was, the more strongly the respondent believed that other students in his/her environment use norms regulating the role played by them.

*Intensity of social life.* In order to measure this variable, I used the following question: *Imagine that we have created a "thermometer" for the measurement of "party life"? What value would it show for you?* The respondent could choose from the following categories

of answers: "above 38 degrees — I party very often", "37-38 degrees — I often party", "36-37 degrees — I party moderately, neither rarely nor often", "35-36 degrees — I rarely party", "34-35 degrees — I party very rarely", "below 34 degrees — I never party". To each of these categories, a certain value has been assigned in the range from 1 ("below 34 degrees — I never party") to 6 ("above 38 degrees — I party very often").

#### Data analysis

For the analysis of the acquired data, the SPSS program have been used. In the first place, the subject-matter of research attention were differences in the values of variables existing between groups of working and non-working students. Techniques such as a one-way analysis of variance (ANOVA) were used here. Then I went on to build the linear regression model concerning only working students and the occurrence of atrophy among them, where the dependent variable was the average level of *non-compliance with norms* and independent variables: *sense of meaning*, *sense of belonging*, *negative responsiveness*, *compliance with norms by others*, and *intensity of social life*. Before going on to verify the model, I analysed the correlation between independent variables.

#### Results

At the beginning, my analysis covered differences existing between groups of only studying students and studying and working students with regard to: *non-compliance with norms*, *sense of meaning of the role being played*, *sense of belonging*, *negative responsiveness*, *compliance with norms by others* (in their subjective sense) and the declared *intensity of social life*. Data concerning this issue are presented in Table 1.

The analysis of variables shows that the significantly statistical difference could be observed only in the case of *non-compliance with norms*. It turned out that students who only study fulfil obligations inscribed in their role to a slightly larger extent than students who study and work ( $p < 0.03$ ).

Then I focused only on this second group. I elaborated the linear regression model where the dependent variable was the average level of *non-compliance with norms regulating the role of the student* and independent variables: *sense of meaning*, *sense of belonging*, *negative responsiveness*, *compliance with norms by others*, *intensity of social life*. Before going on to verify this model, I analysed the correlation between independent variables. The results of the analysis are presented in Table 2.



Table 1

VALUES OF SELECTED VARIABLES IN DIVISION INTO GROUPS OF ONLY STUDYING STUDENTS AND STUDYING AND WORKING STUDENTS

Variable:	Only studying students (N=189)	Studying and working students (N=117)	Total (N=306)
	Average values		
Non-compliance with norms <3,3>	-0.47	-0.18	-0.36
Sense of meaning* <1,5>	3.15	3.13	3.14
Sense of belonging* <1,5>	3.39	3.38	3.38
Negative responsiveness* <1,5>	2.81	2.74	2.78
Compliance with norms by others* <1,5>	2.07	2.04	2.06
Intensity of social life*	Percentages		
Above 38 degrees — “I party very often”	3.20	2.60	3.00
37-38 degrees — “I often party”	4.30	8.50	6.00
36-37 degrees — “I moderately party”	37.30	31.60	35.10
35-36 degrees — “I rarely party”	23.20	22.20	22.80
34-35 degrees — “I party very rarely”	18.90	23.90	20.90
Below 34 degrees — “I never party”	12.90	11.10	11.90

\* $p > 0.05$ .

Table 2

RESULTS OF THE CORRELATION BETWEEN INDEPENDENT VARIABLES INCLUDED IN THE REGRESSION MODEL

Variables:		Sense of meaning	Sense of belonging	Negative responsiveness	Compliance with norms by others	Intensity of social life
Sense of meaning	<i>r</i>	1	0.48	0.13	0.10	0.13
	<i>p</i>		0.01	0.16	0.27	0.11
	N	117	115	116	117	117
Sense of belonging	<i>r</i>	0.48	1	0.17	0.20	0.16
	<i>p</i>	0.01		0.06	0.03	0.09
	N	115	115	114	115	115
Negative responsiveness	<i>r</i>	0.13	0.17	1	0.16	0.10
	<i>p</i>	0.16	0.06		0.09	0.29
	N	116	114	116	116	116
Compliance with norms by others	<i>r</i>	0.10	0.20	0.16	1	0.05
	<i>p</i>	0.27	0.03	0.09		0.57
	N	117	115	116	117	117
Intensity of social life	<i>r</i>	0.13	0.16	0.10	0.05	1
	<i>p</i>	0.11	0.09	0.29	0.57	
	N	117	115	116	117	117

Legend: *r* — Pearson correlation coefficient; *p* — significance (two-tailed); N — number of respondents.

The data suggest a relatively strong relationship between the *sense of meaning* and the *sense of belonging* ( $r = 0.477$ ;  $p < 0.01$ ). This result is not very surprising — after all, both of these variables reflect structures that make up the same mode: the personal mode. Moreover, it turned out that there is a moderate relationship between the *sense of belonging* and

belief about *compliance with norms by others* ( $r = 0.20$ ;  $p < 0.05$ ). Finally, having analysed these results, I focused on the outcomes of the multiple linear regression. They are presented in Table 3.

The analysis shows that, in the case of studying and working students, statistically important predictors of *non-compliance with*

Table 3

## RESULTS OF MODELLING THE RELATIONSHIP BETWEEN NON-COMPLIANCE WITH NORMS BY STUDENTS AND SELECTED INDEPENDENT VARIABLES

Predictors:	MODEL I			MODEL II		
	B	SE	BETA	B	SE	BETA
Constant	2.035	0.635		2.218	0.066	
Sense of meaning	-0.369	0.141	-0.245	-0.364	0.140	-0.242
Sense of belonging	-0.379	0.152	-0.236	-0.372	0.151	-0.232
Negative responsiveness	0.093	0.165	0.047*			
Compliance with norms by others	-0.425	0.159	-0.223	-0.414	0.158	-0.217
Intensity of social life	0.268	0.066	0.338	0.271	0.066	0.342

Legend: B — unstandardized coefficient; SE — standard error; BETA — standardized coefficient; \* $p > 0.05$ .

*norms regulating their role* include such variables as: *sense of meaning*, *sense of belonging*, *compliance with norms by others* and *intensity of social life*. The relationship between the dependent variable and *intensity of social life* turned out to be the strongest and most positive. Here, Pearson's coefficient was  $r = 0.39$  ( $p < 0.001$ ). Thus, it can be expected that the inclination of a student from this group to fulfil obligations inscribed in the role will gradually decrease along with an increase of intensity of his/her social life. More interestingly, it turned out that there are moderate and negative relationships between *non-compliance with norms* and the variables reflecting structures of which the personal mode consists, including the *sense of meaning* and *sense of belonging*. Here, Pearson's coefficient assumed the following values:  $r = -0.24$  ( $p < 0.03$ ) and  $r = -0.23$  ( $p < 0.03$ ). Eventually, it turned out that there is a moderate and negative relationship between the dependent variable and belief about *compliance with norms by others*. Here, Pearson's coefficient was  $r = -0.22$  ( $p < 0.03$ ). Along with a loss of the sense of meaning, sense of belonging and belief about compliance with these norms by others, it is increasingly likely that students from this group will not comply with obligations inscribed in their role. The prognostic value of the model itself proved moderate. The adjusted coefficient of determination was  $R^2 = 0.27$ . This means that the model explains 27 per cent of the variance of the dependent variable.

### Discussion

Norms inscribed in the role can be treated as socially elaborated instructions that make it possible to fulfil collective goals and usually also, somewhat incidentally, individual plans. Their effectiveness is indirectly communicated by results of research concerning self-discipline (Duckworth,

Seligman, 2006<sup>1</sup>). It turns out that students who displayed this quality to a larger extent had better school results and broke the law less frequently, were healthier and more satisfied with their life in adulthood (Moffit et al., 2011<sup>2</sup>). Although the concept of self-discipline seems enticing in the context of the analysis of students' behaviour, it is worth remembering that their activity is defined within the scope of the role played by them, which means that it is largely determined by social factors.

Understood here as the phenomenon of normative deregulation of the role, atrophy makes the acquisition of knowledge, skills or competence by students difficult or virtually impossible. The opinion expressed at the beginning that atrophy affects more strongly working and studying persons than only studying persons was confirmed by the results of the study. Moreover, it suggests that in this first group, which is of particular importance to me, three factors are ultimately decisive for the deinstitutionalisation of norms (the norms of which the role of the student consists). Firstly, the intensity of social life is significant here. It can be assumed that working students who often party will have little time for learning. Secondly, the study shows that the deactivation of the personal mode in this group leads to atrophy. It seems that universities are able to react to this kind of threat, at least theoretically. However, the problem can be more complex. In the last few years, we can observe an increasingly advanced process of market orientation of Polish universities (Rydliński, 2017<sup>3</sup>). We can get the impression

<sup>1</sup> Duckworth, A.L., Seligman, M.E.P. (2006). Self-discipline gives girls the edge: Gender in self-discipline, grades, and achievement test scores. *Journal of Educational Psychology*, 98(1), 198-208.

<sup>2</sup> Moffit, T., etc. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *PNAS*, 108(7), 2693-2698.

<sup>3</sup> Rydliński, B.M. (2017). Economic Crisis as a Factor of Neoliberal Policy in Poland. *Prakseologia* 159, pp.49-50.

that they are dominated by the neoliberal model where students are customers entering the university walls only in order to receive a specific service within them. Such an approach not only contradicts the academic tradition, but also, assuming the transactional character of the relationship between the student and the university, does not allow for the development of a deeper sense of meaning concerning education or a sense of connection with their *alma mater*. It must be assumed that these processes affect to an increasingly larger extent the persons who both study and work and hypothetically are present less frequently at university. Thirdly, the deactivation of the descriptive mode is also responsible for atrophy in the group under analysis, when the individual becomes increasingly convinced that other students do not comply with norms regulating the role played by them. A series of questions arises here. To what extent does this belief arise from the fact that, e.g., the individual is surrounded by certain persons? Can his/her opinion on that subject be a consequence of cognitive biases, e.g., filtering, that cause him/her to perceive only selected behaviours and ignore others? Can this belief be a form of rationalisation that helps the student to justify non-compliance with norms to himself (and maybe to others)? It is worth looking for answers to these questions in further studies concerning the phenomenon of atrophy.

Finally, I would like to consider certain shortcomings that characterise the research discussed in this paper. Firstly, it must be remembered that the analysis carried out by me was based on declarations of respondents. It is unknown how much these declarations agree with the reality. Secondly, it seems worth including a larger number of norms in the measurement of the atrophy and specifying their individual importance (some of them may be more significant for the fulfilment of the role of the student and others may be less important). Thirdly, the research did not cover positive responsiveness. It may have a significant impact on the sense of meaning or sense of belonging and, consequently, affect compliance with norms. Fourthly, it would be useful to analyse issues concerning work performed by students and to specify how much exhausting it is in a physical and mental sense and how much its character affects involvement in the education process.

### Conclusions

The subject of my attention in the paper is the phenomenon of the role's atrophy among students of full-time studies who both study and work. According to the study conducted among persons studying at the Faculty of Economics and Sociology of the University of

Łydz, students from this group comply with the norms that guide them towards the acquisition of knowledge, skills and competence to a significantly lesser extent than only studying persons. More importantly, the likelihood of non-fulfilment of obligations inscribed in the role by representatives of this group increases along with the loss of their sense of meaning concerning education or their sense of connection with the role and along with their growing belief that others do not comply with the norms, either. Another crucial factor that potentially disorganises the playing of the student role seems to be too intense social life.

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# Learning Management Systems: Some Observations for Ukrainian Postsecondary Educational Institutions



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### Abstract

The article highlights the significance of Learning Management Systems (LMS) for Ukrainian universities. The adoption of Moodle — an open source platform — is used in a global comparison of the current deployment of course management technology in higher education in Ukraine, in its neighbors in the EU and the CIS, and in the major world regions. The distribution of Moodle sites among Ukrainian user types is also presented. The article summarizes the benefits and increasing necessity of educational management technology and stresses the importance of an accompanying commitment of resources to faculty development in order to achieve a more effective educational environment in Ukraine.

Keywords: Technology innovation; Learning management system (LMS); International comparison of learning environments

### Introduction

Virtually every aspect of teaching and learning has been affected by the application of an increasingly proficient internet infrastructure and an expanding range of sophisticated hardware devices and instructional software programs in the service of pedagogy. Despite some ongoing disquiet over its effectiveness within higher education (see Clark 1983<sup>1</sup>, 1994<sup>2</sup>, Yildiz, Tezer & Uzunboylu 2018<sup>3</sup>), advances in technology have entailed an expansion in the scale and scope of course assignments, curricular offerings, degree programs, as well as the institutions providing

<sup>1</sup> Clark, B. (1983). Governing the higher education system. The structure and governance of higher education. Guildford: Society for Research into Higher Education, 31-37.

<sup>2</sup> Clark, B. (1994). The research-teaching-study nexus in modern systems of higher education. Higher Education Policy 7.1, 11-17.

<sup>3</sup> Yildiz, E. P., Tezer, M., & Uzunboylu, H. (2018). Student Opinion Scale Related to Moodle LMS in an Online Learning Environment: Validity and Reliability Study. International Journal of Interactive Mobile Technologies (ijIM), 12(4), 97-108.

postsecondary offerings. Whereas the expansion of web-based course activities and the ubiquity of smart phones and tablets has changed and challenged the classroom environment, the spread of massively open online courses (MOOCs) — with the potential to provide advanced and continuous learning at low or no cost — is changing and challenging traditional modes of delivering content across a widening spectrum of subjects and students.

A meta-analysis by Schmid et al. (2014<sup>1</sup>) finds that, although pedagogy might trump technology in the design of effective instruction, it is the interaction between the two that is especially consequential for learning. In effect, it is the availability of new technological tools such as those mentioned above that enables a more diverse set of pedagogic approaches designed to encourage active learning. In a study for the New Media Consortium, Johnson et al. (2014<sup>2</sup>) highlight the technological trends in education that warrant continuous monitoring by universities. Seven categories of technology innovations and their effects are identified and tracked in the report and are summarized as:

- Consumer technologies that are adapted from non-educational sources and applied to learning objectives,
- Digital strategies to apply devices and software to enhance teaching and learning in and out of the classroom,
- Learning technologies developed with educational applications in mind to make learning more accessible and individually relevant,
- Social media technologies that distribute and coordinate information sharing and communication in large segments of society,
- Visualization technologies that assist the learner in making sense of large data sets,
- Enabling technologies alter our expectations of what devices and tools can and should do for us,
- Internet technologies are critical infrastructure that render the use of technology possible.

The considerable degree of synergy apparent in this list has consequences both for postsecondary educational institutions as well as for the environment in which they operate. At the micro level, it is evident that technological developments require supporting resources and

structures throughout society to render innovation useful to the pedagogical objectives of colleges and universities. At the macro level, the effective application of specific educational innovations contributes positively to a society's educational pursuits; the development of human capital and technological capability; and improvements in socio-economic conditions. This paper explores this feedback process by focusing on the deployment of technology to manage the learning process in university settings around the world relative to its deployment in Ukraine. We use the example of the learning management system (LMS) to reflect the state of technology in higher education and the case of Moodle adoption to proxy the utilization of LMS in a global comparison relevant for Ukraine. The results indicate that Ukrainian universities and colleges need to expend some effort to catch up with the application of basic education technology found in its aspirational group: namely European Union universities. Along the way, it is important to recognize that the desired pedagogic improvements in Ukraine will require increased faculty and staff training to assure the effective adoption of innovations in pedagogical technology.

In the business of education, the application of technology to instruction is an attractive administrative tool to increase instructor productivity while lowering the costs of course and program delivery. From an instructional perspective, the technologies improve pedagogy and enhance interaction among students, between students and instructors, and between students and course content (Abrami et al., 2011<sup>3</sup>; Setuju et al. 2018<sup>4</sup>). One technology that has moved beyond trend to become a standard feature in postsecondary education is the LMS. At its core, a LMS enables instructors, either through a web-based interface or software application, to design and implement course content, monitor and assess student activity, and interact with students when not physically in the classroom. As such, a LMS provides core functionality in instruction that cuts across the seven categories of technology innovation and makes the learning process more transparent. Dahlstrom et al. (2014<sup>5</sup>) note that the LMS has an adoption rate of 99% among US

<sup>1</sup> Schmid, Richard F., Bernard, R., Borokhovski, E., Tamim, R., Abrami, P., Surkes, M., Wade, C., and Woods, J. (2014). The effects of technology use in postsecondary education ...

<sup>2</sup> Johnson, L., Adams Becker, S., Estrada, V., Freeman, A., (2014). NMC Horizon Report: 2014 Higher Education Edition. Austin, Texas: The New Media Consortium, 34-5.

<sup>3</sup> Abrami, P., Bernard, R., Bures, E., Borokhovski, E., Tamim, R. (2011). Interaction in distance education and online learning: using evidence and theory to improve practice.

<sup>4</sup> Setuju, S., Setiadi, B. R., Ratnawati, D., Widowati, A., Wijayanti, A., Johan, A. B., ... & Nurdianto, H. (2018). Development E-Learning to Improve Student Activity with Technological Pedagogical and Content Knowledge...

<sup>5</sup> Dahlstrom, E., Brooks, D. C., Bichsel, J. (2014). The Current Ecosystem of Learning Management Systems in Higher Education: Student, Faculty, and IT Perspectives. p 3.

# HIGHER EDUCATION REFORMS IN UKRAINE

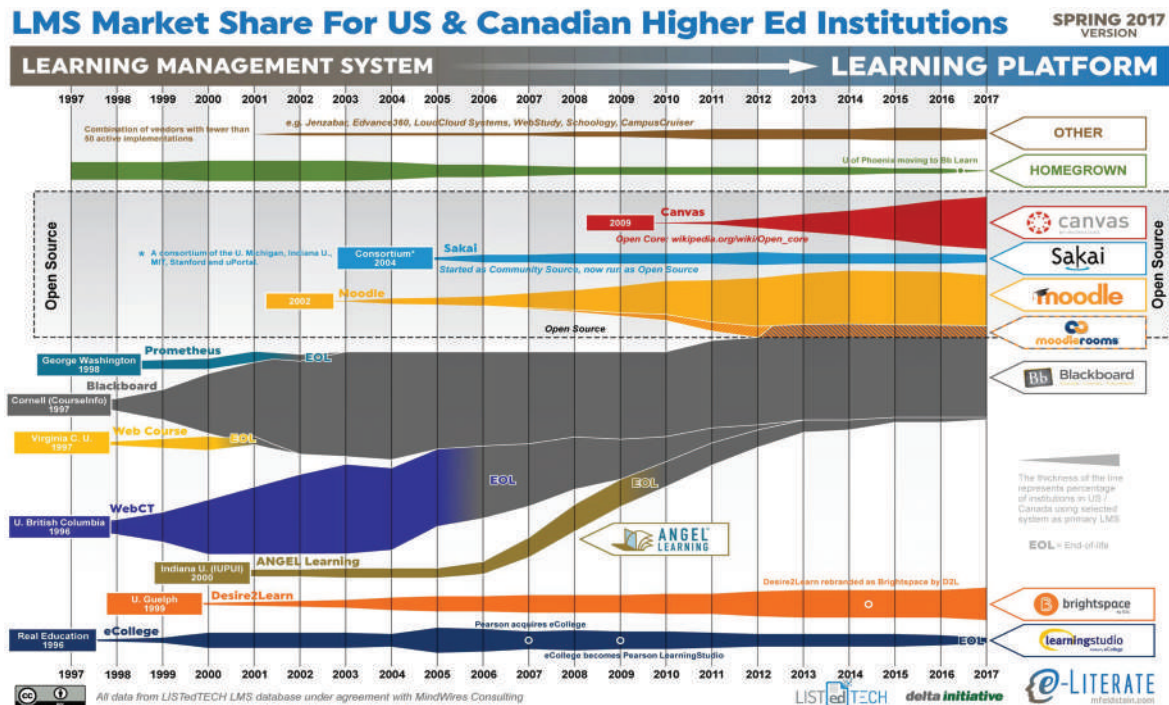


Figure 1. Evolution of LMS Providers, 1997-2017<sup>1</sup>

universities and colleges that Zafra et al. (2009<sup>2</sup>) attribute to the flexibility of pedagogy, location, and in hardware that is afforded by computer-assisted education.

In Figure 1 illustrates the marketplace evolution of LMS platforms among postsecondary institutions in English-speaking countries. Although, Blackboard currently dominates, its share of the market is declining in face of the increasing adoption of open source options. One such open source LMS is the Modular Object Oriented Developmental Learning Environment (Moodle) that facilitates the creation and delivery of flexible online course material and provides a platform for interaction and assessment. The data that it tracks enables detailed analysis of student and instructor behavior. Moodle is designed to support an interactive style of learning called Social Constructionist Pedagogy: an approach that posits that students learn best when they interact with the learning material, construct new material for others, and interact with other students about the material (Rice, 2011<sup>3</sup>).

<sup>1</sup> State of Higher Ed LMS Market for US and Canada. URL: <https://mfeldstein.com/state-higher-ed-lms-market-us-canada-spring-2017-edition/>

<sup>2</sup> Zafra, A., and Ventura, S. (2009). Predicting Student Grades in Learning Management Systems with Multiple Instance Genetic Programming.

<sup>3</sup> Rice, W. (2011). Moodle 2.0 E-Learning Course Development. Packt Publishing Ltd.

However, the potential for further growth for all LMS providers is limited to switching between current providers among educational institutions in advanced markets and to increased adoption by newcomers internationally. Consequently, Ukrainian postsecondary educational institutions have access to a number of LMS vendors that fit the constraints they face. Because it is an open source LMS platform especially amenable to the budgetary constraints and intellectual property rights considerations in much of the developing and transition countries, the data focuses on the worldwide adoption of Moodle as a proxy for overall LMS adoption.

## Moodle Utilization: A Global Comparison

Using data from Moodle.net, Figure 2 illustrates the per capita prevalence of Moodle sites globally. Australia and New Zealand lead in the number of sites per million population thereby ranking Oceania ahead of Europe and North America. At the opposite end, China (0.3), South Asia (0.6), and sub-Saharan Africa (0.7) trail in the adoption of Moodle as an LMS resource. Other regions that rank below the world average of 14.0 are Mideast/North Africa (2.6), East Asia (3.7), Southeast Asia (4.5), Central America/Caribbean (5.7) and Commonwealth of Independent States (8.3).

Ukraine is included with the Commonwealth of Independent States (CIS) data and at 13.9 sites

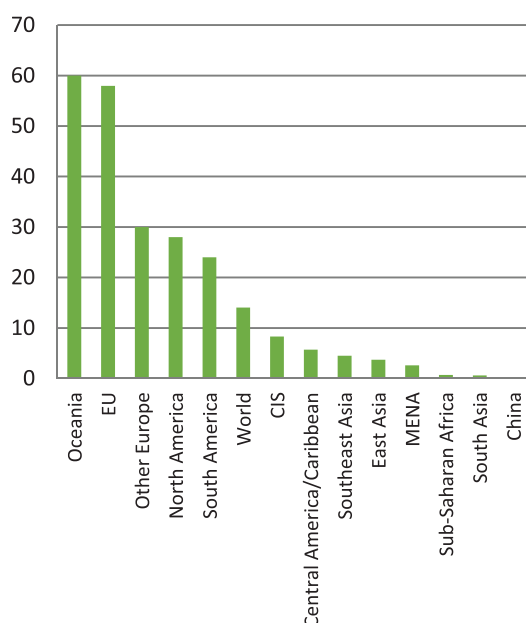


Figure 2. Moodle Utilization Rates, 2018, sites per million population

Source: Moodle.net, authors' calculations

per million population — the country ranks above the CIS average, but almost at the global average (14.0), but far below the EU average (58.1). Figure 3 presents the comparison of Moodle utilization rates among the CIS countries. Belarus at 17.5 sites per capita is ahead of the global average in the region. However, given recent geopolitical events in Ukraine, Russia and the CIS might not prove to be the relevant reference points. The Ukraine-European Union Association Agreement, signed in mid-2014, commits Ukraine to the convergence of its policies and legislation to those in the EU. Although most attention centers on political, economic, financial, and judicial reforms required by Ukraine to achieve this convergence, action is also needed to conform to EU technical standards. Ukraine's Moodle deployment rate can serve as a proxy of the current gap between EU and Ukrainian technical standards in the area of higher education.

Figure 4 compares the rates of Moodle utilization in the 28 EU member states. Spain (179.4 sites per capita) has the highest rate in the EU whereas Romania (17.8 sites per capita) has the lowest rate. Consequently, the lowest Moodle utilization rate in the EU is above the rate found in Ukraine and other CIS states. Many of Ukraine's neighbors in central and eastern Europe, who have been in the process of converging to EU political, economic, and technical standards before and since joining the regional group, have some of the most advanced rates of Moodle adoption as a

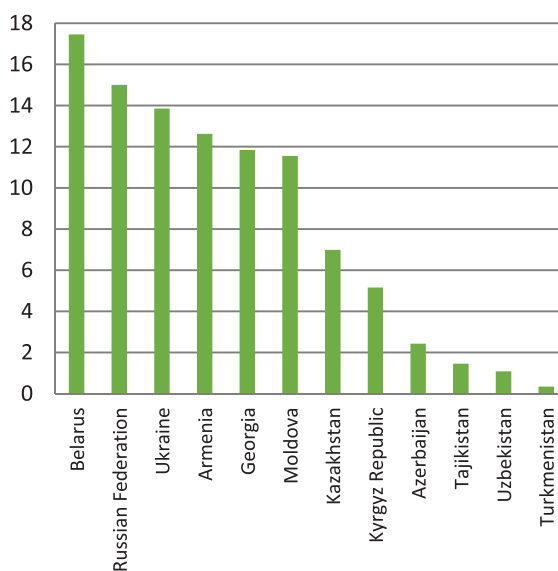


Figure 3. CIS Moodle Utilization Rates, 2018, sites per million population

Source: Moodle.net, authors' calculations

LMS technology. In addition to the extremely high level found in Slovenia (155.3), the two Baltic states (Estonia at 72.2 and Lithuania at 64.4) and the Czech Republic (68.5) have achieved utilization rates above the EU average (58.1). The lowest Moodle utilization rates among the recent EU members are found in the three Balkan states of Bulgaria, Croatia, and Romania who joined in and after 2007 and therefore have engaged only relatively recently in adopting EU technical standards. Using Moodle as a proxy, indicates that Ukraine is currently at a level of technical

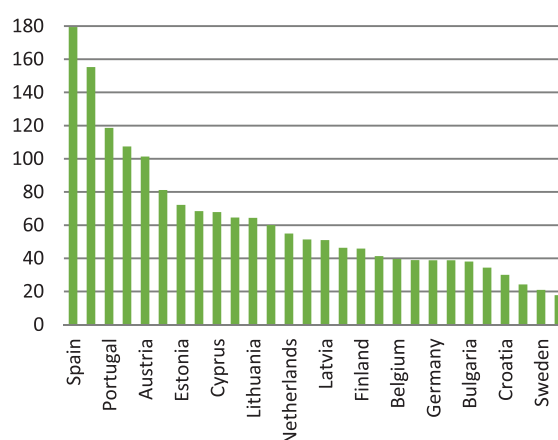


Figure 4. EU Moodle Utilization Rates, 2018, sites per million population

Source: Moodle.net, authors' calculations



standards in education that is uncompetitive with its immediate EU neighbors and incompatible with its EU aspirations.

Learning Management Systems (LMSs) are becoming increasingly common not only in universities, but also in primary and secondary schools, businesses, and religious organizations. Figure 5 summarizes the distribution of Ukrainian Moodle sites among these users. Universities, both public and private, maintain the largest share of Moodle sites. Among the 657 registered institutions of higher education in Ukraine, Moodle sites were implemented in 55,8 % of them (compared to 15.4% in 2014). More sites are expected following the 2013 decree of the Ukrainian Ministry of Education to introduce distance learning and web resources for postsecondary education. Private sector education/training companies in Ukraine have recognized the benefits of LMSs and a growing number employ Moodle in a variety of courses in business; foreign languages; gymnastics and rehabilitation; and design, ceramics, and other arts. Additionally, Moodle is used by driving schools, for private secondary school tutoring, and for courses in theological and bible studies. Both within and outside of Ukrainian higher education, open source LMSs — like Moodle — are proving to be a convenient, well-structured, and free tool to enhance skill development, content delivery, and course management. However, the effective application of a LMS requires that institutions adopt a formal, systematic approach that extends beyond the installation of adequate hardware and the introduction of software and web interfaces. As we can see below, training and guidance of faculty, staff, and students is also essential. The important aspect in faculty training could be the faculty visits, courses or fellowships at foreign universities, especially from OECD countries, that have attained a high level of LMS implementation into higher education<sup>1</sup>.

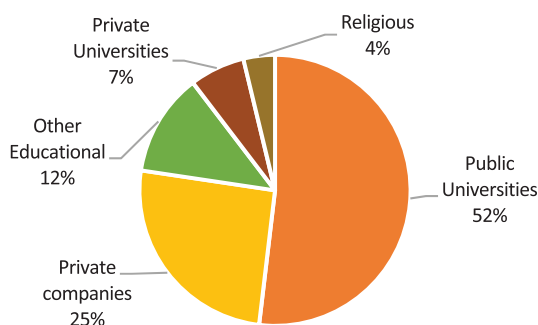


Figure 5. Distribution of Ukrainian Moodle Sites, 2018

Source: Moodle.net, authors' calculations

## The Uses of Moodle

As noted above, a LMS like Moodle can enhance interaction among students and develop course-related social material and references through its online chats, forums, workshops, wikis, and glossary functions. Huang et al. (2013<sup>2</sup>) provides evidence that Moodle is applied differently and successfully in traditional, blended, and online learning environments as well as how it can address the limitations to student interaction present in large class-size settings. Table 1 makes comparisons between social networking sites like Facebook and the functions provided by a LMS. The successful application of these interactive tools in an LMS platform can be enhanced when the instructor understands the manner in which students use their social networks and structures interaction to mimic these interactions among classroom peers.

Moodle can also expand the points of contact between students and instructors. Course deliverables and expectations can be set and amended through Moodle functions that manage course announcements, resources, and schedules. The course gradebook provides instructors the ability not only to transmit their grades of student work, but also the capability to comment on specific aspects of each student's performance — and schedule appointments — with a view to guide students to better performance.

Probably the most important pedagogical enhancement of a LMS comes from the expanded options for the student to engage with course material. Indeed the most widely used feature of Moodle is its function as a repository for course information and documents. Learning of previously covered material can be assessed by using the LMS to submit assignments and journals, as well as via online quizzes and surveys. The delivery of new information is assisted via online lessons, tutorials, course notes, and lessons. Many publishers link the adaptive and interactive learning tools, multimedia, and other online resources connected to their textbooks to various LMS platforms. Consequently, instructors can encourage or require students to prepare — in a personalized manner — for classroom activity by engaging with course content outside of formal class sessions. This facilitates the implementation of the flipped classroom where class time is devoted to involving students with course content in interactive activities rather than the delivery of lectures on new content.

<sup>1</sup> Research Universities: International Experience and Prospects in Ukraine: Monograph / [A.F. Pavlenko, L.L. Antonyuk, N.V. Vasilkova, D.O. Ilnytskyi et al.] ... 2014 ...

<sup>2</sup> Huang, C., Wang, Y., Wu, T., Wang, P. (2013). An empirical analysis of the antecedents and performance consequences of using the moodle platform. *International Journal of Information and Education Technology*, 3.2, 221-221.

COMPARISON OF TOOLS IN SOCIAL  
NETWORKING SITE (SNS) AND LEARNING  
MANAGEMENT SYSTEM (LMS)<sup>1</sup>

Table 1

Tools	SNS (Facebook)	LMS (Moodle)
Forum	+	+
Blog	+	+
Messaging	+	+
Media Sharing	+	
Wiki		+
RSS	+	+
Chat	+	+
Calendar	+	+
Tagging	+	+
Own Brand	+	
Visual Design	+	
Real-time Activity Stream	+	
Groups	+	+
Friends	+	
Profile Pages	+	+
File sharing		+

Despite its near universal presence in postsecondary education in many countries, few LMS platforms are employed to their full capacity. Faculty engagement with their institution's LMS focuses more on the distribution of assignments and other course information to students and less on the LMS's interaction functionality and other advanced features. This limited use reflects the technology synergy effects and feedback processes noted above and indicates that the willingness and ability of faculty to use available LMS technology cannot be ignored. Dalhstrom et al. (2014<sup>2</sup>) notes that faculty require a LMS system that has intuitive features backed with flexible training and support resources. Faculty motivation is also stressed as a key element to the successful implementation of LMS technology. Surveys, at US and non-US universities alike, indicate that faculty members must be presented with clear evidence that students would benefit from use of a LMS and its specific components. Faculty at non-US universities also require release time — free from other responsibilities — to (re)develop their courses to encourage adoption of LMS features. Finally, the stability and consistency of the LMS

platform must also be proven to instill confidence that the technology will work as planned when needed.

### Summary

If postsecondary institutions in countries like Ukraine, with low LMS deployment rates, endeavor to match the usage in more developed educational environments — like those in the EU — they must do more than simply make the technology available. Attention and resources must also be committed to systems for faculty training as well as the support of a reliable LMS. Faculty (and student) motivation cannot be ignored. University administration must recognize the commitment in time, attention, and confidence that is required by faculty to make LMS technology applicable and effective. Faced with heightened international competition for students and endemic budgetary constraints, along with the increased assessment demands of governments and accreditors, the effective deployment of innovative educational technology holds significant consequences for each university. Failure to remain relevant and competitive in the rapidly changing educational environment ultimately translates to a degradation of program and faculty quality that will not go unnoticed by current and future students. As an essential input to national competitiveness, postsecondary institutions contribute to the ease with which a society creates, implements, and adapts its physical, human, and social resources to attain its objectives for sustainable growth and development. The effective deployment of a LMS like Moodle among postsecondary educational institutions is by no means sufficient to attain these micro or macro goals. It is, however, reflective of the necessary approach to educational technology that must inform the work of Ukraine's universities and faculty.

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<sup>1</sup> Table 1 is based on the format provided in Brady, K., Holcomb, L., Smith, B. (2010). The use of alternative social networking sites in higher educational settings: A case study of the e-learning benefits of Ning in education. *Journal of Interactive Online Learning*, 9.2, 151-170.

<sup>2</sup> Op. cit.

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# Scenarios for the higher education development in Ukraine: flourishing, stagnation or degradation<sup>1</sup>

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**Abstract**

The paper is devoted to the development of scenarios for higher education in Ukraine up to the year 2030. The relevance of the study results from the necessity of creating a roadmap for the development of higher education in Ukraine as part of the medium and long-term strategies. The basis of the study is theoretical generalization of the methodology of scenario forecasting and empirical results obtained on the basis of an expert survey on the development of higher education in Ukraine till 2030. The scenarios for the development of higher education in Ukraine by 2030 were designed according to the Delphi method: flourishing, stagnation and degradation. A benchmarking of the research results against similar results received in the EU was carried out.

**Keywords:** scenario, higher education, foresight, Delphi, Ukraine, forecast.

**Problem statement**

The change in the paradigm of economic growth of the countries from the post-industrial model to the knowledge economy causes enhancing competition based on intellectual and human capital, as well as innovative potential. Therefore, in order to form the global competitiveness of countries, governments are implementing medium and long-term economic development strategies, which are based on effective implementation of human, scientific, financial, infrastructural and management resources. The key objective of these strategies, as well as the knowledge economy, is to develop a competitive system of higher education, where universities are addressed as the main generator of national intellectual capital.

Examples of this are holistic strategies and programmes for the development of particular aspects of higher education that tend to focus on the

<sup>1</sup> This article is prepared within the framework of the fundamental research theme 'Imperatives of Global Competitiveness of National Systems of Higher Education', which is realized by the collective of Institute for Higher Education of KNEU.



improvements, which will make the future better. In the US it is believed that future competitiveness, security and well-being depend on the competencies of future employees, whose training should reflect the opportunities and challenges of internationalization of higher education<sup>1</sup>.

The experience of the EU, the USA, China and many OECD member states shows that the development of a comprehensive strategy for the development of higher education and economy as a whole should be pushed out of scenarios for future development and setting appropriate goals. This allows governments to identify key priorities, objectives and directions for the development of higher education competitiveness. Institutions of countries with different levels of socio-economic development (e.g. the USA, the UK, Greece, China, Malaysia and South Africa) employ instruments of generating and examining of scenarios for the development of higher education<sup>2</sup>. Thus, the study that is devoted to the generating of scenarios for the development of higher education in Ukraine for the period up to 2030 is relevant.

## Review of literature and methodology.

The range of scenarios for the development of higher education, which vary both in time (from several years to a century) and in space (from the level of individual institution and a country to the global level), is quite wide. In particular, the well-known scenario of a perfect storm covers the whole world for the period up to 2030<sup>3</sup>.

General scenarios in most cases define the period of 10-15 years, for example, such scenarios were generated in California in 1993<sup>4</sup> and 2007<sup>5</sup>, in non-profit organizations in the US<sup>6</sup> and the UK<sup>7</sup>, the Netherlands<sup>8</sup> and South Africa<sup>9</sup>. The UK,

which is striving for global leadership in higher education, has outlined scenarios for 25 years<sup>10</sup>. International organizations are also involved in the generating of scenarios for the development of higher education. In 2003-2007, OECD was actively generating scenarios<sup>11</sup>.

Individual scenarios are more specialized, but are not less valuable. Greek authors focused only on the scenarios of development of educational activities<sup>12</sup>, and in Kwantlen Polytechnic University (Canada) the authors outlined four scenarios that are based on the perspective on how the role of a student will be transformed within 22 years<sup>13</sup>.

The International Institute for Applied Systems Analysis has developed an analytical toolkit that enables the generating of scenarios for the development of key macroeconomic indicators up to 2100, taking into account the contribution of higher education system. In each of the scenarios<sup>14</sup> an important place is given to education, namely:

- 1-st — investment in education accelerates demographic changes, economic development focuses on human well-being;
- 2-nd — trends of the past are preserved; inequalities, some global achievements and problems continue to take place;
- 3-rd — investment in education is decreasing, economic development is slowing down, inequality is increasing;
- 4-th — fragmentation of global community, internationalized knowledge-intensive and low-educated societies operating in labour-intensive low-tech sectors are defined;
- 5-th — intensive investments in education increase human and social capital, technological development intensifies, incl. resolving ecological challenges.

<sup>1</sup> Helms R. M. Internationalizing U.S. Higher Education: Current Policies, Future Directions. American Council on Education. 2015...

<sup>2</sup> Illytskyy D. Higher education in global economy: review of scenarios. Globalization challenges in business and economics. Conf. proceedings. Tbilisi State University, Georgia, 26-27 October 2018 pp.

<sup>3</sup> Beddington J. 2030: The perfect storm scenario. The Population Institute, USA. 2010...

<sup>4</sup> Ogilvy J. Three Scenarios for Higher Education: The California Case. Thought and Action, v9 n1. Fall 1993. P.25-67

<sup>5</sup> Douglass J. A Look into a Possible Future: A Global Scenario for Higher Education Systems. Global University Network for Innovation. December 17, 2007.

<sup>6</sup> Bryan A. Future of Higher Education: The Future of Scholarly Publication. EDUCAUSE review. March 29, 2011.

<sup>7</sup> Kubler J., Sayers N. Higher education futures: Key themes and implications for leadership and management. London. 2010. 72 p.

<sup>8</sup> Enders, J., etc. The European Higher Education and Research Landscape 2020-Scenarios and Strategic Debates. 2005. Center for Higher Education Policy Studies.

<sup>9</sup> Modelling Future Demand and Supply of Skills in South Africa... Technical Report. ed. Adelzadeh A., Department of Higher Education and Training RSA. March 2017.

<sup>10</sup> Blass, E., Jasman, A., Shelley, S. Visioning 2035: The future of the higher education sector in the UK. Futures, №42(5), 2010. p.445-453.

<sup>11</sup> Vincent-Lancrin S. Building Futures Scenarios for Universities and Higher Education: An International Approach. Policy Futures in Education. Volume: 2 issue: 2. June 1, 2004. p. 245-263

<sup>12</sup> Papanikolaou K. Web-enhanced learning scenarios. Procedia Social and Behavioral Sciences: WCES-2010. №15. 2011. p.1158—1162.

<sup>13</sup> Scenarios of the Future of Higher Education. Kwantlen Polytechnic University...

<sup>14</sup> Vuuren van D.P. etc. Energy, land-use and greenhouse gas emissions trajectories ... 2017. p.237-250.

Fricko O. etc. The marker quantification of the Shared Socioeconomic Pathway 2...2017. p.251-267.

Fujimori S. etc. SSP3: AIM implementation of Shared Socioeconomic Pathways ... 2017. p.268-283.

Calvin K. The SSP4: A world of deepening inequality. Global Environmental ... 2017. p.284-296.

Kriegler E. etc. Fossil-fueled development (SSP5): An energy and resource intensive ... 2017. p.297-315.

British scientist B. Martin defines foresight as a “process involved in systematically attempting to look into the longer-term future of science, technology, economy and society with the aim of identifying the areas of strategic research and emerging generic technologies likely to yield the greatest economic and social benefits”<sup>1</sup>. Experts of the European Commission give similar definition of foresight (forecasting) — a systematic process involving participants with relevant experience to the formation of a long-term vision of the future<sup>2</sup>.

Moreover, B. Martin identified the place of scenarios in the forecasting process. He named the following stages of forecasting: *pre-forecasting* (team formation, definition of goals and requirements for experts, choice of research method), *forecasting* (analytical stage, during which the research is conducted by interviewing / questioning and subsequently results in a forecast / a **scenario** of development), *post-forecasting or forecasting result sharing* (research promotion and public discussions, creation of the development strategy of a country or selected regions/industries).

In theory and practice methodology of scenario forecasting includes a number of techniques and approaches. In this study, the Delphi expert estimation method was used as the main one. This method was developed by the experts of the American non-profit organization RAND in the 1950s-60s to determine the impact of technology on warfare<sup>3</sup>. The authors of the Delphi method are Olaf Helmer-Hirschberg, Nicolas Resher<sup>4</sup> and Norman Dalkey<sup>5</sup>. Today, Delphi has a widespread methodology for forecasting social, economic, and political issues among Western scholars and experts.

The paper by O. Helmer-Hirschberg «Analysis of the Future: the Delphi Method»<sup>6</sup> identified a procedure of the research with the use of the Delphi method, which is based on several rounds of questionnaire poll of respondents to achieve consensus or collective expert opinion. The Delphi

method main characteristics are: extramural participation, anonymity and multilevel. The key advantage of the method is the consideration of the views and attitudes of all survey participants and objective study of the topic in question. The standard procedure consists of defining the problem, developing questions, conducting several rounds of questionnaires, presenting the results of the study.

### Methodology.

A comparative basis for our study was the collective paper of the Dutch Center for Higher Education Policy Studies, which focuses on the forecasting of the 15 years of the EU higher education system's development by 2020<sup>7</sup>. Given that Ukraine lags behind more than a decade in the reform of higher education, launched in the EU in the 1990s, and that the research of scenarios of EU's higher education was held in 2005 on the prospects for 2020, changes were made regarding the lag period for Ukraine. Therefore, it was suggested to extend the period to 2030.

Scenarios for the development of higher education in Ukraine are based on the Delphi method. We conducted a survey of representatives of higher education and business. 187 respondents from all regions of Ukraine took part in the survey. Two thirds of the respondents were women. That in general corresponds to the gender structure of higher education in Ukraine.

The questionnaire consists of 49 questions on the development of education in Ukraine and Europe<sup>8</sup>. These questions are divided into 5 groups: education, research and innovation; funding; quality; higher education, society and labour market; institutional governance and management. Respondents made evaluations on the following scale: event / situation very probable, probable, highly undesirable, not probable, no opinion, and which were given the corresponding numerical values — 4, 3, 2, 1, 0.

**Research results.** Among the general conclusions we have come to in our study, is that the positive development of higher education is least likely. However, according to the respondents, the most likely **forecast for Ukraine in 2030 is the following:**

- most excellent academics work outside the public universities, this is due to better wages and better access to research infrastructure in private universities, consulting companies, industry and enterprises (average 2.82);

<sup>1</sup> Martin B. Foresight in science and technology. Technology Analysis & Strategic Management. 1995. №7. pp. 139–168.

<sup>2</sup> A Practical Guide to Regional Foresight (2001). European Commission — Joint Research Centre — Institute for Prospective Technological Studies...

<sup>3</sup> Delphi Method. RAND — URL: <https://www.rand.org/topics/delphi-method.html>

<sup>4</sup> Helms R. M. Internationalizing U.S. Higher Education: Current Policies, Future Directions. American Council on Education. 2015. 50 p.

<sup>5</sup> Dalkey N. An Experimental Application of the Delphi Method to the Use of Experts / N. Dalkey, O. Helmer-Hirschberg. Santa Monica, CA: RAND Corporation. 1962.

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<sup>7</sup> A Brief Report on the Delphi Study: ‘European Higher Education and Research in 2020’ ...CHEPS. 2005. pp. 25–60.

<sup>8</sup> A Brief Report on the Delphi Study: ‘European Higher Education and Research in 2020’ ...CHEPS. 2005. pp. 25–60.

# HIGHER EDUCATION REFORMS IN UKRAINE

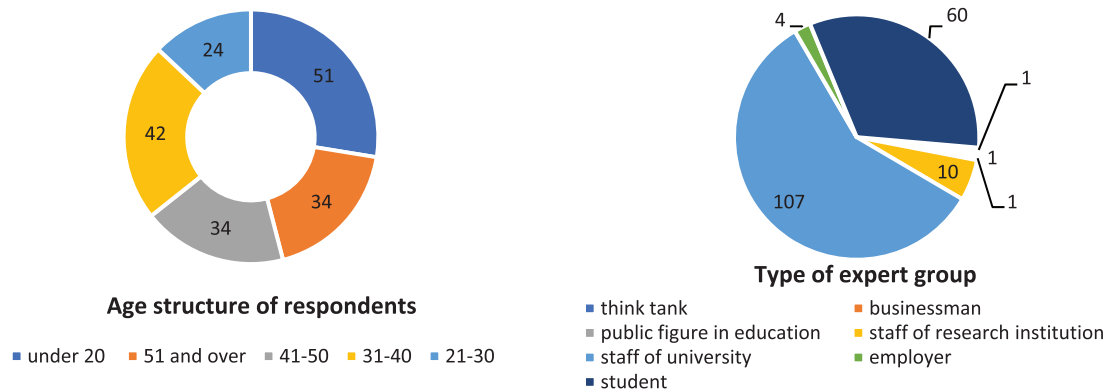


Figure 1. Sociological profile of respondents

- more than 25% of first-degree students study in another European country for the full duration of their programme (average 2.82);
- more than 10% of students are registered with institutions that have their seat outside Europe. Prestigious foreign institutions (for example, the US, Australia) open their branches and corps (average 2.79);
- research fields that are economically less relevant for business and industry are far weaker than they were in 2015 according to state funding, number of graduate students and career opportunities for academic staff (average 2.79);
- participation rates in higher education have increased considerably to some 70% of 18-22-year olds (average 2.79);
- it is common practice in all countries for higher education institutions to select their students at both bachelor and master levels (average 2.72).
- striking feature of higher education is its strong functional stratification (average 2.71);

- technological breakthroughs have made ‘anytime, anyplace learning’ the dominant learning mode. Lectures, audiences and other traditional structures are not so important, although they are still used to gain specific skills, personal contacts in mixed learning (average 2.71);
- Ukraine has failed to achieve the objectives of the development of the knowledge economy (average 2.70);
- rapid growth in graduate supply far exceeds societal demand, resulting in graduate unemployment and over-schooling on a large scale (average 2.69);
- more than 50% of academic journals are e-journals, owned and controlled by academics themselves. Scientists won the battle with publishers, electronic journals are prestigious and subscribers pay only a small fee (average 2.69);
- proportion of academic staff in higher education with long-term or tenured positions is significantly lower than it was in 2015 (average 2.68).

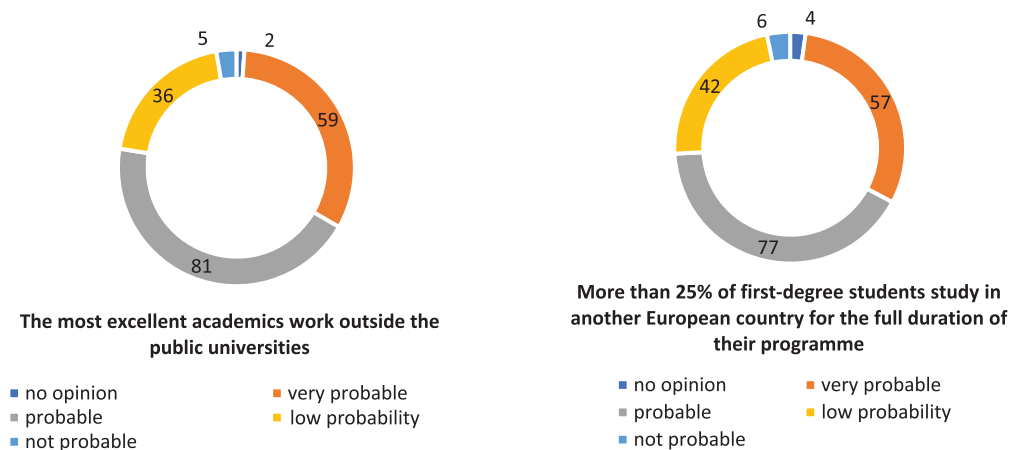


Figure 2. Competition for academic staff and student mobility

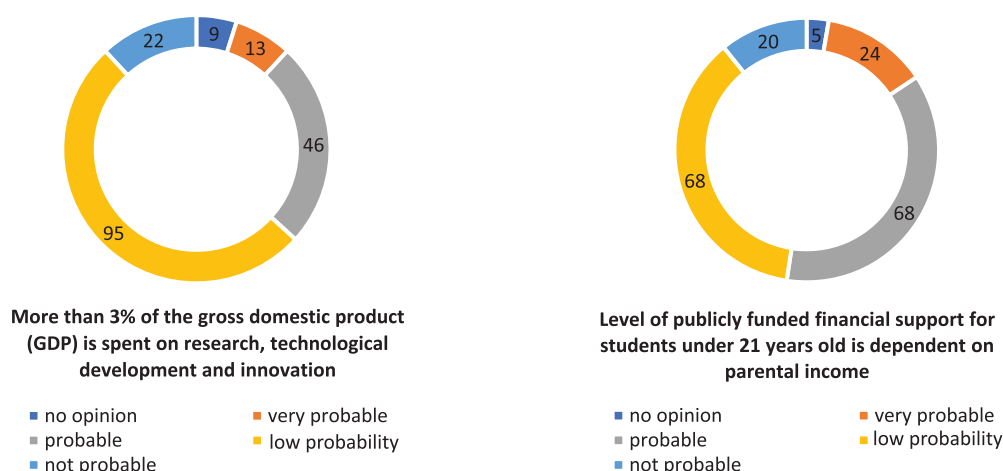


Figure 3. Financial expectations for the development of higher education in Ukraine

— employability of graduates is used as the main indicator of the quality of study programmes (average 2.65);

At the same time, according to the respondents, **the least likely** events and situations in higher education in Ukraine of 2030 are the following:

— there is a variety of accreditation agencies, some linked to national ministry of education, others private and for-profit (average 2.36);

— higher education management has developed into a recognisable professional career. One manifestation of this is the emergence of various educational training programs for professionals in this field (average 2.40);

— tuition fees are set on the basis of graduate salaries in each discipline (average 2.44);

— the number of government-subsidised student places in public higher education institutions is demand-driven. Student demand

determines the number of seats, and the government refrain from limiting the number of seats (average 2.45);

— private higher education institutions that are accredited by recognised accreditation agencies are treated in all respects the same way as accredited public higher education institutions (average 2.46);

— there is a single European qualification structure that includes all higher education programmes. The qualification structure determines the competence and educational achievements associated with the requirements of the labour market (average 2.46);

— all (national as well as European) accreditation schemes have been abandoned for various reasons, in particular, because they do not have important information for students and employers (average 2.48);

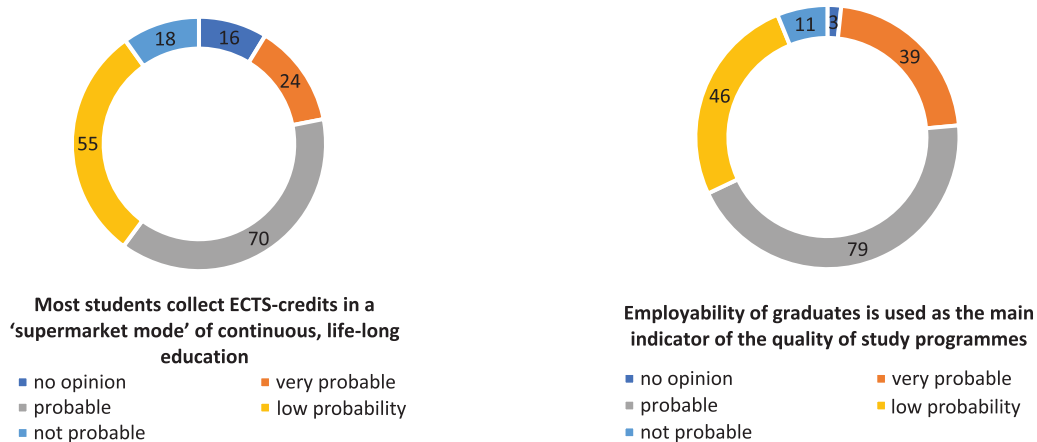


Figure 4. Expectation of the behaviour model of stakeholders



- quality of study programmes is fairly consistent across all countries — from North to South and from East to West (average 2.48);

- typical higher education institution is managed in a businesslike way, stressing efficiency and productivity (average 2.49);

- control over educational courses and programmes has shifted from institutional executives and managers to external stakeholders (average 2.49).

The survey of Ukrainian respondents let us compare the results with the expectations of Europeans (table A.1 in Appendix). According to the questionnaire, the average expectations of Ukrainians are mostly higher than those of Europeans. In their views, the polls' results in Ukraine and the EU have similar considerations in the following:

- there is a single European qualification structure that includes all higher education programmes (standard deviation 0%);

- control over educational courses and programmes has shifted from institutional executives and managers and to external stakeholders (standard deviation 0.4%);

- more than 60% of basic research (in terms of full-time equivalent researchers) is conducted outside higher education institutions (standard deviation 3.6%);

- more than 25% of first-degree students study in another European country for the full duration of their programme (4.4%);

- there is a variety of accreditation agencies, some linked to national ministry of education, others private and for-profit (standard deviation 4.9%);

- academic staff structure in higher education is standardised across all countries and all higher education and research institutions (standard deviation 4.9%);

- the European Union has a single, centralised accreditation office for higher education, which is part of the EU apparatus (standard deviation 5.9%);

- only a few universities consider making an independent and critical contribution to intellectual and cultural life to be an important part of their mission (standard deviation 7.7%);

- quality of study programmes is fairly consistent across all countries — from North to South and from East to West (standard deviation 10%).

These similarities show how close expectations are in different countries.

The largest differences between respondents from Ukraine and the EU are found only in some respects. Unlike the EU respondents, the Ukrainian respondents are more inclined to

believe the following events and conditions to happen in future:

- vast differences in academic salaries still exist across countries (standard deviation 49.4%);

- it is common practice in all countries for higher education institutions to select their students at both bachelor and master levels (standard deviation 47%);

- striking feature of higher education is its strong functional stratification (standard deviation 43.4%);

- more than 50% of academic journals are e-journals, owned and controlled by academics themselves (standard deviation 40.8%);

- universities' research agendas are determined in close interaction with external stakeholders (standard deviation 40.5%).

Differences and similarities allowed us to come up with scenarios that differ from those offered by European colleagues. Basing on the survey, we have modelled only three scenarios for the development of higher education:

- the first scenario is 'flourishing of higher education in Ukraine';

- the second — 'stagnation of higher education in Ukraine';

- the third — 'degradation of higher education in Ukraine'.

## **Scenario: Flourishing of higher education in Ukraine.**

*Education, research and innovation.* In 2030, Ukraine implements the provisions of the Bologna Declaration and introduces a model of preparation for bachelor's and master's degrees under 3+2 model, the degrees become comparable with European ones, and the education gained earlier or in another way is recognized. Universities' research programs meet 90% of the needs of stakeholders, due to close cooperation with them. More than 60% of basic researches are carried out in higher education institutions. The level of involvement in higher education among young people aged 18-22 is more than 70%. In Ukraine in 2030 educational areas that are non-priority for business and industry from the economic point of view are much weaker. More than 3% of GDP is spent on researches, technological development and innovations. Several "clusters of excellence" that can compete on a global level in each of the areas of scientific research are created. Regional authorities are responsible for the development of regional innovation clusters, where universities, local authorities, state research institutes and enterprises effectively interact in research and innovation. The mobility of students is increasing, and branches of Western and Asian universities are opening in Ukraine.

*Quality of education.* In Ukraine in 2030 there is a Unified qualifications framework, which includes

all higher education programs. Qualification structure determines the competencies and educational achievements that are associated with the requirements of the labour market. The employment rate of graduates is one of the main indicators of the quality of educational programs.

*Higher education, society and the labour market.* In Ukraine in 2030 the most talented scientists work in state universities and cooperate with private institutions. This is a consequence of better pay and better access to research infrastructure than in private universities, consulting companies, industry and enterprises. All major universities consider independent and critical contributions to intellectual and cultural life to be an important part of their mission.

*Institutional governance and management.* At the Ukrainian university in 2030, there is a clear division of functions between educational, research and public services — this division is reflected in organizational structures, sources of income and personnel policy. The tasks of universities become more complex and specific, and this requires the creation of various organizational structures that affect the working conditions and wages. The university has full managerial and financial autonomy.

## **Scenario: Stagnation of higher education in Ukraine.**

*Education, research and innovation.* In 2030 the implementation of the Bologna Declaration and a significant differentiation of universities depending on the depth of implementation of preparation for bachelor's and master's degrees in the 3+2 model continues. The process of recognition of education that has been gained before or in another way begins. Research programs of universities are formed in cooperation with external stakeholders by 1/3. Less than 40% of basic researches are conducted within higher education institutions. The level of involvement of people aged 18-22 in higher education is less than 50 per cent. Educational areas that are non-priority for business and industry from the economic point of view become less and less demanded among students, but the state education quota still exists. About 1% of GDP is spent on researches, technological development and innovations. In some regions of Ukraine, innovation clusters are created, but at the global level, they are not competitive. The number of students studying in EU countries is increasing.

*Funding of education.* Due to the integration of the national education system into the European one, less than 50% of research projects in higher education institutions are carried out at the expense of the European Research Council. Research projects are partially funded by national

organizations on a competitive basis. The higher education system in Ukraine in 2030 is partially fee-paying (40% and 60% respectively).

*Quality of education.* In 2030 in Ukraine the creation of a Unified qualifications framework continues. This structure includes all higher education programs. The employment rate of graduates is the main indicator of the quality of educational programs.

*Higher education, society and the labour market.* In Ukraine in 2030 talented scientists are working outside the state universities. This is a consequence of better pay and better access to research infrastructure in private universities, consulting companies, industry and enterprises. Only a few universities consider independent and critical contributions to intellectual and cultural life to be an important part of their mission.

*Institutional governance and management.* In 2030 universities perform research and educational function at the ratio of 10% and 90%, respectively. The University management is based on efficiency and productivity.

## **Scenario: Degradation of higher education in Ukraine.**

*Education, research and innovation.* Until 2030 the traditional system of bachelor's and master's degrees is maintained in Ukraine. Educational levels correspond to the European ones, but the procedure of recognition of degrees obtained in Ukraine remains long. Higher education can be gained only in the traditional way in the institutions of higher education. There is a lack of recognition of the education gained online. Research programs of universities do not meet the needs of stakeholders, the interaction system "university-science-business" is not established. The nature of the researches is more fundamental. Less than 10% of basic researches (in terms of full employment) are held within the walls of higher educational institutions. The level of involvement in higher education is less than 30% for people aged 18-22 years. The state education quota for economically unprofitable professions that are not demanded by business still exists. Less than 0.7% of GDP is spent on researches, technological development and innovations. The pilot project of the innovation cluster of medium technologies starts operating in 2030. Emigration for education to the EU, the USA and China is increasing.

*Funding of education.* Funding of Ukrainian research projects under the EU framework programmes and grants for researches from national organizations have sporadic nature. The higher education system in Ukraine is functioning at the expense of the individuals and state education quota (70% and 30% respectively).

*Quality of education.* In Ukraine in 2030 there is no Unified qualifications framework, which includes all higher education programs. The quality of educational programmes is determined by the quality assessment body of the Ministry of Education and Science.

*Higher education, society and the labour market.* In Ukraine in 2030 the most talented scientists work in foreign universities and companies. This is a consequence of better pay and better access to research infrastructure existing there. Universities do not consider independent and critical contributions to intellectual and cultural life to be an important part of their mission.

*Institutional governance and management.* In 2030 universities perform a research and educational function at the ratio of 5% and 95%, respectively. The University does not have full autonomy in the management, it remains a part of the higher education system, which is managed by the Ministry of Education and Science.

## Discussion.

We are aware that our scenarios do not include several aspects that are important for the characteristics of higher education system. One of them is the level of internationalization of universities and the higher education system in total, while number of foreign students may play an important role for its structure and effectiveness. Technological breakthroughs may cause more dramatic changes in higher education even in more close periods.

The scenarios we come up with — flourishing, stagnation or degradation — should be addressed as those that may have different levels of possible intensity (high, moderate or low), especially when talking about stagnation scenario, which is the main one. We were unable to have several rounds of questionnaire poll of respondents, but did it only in a short number of experts, so it may in some way influence the results too. Although our results are based on estimations, they are rather similar to those that are offered as forecast for the Ukrainian economy (balanced development, foreign subjectivity, grey zone or disintegration), which uses some more calculations<sup>1</sup>.

The questionnaire is much concentrated on European future, which in times of Brexit underway may lead to some more diversified scenarios of the higher education systems both in the EU and Ukraine. This also may be under the influence of general European integration activity and results as well. Thinking in these terms, one should also take into account the current state

and possible outcomes of military situations with some of Ukrainian territories being under foreign occupation, which may turn the future upside down. Finally, it is the matter of investments to safekeep rich knowledge Ukraine has created till the moment and to make it economically and commercially useful, which means that investments may come not only from the state, but may be of private nature. So real internationalization of the higher education sector within the global economy may bring some more scenarios for Ukraine.

## Conclusions.

Based upon the survey results, the most probable scenario of higher education development is the second one, i.e. stagnation. This scenario is characterized by slow changes in higher education, low level of funding of science and researches, lack of full autonomy of universities and slow integration to the European educational and research network. The scenario of the flourishing of higher education presupposes a qualitative leap in the development of the national system of higher education and its integration not only with the European, but also with the global network and the development of the national innovation system. But the scenario of degradation is probable as well — the preservation of the current dynamics in the development of higher education, its gradual decline and non-compliance with the requirements of the future society and the economy.

Quantitatively, the probability of each of the scenarios (taking into account the trends of the last decade) can be apportioned: flourishing — 15%, stagnation — 60% and degradation — 25%. Taking into account the analysis of the results of modelling scenarios by the International Institute for Applied Systems Analysis, it can be argued that the trajectory of the development of the higher education system up to 2030 will determine the dynamics of the main macroeconomic indicators until 2100.

In general, the materialization of one of these scenarios depends on a number of factors. The key determinants of the further development of higher education in Ukraine include: *political* (political will and charismatic leader with sufficient authority, the ability to delegate institutional autonomy; prioritization of the economic function of higher education over the social one), *economic* (availability of sufficient resources for fundamental and applied research, their effective commercialization, ensuring a consistently high level of funding of educational and research services), *institutional* (efficiency of integration of higher education into the national innovation system, the depth of the development

<sup>1</sup> Zgurovsky, M. (2015). Forecast of the Ukrainian economy: medium-term (2015-2020) ... p.128

of entrepreneurial ability of academic staff and universities' competence, the ability to overcome corruption pressure and ensure the priority of the quality of higher education system in Ukraine, the development of the system of internal and external management of higher education institutions).

The study revealed a significant lack of scenarios for the development of not only the higher education system, but also of other components of the socio-economic development of Ukraine. A more in-depth study of the opinions and expectations of key stakeholders at a high-quality level can help the country to formulate and implement effective, breakthrough economic development strategies.

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## Appendix

### SCENARIOS OF HIGHER EDUCATION DEVELOPMENT IN UKRAINE AND EUROPE

№	Ukraine (by 2030)	EU (by 2020)	Number of respondents		Standard deviation		Average (score, max=4)		
			EU	Ukraine	EU	Ukraine	EU	Ukraine	Δ
1.	Consensus has been achieved on the Bachelor-Master structure: a uniform 3+2 structure is implemented in all countries and degrees are comparable across Europe		162	187	0,67	0,87	1,87	2,53	0,66 (35,3%)
2.	Recognition of prior learning has become a common practice in higher education institutions		161	186	0,62	0,81	1,87	2,53	0,66 (35,3%)
3.	Universities' research agendas are determined in close interaction with external stakeholders		162	186	0,66	0,74	1,85	2,60	0,75 (40,5%)
4.	More than 60 % of basic research (in terms of full-time equivalent researchers) is conducted outside higher education institutions		161	186	0,78	0,87	2,49	2,58	0,09 (3,6%)
5.	A striking feature of higher education is its strong functional stratification		159	186	0,59	0,89	1,89	2,71	0,82 (43,4%)
6.	Participation rates in higher education have increased considerably to some 70% of 18-22-year olds		160	185	0,84	0,92	2,28	2,79	0,51 (22,4%)
7.	Research fields that are economically less relevant for business and industry are far weaker than they were in 2015		162	186	0,67	0,89	2,02	2,79	0,77 (38,2%)
8.	More than 3% of the gross domestic product (GDP) is spent on research, technological development and innovation		160	185	0,72	0,80	2,04	2,56	0,52 (25,5%)
9.	Regional (both intranational and cross-border) authorities are responsible for regional innovation clusters		163	184	0,62	0,77	1,82	2,52	0,7 (38,5%)
10..	Only a few 'clusters of excellence' are competitive on a global level in each (multi-) disciplinary research field		160	185	0,66	0,81	1,86	2,51	0,65 (35%)

№	Ukraine (by 2030)	EU (by 2020)	Number of respondents		Standard deviation		Average (score, max=4)		
			EU	Ukraine	EU	Ukraine	EU	Ukraine	Δ
11..	Standardised course modules developed by leading European scholars are widely used (and available online) in many basic disciplines		162	183	0,78	0,94	2,13	2,67	0,54 (25,4%)
12.	More than 10% of students are registered with institutions that have their seat outside Europe		159	185	0,72	0,85	2,2	2,79	0,59 (26,8%)
13.	More than 25% of first-degree students study in another European country for the full duration of their programme		161	185	0,61	0,92	2,7	2,82	0,12 (4,4%)
14.	The European Research Council funds more than 50% of the research projects in higher education institutions		161	185	0,64	0,80	2,69	2,63	-0,06 (-2,2%)
15.	All national research-funding organisations have opened their competitive grants to applicants from all over Europe		161	185	0,74	0,86	2,34	2,5	0,16 (6,8%)
16.	All higher education students pay tuition fees		160	185	0,75	1,05	2,03	2,57	0,54 (26,6%)
17.	Individual higher education institutions set their own tuition fees		160	185	0,64	0,98	1,94	2,67	0,73 (37,6%)
18.	Tuition fees are set on the basis of graduate salaries in each discipline		161	186	0,82	0,90	2,4	2,44	0,04 (1,7%)
19.	The level of publicly funded financial support for students under 21 years old is dependent on parental income		160	185	0,68	0,86	2,01	2,53	0,52 (25,9%)
20.	Private higher education institutions that are accredited by recognised accreditation agencies are treated in all respects the same way as accredited public higher education institutions		160	185	0,76	0,78	1,91	2,46	0,55 (28,8%)
21.	The number of government-subsidised student places in public higher education institutions is demand-driven		161	183	0,72	0,83	2,18	2,45	0,27 (12,4%)
22.	The effective marketing of 'quality' rather than the genuine quality of education and research attracts the brightest students		160	184	0,7	0,79	2,23	2,57	0,34 (15,3%)
23.	All (national as well as European) accreditation schemes have been abandoned		159	183	0,76	0,86	2,84	2,48	-0,36 (-12,7%)
24.	There is a variety of accreditation agencies, some linked to national ministries of education, others private and for-profit		160	183	0,7	0,84	2,25	2,36	0,11 (4,9%)
25.	The European Union has a single, centralised accreditation office for higher education, which is part of the EU apparatus		160	182	0,74	0,80	2,7	2,54	-0,16 (-5,9%)

# HIGHER EDUCATION REFORMS IN UKRAINE

№	Ukraine (by 2030)	EU (by 2020)	Number of respondents		Standard deviation		Average (score, max=4)		
			EU	Ukraine	EU	Ukraine	EU	Ukraine	Δ
26.	Most students collect ECTS-credits in a 'supermarket mode' of continuous, life-long education		159	183	0,69	0,87	2,23	2,51	0,28 (12,6%)
27.	There is a single European qualification structure that includes all higher education programmes		159	183	0,73	0,82	2,46	2,46	0 0,00%
28.	The employability of graduates is used as the main indicator of the quality of study programmes		160	178	0,69	0,90	2,38	2,65	0,27 (11,3%)
29.	The quality of study programmes is fairly consistent across all countries — from North to South and from East to West		158	183	0,74	0,76	2,76	2,48	-0,28 (-10,1%)
30.	The quality of academic research is highly skewed — research is much stronger in the North-West with Southern and Eastern countries lagging significantly behind		159	183	0,66	0,81	1,94	2,56	0,62 (32%)
31.	The most excellent academics work outside the public universities		158	183	0,66	0,93	2,46	2,82	0,36 (14,6%)
32.	The proportion of academic staff in higher education with long-term or tenured positions is significantly lower than it was in 2015		157	183	0,66	0,89	2,01	2,68	0,67 (33,3%)
33.	The rapid growth in graduate supply far exceeds societal demand, resulting in graduate unemployment and over-schooling on a large scale		157	183	0,75	0,81	2,41	2,69	0,28 (11,6%)
34.	The academic staff structure in higher education is standardised across all countries and all higher education and research institutions		156	183	0,66	0,81	2,65	2,52	-0,13 (-4,9%)
35.	Vast differences in academic salaries still exist across countries		158	182	0,64	0,93	1,78	2,66	0,88 (49,4%)
36.	It is common practice in all countries for higher education institutions to select their students at both bachelor and master levels		158	182	0,74	0,91	1,85	2,72	0,87 (47%)
37.	Ukraine has failed to achieve the objectives of the knowledge economy. The most excellent research is still done elsewhere (e.g. United States, South East Asia, China)		158	184	0,75	0,90	2,01	2,70	0,69 (34,1%)
38.	The emphasis in undergraduate studies is much more on broad education ('Bildung') than on the transmission of pragmatic job-relevant knowledge and skills		156	183	0,68	0,81	2,21	2,51	0,3 (13,6%)
39.	More than 40% of masters students hold a bachelor's degree from a different institution (possibly but not necessarily in another country)		156	183	0,69	0,81	2,26	2,62	0,36 (15,9%)

№	Ukraine (by 2030)	EU (by 2020)	Number of respondents		Standard deviation		Average (score, max=4)		
			EU	Ukraine	EU	Ukraine	EU	Ukraine	Δ
40.	Technological breakthroughs have made 'anytime, anyplace learning' the dominant learning mode		158	183	0,76	0,86	2,41	2,71	0,3 (12,5%)
41.	More than 50% of academic journals are e-journals, owned and controlled by academics themselves		158	183	0,76	0,88	1,91	2,69	0,78 (40,8%)
42.	Only a few universities consider making an independent and critical contribution to intellectual and cultural life to be an important part of their mission		157	183	0,74	0,79	2,74	2,53	-0,21 (-7,7%)
43.	There is a clear split between teaching, research and community service functions — this split is reflected in organisational structures, sources of revenue and staffing policies		155	181	0,72	0,80	2,19	2,58	0,39 (17,8%)
44.	The typical higher education institution is managed in a businesslike way, stressing efficiency and productivity		157	180	0,63	0,79	1,94	2,49	0,55 (28,4%)
45.	Control over educational courses and programmes has shifted to institutional executives and managers and to external stakeholders		157	180	0,62	0,82	2,48	2,49	0,01 (0,4%)
46.	Higher education management has developed into a recognisable professional career		156	180	0,61	0,70	1,85	2,40	0,55 (29,7%)
47.	Well over one-third of all higher education executives are drawn from backgrounds outside higher education		156	180	0,65	0,81	2,29	2,56	0,27 (11,8%)
48.	A majority of higher education institutions are amalgamations or federations of previously independent entities		156	181	0,77	0,83	2,21	2,59	0,38 (17,2%)







*Nature is wise. You can learn  
everywhere and from everything.*  
**Leonardo da Vinci**

*One`s work may be finished  
someday, but one`s education  
never.*  
**Alexandre Dumas**

*Only the educated are free.*  
**Epictetus**

*The best mistake is that allowed  
in the training.*  
**Grygory Skovoroda**



## INTERNATIONAL RECOGNITION OF KNEU

KNEU ranked as Excellent  
Business School  
by EdUniversal



KNEU accepted Awarded  
Partnership in 2018-19



KNEU is a member  
of the European Public  
Law Organization



KNEU is a member  
of the Black Sea  
Universities Network  
and Eastern  
Mediterranean  
Academic Network



KNEU is a member  
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**ISSN 2312-5497** (English Online)  
**ISSN 2312-5462** (English Print)  
**ISSN 2312-5446** (Ukrainian Online)  
**ISSN 2224-0128** (Ukrainian Print)

