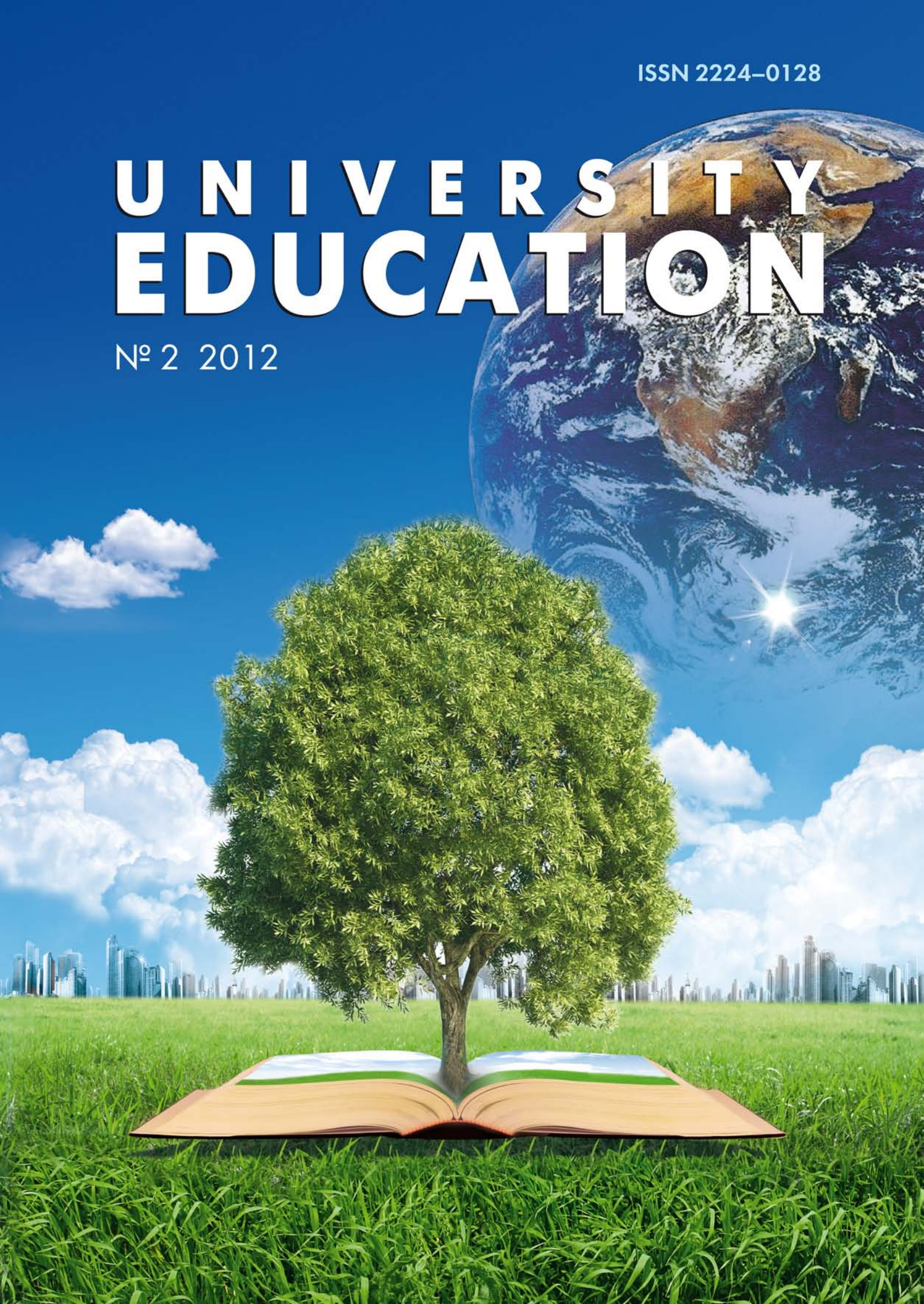
ISSN 2224–0128

UNIVERSITY EDUCATION

№ 2 2012



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State Registration Certificate

No. 18034-6884P dated 16.08.2011

Publisher
Institute of Higher Education,
Kyiv National Economic University
named after Vadym Hetman
http://ihe.kneu.edu.ua

Kyiv National Economic University named after Vadym Hetman

www.kneu.edu.ua

Edition 500 copies

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Dear Readers

You see the latest issue of *University Education*, in which Ukrainian and foreign experts provide information on the results of research on current issues and directions of higher education development.

The publications in the «Development Trends in Higher Education» section highlight such key trends in the European and Ukrainian higher education as: intensification of competition on the education services market, strengthening of international cooperation, diversification of the mechanisms for financing higher education, etc. The article by the well-known American Professor Karen Fox «Higher Education Marketing: The United States Experience» reveals the essence and evolution of the theory and practice of marketing in higher education in the USA. It acquaints you with the relevant experience of leading American universities, substantiates the necessity for the application of the marketing approach for their efficient operation.

The «University Scientific Research» section is devoted to one of the most urgent topics, not only for higher education institutions, but also for society as a whole. The economic development of any country is dependent on the potential to generate knowledge as well as products and technologies, based on the latest scientific achievements. Leading world universities are the ones that have always been and will continue to be the centres for the formation and dissemination of new scientific knowledge. The main criteria for evaluating the intellectual potential and social recognition of modern universities, as stated in the materials of this section, is the scientific and pedagogical school. In the article «The Road to Competitiveness: The Importance of Database Access at a Research University», Professor Gerald Groshek from the US highlights the results of research on the interconnection between the publication activity of researchers in well-known journals and the international cooperation of scholars in this sphere.

The issues of the development, implementation and realization of the latest approaches to the modern management of a university and education processes are under discussion in the section «Strategic Development of Universities». The section presents the results of the research into the role of global competence, the substance, models and methods for activating class work at world-class research universities.

Professor Joanna Żyra from Poland presents the results of a qualitative evaluation of education on the basis of data on the development of the graduates' careers. Topical issues regarding the creation and commercialization of the intellectual products of a university's activity are set forth in the «Management of Intellectual Property» section together with the evaluation of the possibilities of legal protection of the scientific and applied scientific results of university research within the limits of the current legislation of Ukraine in the sphere of intellectual property. The «Educational Technologies» section provides information on the latest effective methods for teaching students at world-class universities.

I hope the journal publications will result in further discussions both in future issues of the journal and in academic circles.

THE GLOBAL TECHNOLOGICAL REVOLUTION IN ONLINE STUDIES

More and more universities throughout the world are joining open education programmes, thus signifying a global technological revolution in online studies. The study platforms of such universities as Stanford, Harvard, the University of California at Berkley, the Massachusetts Institute of Technology and others, already embrace a multi-million audience of students, proposing unrestricted and cost-free access to learning resources of the highest quality.

The current stage of the development of education is distinguished by global technological improvements in the sphere of education technology, related to the development and dissemination of online study platforms, providing unlimited access to the best «Massive Open Online Courses», or MOOCs. Well-known universities such as Stanford University joined specialized *Coursera* Internet portal in 2011. Now *Coursera* offers more than 300 study courses in a wide range of disciplines (humanitarian and social sciences, medicine, biology, mathematics, business, computer sciences and many others) and captures an audience of more than one million throughout the world. In the field of socio-economic sciences, the following study courses are very popular: «Introduction to Finance» (University of Michigan), «An Introduction to Operations Management» (University of Pennsylvania), «Healthcare Innovation and Entrepreneurship» (Duke University), «Introduction to Computational Finance and Financial Econometrics» (University of Washington), «Principles of Economics for Scientists» (California Institute of Technology), «Microeconomics Principles» (University of Illinois), «Games Theory» (University of Illinois), «Statistics One» (Princeton University) and many others. The courses are a series of previously recorded video lectures, read by well-known university professors (the video materials are generally given in parts on a weekly basis, based on the rate at which the material is learned), interactive exercises and tasks, which are subject to evaluation and supplemented by Internet forums, where students communicate and exchange ideas. The cost-free certification of listeners is provided for, based on the results of the successful learning of material within the framework of certain selected disciplines

— the so-called Certificate of Completion/ Accomplishment.

Another on-line platform of Stanford University — *Udacity,* which was also established in 2011, offers a wide range of courses, which generally pertain to computer studies and programming. World-renowned university professors are involved in this programme. It's worth noting that 160,000 people from more than 190 countries signed up for the first course, which was presented on the portal — «Introduction to Artificial Intelligence». A special multi-level system of certification and evaluation has been developed for both paying and non-paying students who successfully complete the studies. More than 100,000 students and instructors are registered on Udacity at the present time.

In May 2012, Harvard University and Massachusetts Institute of Technology announced the establishment of a new venture in the sphere of online studies — *EdX,* in which joint-investments totaled USD 60 million. In time, another renowned university joined this project — the University of California at Berkley. The partner universities, which are part of this consortium, officially have a common brand *«X-Universities».* Thus, the Massachusetts subdivision of the platform *(MITx)* offers studies in chemistry, electronic networks, computer sciences and programming. The Harvard subdivision *(HarvardX)* specializes in computer sciences and clinical medical research. The California participant in the consortium *(BerkeleyX)* ensures the functioning of courses in IT and artificial intelligence. The project anticipates the direct transmission of lecture material in the Internet for all persons, who have previously registered for the courses, as well as the free download of text and video materials. On the successful completion of the course based on exam results students, that were first enrolled in autumn 2012, will receive *Certificates of mastery.*

Prepared by **V. Satsyk,** Candidate of Economic Sciences, Associate Professor Institute of Higher Education, KNEU; based on the following materials: The Chronicle of Higher Education (*http://chronicle.com*), Coursera (*www.coursera.org*), Udacity (*www.udacity.com*) and edX (*www.edx.org*) internet portals.

QUALITATIVE EDUCATION, NOT ONLY ON PAPER

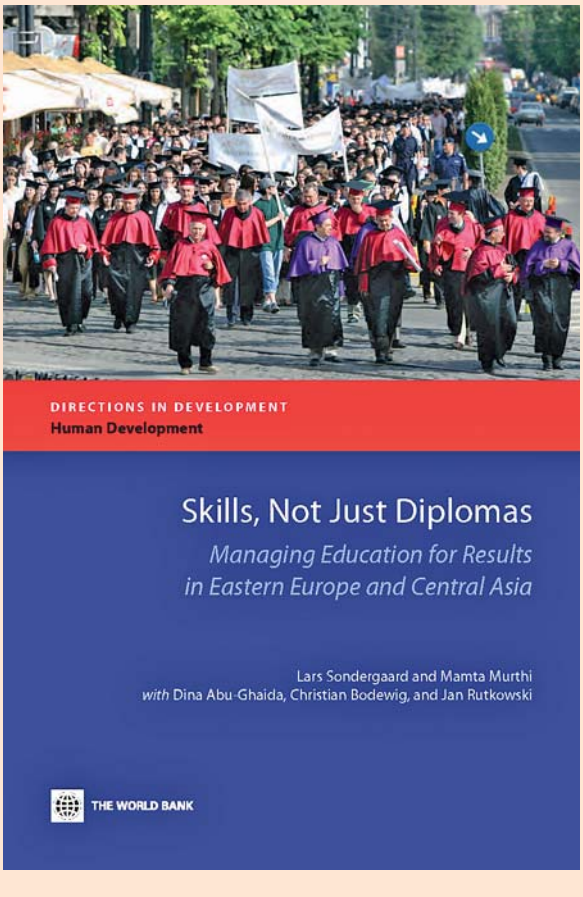
It is no secret, that qualitative education plays a key role in the socio-economic development of countries. However, ensuring the conformity of education to current requirements is an unusually complex task, in view of the absence of universal recipes and policies in this sphere. Many modern specialists and institutions prepare publications, dedicated to urgent issues of the reform of national education systems, including in Ukraine. Recently a group of specialists from the World Bank has prepared in-depth research on «Skills, Not Just Diplomas: Managing Education for Results in Eastern Europe and Central Asia».

The authors of the publication substantiate the theory that if economic growth today is limited by the global financial crisis, then in several years, and even now, the lack of qualified employees, the deficit of which could significantly hinder economic progress, is one of the key influences. So this research is an attempt to answer the following questions. Why are companies in this region continuously facing a lack of qualified university graduates? What measures have been taken in the countries of this region to resolve this problem?

The research has outlined the main reasons for the lack of a qualified workforce in the countries of Central Europe and Central Asia. Experts sum up that the legacy of the times of central planning has led to these countries devoting too much attention to ensuring adequate funding for education, rather than the analysis of actual study results. No significant progress can currently be seen in the development and implementation of a system for the monitoring and evaluation of the quality of students' learning and the success of the job placement of university graduates (as was the case in OECD countries in the 1980s). Consequently, as noted in the document, national education policy is conducted without clear orientation points, which significantly complicates the making of necessary and effective political decisions in this sphere. The existing management system limits

the ability of education institutions to influence the teaching process and does not allow local authorities and representatives of the public to initiate the modernization of study programmes in order to better satisfy the needs of the labour market. This, together with limited autonomy and responsibility for the results of the teaching, leads to decreased incentives for improving the quality of education and, as a result, to the stable lack of qualified personnel in most countries of the region.

Among the reasons for the inadequate status of the university education system, the authors also cite the reduced quality of pre-university, secondary school education. The lack of qualified personnel is caused not only by the unsatisfactory quality of education services at this level, but also the insignificant progress in providing teaching staff the opportunity to attend advanced training. The authors have classified Ukraine as part of the group of countries, where the development of their own system of instruments for the evaluation of learning results has begun and where there is only a certain participation in international evaluations.



Experts recommend that for the elimination of the negative impact of the above mentioned factors, the countries of Eastern Europe and Central Asia should reorient their national education systems towards attaining qualitative results. To achieve this, it is necessary to ensure the more efficient monitoring of the study activities of students and learn their perspectives after they have gained their qualifications (what disciplines the students are learning, job placement and the salary level after the completion of studies). It is also suggested the positive experience of the transition from a centralized education management system to one, directed towards results, as was the case in such countries as Hungary, Italy, the Netherlands and Romania, etc. Experts stress that this transition should provide greater autonomy to educational institutions and the optimization of accountability mechanisms (for example, in the sphere of contracts and budgeting, it is necessary to rely on the study results, rather than on specific standards). If there is a greater quantity of data on the results of study and providing that educational institutions are given autonomy, as indicated in the research, realistic pre-conditions in countries will inevitably emerge for the better satisfaction of the needs of the labour market for a highly qualified workforce, trained by national educational institutions. The higher education system also requires more consummate mechanisms for controlling the quality of teaching and learning, including via the more active circulation of information regarding its results and the job placement of graduates (the monitoring of indices, compilation of university ratings) in order for potential students to make considered decisions, when selecting their future profession. In addition, the adult education system has to work efficiently.

Prepared by **D. Ilnytsky**, Candidate of Economic Sciences, Associate Professor, Institute of Higher Education, KNEU; based on the materials of the World Bank: Skills, Not Just Diplomas: Managing Education for Results in Eastern Europe and Central Asia (*http://go.worldbank.org/E3A4O3PD30*).

THE ROLE OF HIGHER EDUCATION IN ENSURING SUSTAINABLE DEVELOPMENT

The «RIO-20» United Nations Conference on Sustainable Development took place in Rio de Janeiro on 20—22 June 2012. 20 years after the «Earth Summit», world leaders met once more in Brazil to make important decisions in the sphere of sustainable development, including in the education system, which are decisive for the future of our planet.

To ensure the sustainable development of our planet, it is vitally important to become aware of the objectivity and importance of such transformation processes, that are currently occurring in the world. The participants of the «RIO+20» Conference appealed with the call to the world public to focus particular attention on the key role of education in the spreading of the idea of sustainable development. A fundamental base of modern education, as has been stated, should be the awareness and informing of people of the importance of global challenges, which the people of the world are now facing. The Education Internationale compiled by the participants of the worldwide forum stressed the necessity if changing the very paradigm of social order, the global expansion of which largely depends on the education system. In their turn, the goals of the development of the latter should reflect the priority of the qualitative improvement of national models of economic systems and their reorientation to the principles of sustainable development. Currently it is very urgent not only to rescue and protect the environment, but also to revive the spiritual values, which will promote productive interaction between people.

In an exclusive interview for the mass media, Elizabeth Thompson, the Executive Coordinator of the «RIO+20» Conference, noted that: «Education is transformative. We must build learning societies around the concept of sustainable development and get people to transition from the brown economy to the green economy. And to change their practices and attitudes — that can only happen through education, both formal and informal education».

According to the results of the Conference about 200 universities from 50 countries had signed up to the initiative of the implementation of the concept of sustainable development into the study process. «Teaching sustainable development in the university and business school system across all disciplines, so that every graduate understands what sustainable development means in terms of their area of enterprise and activity» — noted Elizabeth Thompson.

According to the results of a forum, university leaders agreed to sign a joint declaration and establish a special institution, which would promote the integration of the principles of sustainable development in education. The Declaration contains a range of key positions, which determine the readiness and willingness of universities to cooperate in the following areas:

1. *Expansion of knowledge on the concept of sustainable development.* Teaching the concept of sustainable development and ensuring that relevant material comprised part of the fundamental teaching program of all disciplines, allowing future university graduates to develop competencies, necessary for the revival of the workforce and human capital, responsible for sustainable development. Educational establishments also

declare their readiness to train professionals-practical workers in this sphere.

2. *Support of scientific research in the sphere of sustainable development.* Encouraging the research of sustainable development, for the purpose of attaining a better scientific understanding of issues by relevant circles and ensuring an efficient exchange of scientific knowledge on its basis, including their transformation into new and innovative technologies.

3. *The establishment of green campuses.* Ensuring the ecological status of university campuses by means of: improving the efficiency of the use of energy, water and material resources in buildings; providing students and the teaching staff with the academic mobility capacities, based on the principles of sustainable development; the approval of efficient programmes for the minimizing, recirculation and recycling of waste.

4. *Support of efforts for ensuring sustainability in communities.* The necessity to build a model for the cooperation of communities with the local authority is declared, which would establish efficient communities as regards the use of resources with the high level of social integration that are inherent in them and an insignificant «ecological footprint» (minimal ecological consequences from vital activity).

5. *Participation in international framework initiatives* for sustainable development and the sharing of their results.

It is expected that the obligations, which have been undertaken by the chancellors and deans of universities when signing the Declaration, will be executed by virtue of the development and successful implementation of a sustainable development strategy at higher education establishments.

Prepared by **M. Tyshchenko,** Candidate of Economic Sciences, Associate Professor, Institute of Higher Education, KNEU; based on the materials of the «From Rio to Rio: A 20-year Journey to Green the World's Economies» report (http://www.uncsd2012.org).

RESEARCH UNIVERSITIES AND THE FUTURE OF AMERICA: 10 BREAKTHROUGH ACTIONS VITAL TO OUR NATION'S PROSPERITY AND SECURITY

The «Research Universities and the Future of America: 10 Breakthrough Actions Vital to Our Nation's Prosperity and Security» report was published recently, the authors of which analyzed the state of research universities in the USA, forecasted the roles these entities will play over the next 10—20 years, and proposed necessary measures that have to be taken, in order to strengthen the role of research universities in the implementation of the strategic goals of the country's social and economic development.

The report indicates that innovation is a motivational force for economic growth, the creation of new types of economic activity and jobs, improving living standards in both the USA and throughout the world. The authors of the document focus their attention on the fact that the main sources of new knowledge and talented graduates, who can apply this knowledge in order to attain national goals, are research universities.

These institutions have significant support from the national government, work in partnership with American business and are respected in society due to the high quality of education and research. At the same time, the materials of the report indicate that now, research universities are facing many challenges: economic and demographic problems, global competition, and the constant appearance of new technologies.

The authors stress that even when other countries follow the experience of the USA in the establishment of research universities, the partiality of the American government to stable and productive partnerships with them has weakened somewhat in recent times. In 2009, expressing concern that the nation's universities are at risk, Senators A. Lamar, B. Mikulski and members of the House of Representatives, B. Gordon and

R. Hall, asked the National Academies to assess the competitive position of America's research universities, both public and private, and to respond to the following question:

«What are the top ten actions that Congress, the federal government, state governments, research universities and others can take to assure the ability of the American research and doctoral education needed to help the United States compete, prosper and achieve national goals for health, energy, the environment and security in the global community of the 21st century?»

In response, the National Research Council convened a committee of individuals who are leaders in academia industry, government and national laboratories. The resulting report states that US research universities can be better prepared for the implementation of national ideas, if these institutions become more productive and innovative, they will be guaranteed necessary resources and will work creatively in partnership with business. To strengthen such cooperation, the authors of the document recommend that federal and state governments, research universities, business and industry to take the following measures:

— Within the broader framework of US innovation and research and development strategies, the federal government should adopt stable and effective policies, practices and funding for university-performed research and development, and graduate education so that the nation will have a stream of new knowledge and educated people to power the future, helping the country to meet national goals and ensure prosperity and security.

— Provide greater autonomy for public research universities so that these institutions may leverage local and regional strengths to compete strategically and respond with agility to new opportunities. At the same time, restore state appropriations for higher education, including graduate education and research, to level that allow public research universities to operate at world class levels.

— Strengthen the business role in the research partnership, facilitating the transfer of knowledge, ideas and technology to society, and accelerate «time-to-innovation» in order to achieve national goals.

— Increase university cost-effectiveness and productivity in order to provide a greater return on investment for taxpayers, philanthropists, corporations, foundations and other research sponsors.

— Create a «Strategic Investment Program» that funds initiatives at research universities, critical to advancing education and research in areas of key national priorities.

— The federal government and other research sponsors should strive to cover the full costs of research projects and other activities they procure from research universities in a consistent and transparent manner.

— Reduce or eliminate regulations that increase administrative costs, impede productivity and deflect creative energy without substantially improving the research environment.

— Improve the capacity of graduate programmes to attract talented students by addressing issues such as attrition rates, time-to-degree, funding and alignment with both student career opportunities and national interests.

— Secure the full benefits of education for all Americans, including women and underrepresented minorities in science, mathematics, engineering and technology.

— Ensure that the United States will continue to benefit strongly from the participation of international students and scholars in research activities.

The authors of the report stress the necessity for the revival and strengthening of the unique partnership between the nation's research universities and the federal government, business and industry, which dates back to 1862, when the US Congress approved a special document — the Morill Land-Grant Act, which stimulated such cooperation. It also notes that although the recommendations require significant, increased productivity and investments on the part of each member of the research partnership, however their implementation can generate significant returns for a stronger future America.

Prepared by **O. Tsyrkun,** Senior Lecturer, Institute of Higher Education, KNEU; based on the materials of the «Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security» (*www.nap.edu*).

Higher education marketing: the United States experience

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Karen Fox is an internationally-recognized expert on marketing for educational institutions. She is the co-author, with Philip Kotler, of the leading guide in the field, Strategic Marketing for Educational Institutions (Prentice Hall, 1985 and 1995), which has been translated and published in Japan and Brazil. A third book on higher education marketing is in process. She has advised higher education institutions in Japan, Mexico, Russia, and Singapore, as well as in the United States.

Her marketing-related articles have appeared in Journal of Marketing, Journal of Marketing Research, Marketing Theory, European Business Review, Planning for Higher Education, Journal of Marketing Education, and others.

Fox received her PhD from Stanford University. Before joining the Santa Clara University faculty in 1980, she was a professor at Teachers College, Columbia University and at Northwestern University. Fox has worked extensively overseas as a consultant on health-related social marketing programs and marketing for nonprofit organizations. She is the co-author of the first book on social marketing in the Russian language. She is the recipient of four Fulbright grants, and taught at the Ecole Superieure de Commerce, Rouen, France; the Faculty of Management of St. Petersburg (Russia) State University; and the Plekhanov Russian Academy of Economics in Moscow.

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Annotation

The article examines the essence and evolution of the theory and practice of marketing in higher education in the USA. It offers grounds for the necessity of the application of a marketing approach for conducting the effective educational activity of universities. The latest theoretic and practical developments in the sphere of the marketing of higher education in the USA have been singled out and the successful experience of leading American university institutions regarding the improvement of their own image has been analyzed. Modern challenges facing American higher education have been analyzed, as have the means of reaction to them within the educational marketing system.

Key words: the marketing of higher education, sponsored marketing, introductory management, Internet marketing, image university.

While marketing for higher education has been adopted in many countries over the past decade, higher education marketing is not a new practice at all. For instance, promotion, one component of marketing, has been around for millennia. Two thousand years ago the Greek sophists strolled in the marketplace, displaying their eloquence and skills of argumentation to attract students to them. In the late 1860s Iowa Agricultural College and Model Farm, the precursor of what is now Iowa State University, had to send out recruiters to explain the value of formal education in farming techniques to rural young people. In 1869 Harvard College placed an ad on the back cover of *Harper's Magazine*, producing amazement because such promotion by a college had never been heard of before.

Higher education marketing is about more than attracting students: American colleges and universities have also sought financial resources,

and students' tuition payments have rarely covered institutional needs. Colonial American colleges, including Harvard College, were usually church-supported institutions to prepare young men for the ministry. The Morrill Act of 1862 provided grants of federal government land to the states to be sold to create state colleges. State and other public colleges and universities had to appeal to legislatures for funding. Building relationships with the wealthy yielded major donations which continue to bear fruit. The Cooper Union in New York City has never charged tuition because the revenue from Peter Cooper's donation of land continues to generate adequate funds. Named buildings on university campuses attest to the largesse of donors past and present.

The distinction between promotion and marketing is that marketing is the broader term that encompasses segmenting the market and making choices about which students and others to serve, and then developing a marketing mix of programs, delivery systems, locations, promotional activities, and prices—in time, effort, and money—that will attract and meet their needs.

Reactions to Higher Education Marketing

Public reactions to higher education marketing focus almost entirely on enrollment marketing, the application of marketing tools to attract and enroll students. These tools include promotion (advertising and other communications, events, and other activities), pricing (usually in the form of financial aid packages), and the offer of attractive programs at convenient locations or through alternative delivery channels.

Some critics argue that the value of higher education is obvious and that marketing should be unnecessary. Yet there are very good colleges and universities that would not attract the number and diversity of students they can serve without an investment in marketing activities. Other colleges and universities are criticized for being unselective, admitting anyone who can pay, and then pandering to under-prepared, lazy students to retain them and their tuition payments, providing no real value in return. Alternatively, some critics complain that enrollment marketing is too sophisticated, seducing the naïve, unwary prospect with expensive viewbooks and hype. Some higher education promotion has been criticized as excessive and intrusive, with some good students receiving thousands of college mailings.

But as higher education enrollment marketing efforts have intensified, prospective students and their parents have become more sophisticated consumers of education. Prospects have greater choice of institutions, and can gather information more easily, and compare college communications with the opinions of others on-line with a mouse click. Prospects are getting professional help to craft applications, applying to more institutions, weighing more offers, and negotiating more forcefully for financial aid.

In contrast to enrollment marketing, successful donor marketing is lauded and donors are rightly admired for contributing to education. Recently, however, donor marketing has come under some criticism when it is too successful. The value of endowment funds at the most prestigious universities has risen to levels that attracted Congressional hearings in 2008, with institutions being pressured to spend more of their endowment income for student scholarships and other educational uses.

Critics may believe that marketing is unnecessary, and that the right types and number of students will naturally find their way to one of the United States' over 4,000 institutions of higher education. Marketing is the process of creating mutually satisfying exchanges with selected groups and individuals. Direct mail, web sites, advertising, and other promotional tools are components of marketing, but they are not marketing itself.

The best and most successful higher education marketing begins with a deep understanding of the college itself, its history and unique character, and the mission that it has pursued. A marketing approach will direct the university's representatives to consider the resources they want to attract—students, faculty, staff, donations, positive image, and favorable public opinion—and to examine what they can offer that will attract these resources. Which students would want to attend our university—and why? What do we offer them? Which professors are the best match with our university and its academic program? Where do we find them and what can we offer to attract and retain them? The university asks the same question about other resources, human and financial.

New Developments in Higher Education Marketing

Enrollment management

During the 1970s leading admissions professionals considered how to go beyond typical student recruitment and financial aid practices. At Boston College, Jack Maguire and Frank Campanella examined time-tested recruiting activities and admissions policies. They conceived an approach that linked identification of the

best prospects, coordinated communications and other recruitment activities, and financial aid awards to yield not only the desired number of entering students, but also the best entering class for the university. This approach they named 'enrollment management', a term that has become the dominant concept for modern enrollment marketing. At Northwestern University, William Ihlanfeldt described the admissions challenge as attracting optimal enrollment numbers in various programs and levels (including undergraduate and graduate), and achieving optimal tuition revenues. Ihlanfeldt viewed this as a marketing challenge that involved institutional analysis, planning, and decision making, as well as the correct mix of marketing tools and tactics.

Data-driven marketing decision making

Student recruitment had been viewed primarily as public relations and outreach. Admissions staff visited high schools year after year, promoted the university to prospects, parents, and high school counselors, mailed out brochures and application forms, and then waiting for the applications to arrive in the mail and selecting the best applications for admission. Fortunate colleges had natural constituencies that traditionally favored them—with Catholic high school graduates going on to Catholic colleges, for example, and high school graduates going to state colleges and universities in their own states. Demographic and geographic shifts disrupted traditional patterns, and universities needed to look more widely for new students. Universities that had achieved or aspired to greater stature wanted to attract better students, and this meant larger prospect and applicant pools.

Affordable computing, the diffusion of social science research methods, and greater knowledge of marketing research techniques attracted the attention of admissions professionals. Universities traditionally tracked recruiting numbers—numbers of inquiries, applications, accepted, and enrolled—on a year-by-year basis. By the early 1980s some colleges and universities were carrying out surveys and focus groups of current students, prospects, admitted students, and those who enrolled, to better understand what they were seeking in a college education and how the college stacked up against competing institutions. Admissions publications were put to the test. Messages were pretested, and direct mail campaigns were tracked to measure their effectiveness in reaching the right prospects and getting their attention.

Higher education development professionals carried out in-depth prospect research, drawing on multiple databases to create profiles of current and prospective donors, including demographics, giving potential, and much more. Research on institutional reputation gained impetus from publication of university ratings in *US News and World Report* and other magazines.

New technologies

Technological advances have opened new paths to reach prospective students. In the early 1970s the College Board, developer and administrator of the Scholastic Aptitude and Achievement Tests, began a new service called Student Search. The premise was that universities wanted current, accurate contact information for young people applying to university, and that students would benefit from learning about universities that would be interested in them and which matched their interests. Student Search drew on the College Board's huge database of test takers and sold to colleges and universities the names and addresses of prospects matching the college's preferred characteristics. Student participation was voluntary, and colleges used the purchased contact information to send postcards, letters, catalogs, and other print materials to elicit interest and possible applications. By the late 1980s students could use software from the College Board to search a database of colleges and universities using their own criteria, including state, type of community, majors offered, student body size, and others. Some colleges began providing videotaped «tours» for high schools to make available to students.

By the mid-1990s the Internet had revolutionized how colleges provided information to prospects and how prospects interacted with colleges. Campus tours went on-line, and websites became central features of enrollment marketing. Over the next decade a prospective student could do an internet-based search for college information, and find not only official information from institutions, but also blogs and other comments by current students. Communications between prospective students and colleges took the form of emails and even instant messaging. By 2008 some universities, including Notre Dame and Stanford, required that all applications be filed on-line. Notre Dame calculates that eliminating paper-based applications saves $20,000 annually that can be better spent on constant updates to their website, which in turn encourage potential students to return to the Notre Dame site more often.

Tuition pricing and financial aid

Most higher education institutions have limited funds for financial aid, which should be applied to enable the right number of the best prospects

to attend. Sound pricing decisions are essential for the long-term survival and success of the college, since every scholarship grant is, in effect, a discount off the tuition price. Sophisticated quantitative models are now widely employed to set individualized financial aid packages for each student, to provide the right mix of grant aid, loans, and part-time campus work to meet the student's expenses. Applying these models has enabled colleges to allocate their limited aid money efficiently while attracting the best applicants.

Wealthy institutions with immense endowments, including Harvard and Stanford, have recently taken a bold approach to tuition discounting, reducing to zero the cost of attending for students with family incomes under a stated threshold.

Longer-term perspective on development opportunities

Longer life spans, the maturing of the Baby Boom generation, and the financial success of many of them have reinforced the importance of alumni connections. No longer do colleges rely solely on the fortuitous super-rich alumnus. Instead they aim to develop and deepen connections over the lifetime, starting with the youngest alumni, and continuing with alumni events, travel programs, and reunions. Magazines, newsletters, websites, and alumni databases strengthen the ties that encourage alumni to recommend the college to prospects, to volunteer, and to donate.

To encourage donors to include bequests in their wills, colleges and universities have begun to organize special events that recognize the generosity of these donors while showcasing the college's programs, faculty, and students. Stanford University started the Founding Grant Society for this purpose and hosts an annual spring luncheon that includes two talks by outstanding faculty, and a performance by one of the many student musical groups.

Image-enhancing efforts.

American higher education is a big, complex enterprise. Most students can pick only one institution to attend for each degree level, and sorting through the vast offerings is difficult. Educational institutions realize that they need to differentiate themselves from other potential competitions by being distinctive in a relevant and meaningful way. In marketing parlance, each college aims to *position* itself in the minds of those whose opinions matter—prospects, the media, and the general public. The most memorable positioning strategy requires a lot of self-examination to identify the root values of the institution that historically set it apart, to see if these values are still important and also relevant to today's students and donors.

Everything about a university communicates about its *image*—its buildings and landscaping, the on-campus atmosphere, student dress and behavior, the performance of athletic teams, and more. But the foundation for a solid and attractive image consists of the academic and other programs offered, and the faculty who offer them. Clever communications have never replaced sound performance of the core academic mission. Not only do institutions aim to present themselves through their communications, offerings, and faculty, but also through the success of their students and alumni—grants received, career success, community involvement as volunteers, and other evidence that graduates carry out the values of the institution. Santa Clara University aims to encourage «the three C's»— competence, conscience, and compassion.

The goal is to make the institution's name a well-known and highly-regarded *brand*, one that represents something of substance in the mind of the viewer, listener, prospect, or potential donor. Trying to convey a unified identity that benefits each constituent of the institution is a real challenge. Some departments want to develop their own image and do not want to participate in the larger university branding effort.

The Next Big Challenge

The United States has been a strong importer of students from abroad—over half a million international students were enrolled in U.S. higher education institutions in 2004. Now the competition for students and donations is global, with U.S. enrollments growing very slowly while the United Kingdom, Germany, France, Japan and Australian foreign-student enrollments have grown must faster. Australian universities are attracting English-language learners from Southeast Asia, and American undergraduates are looking to more affordable Canadian universities. Foreign universities are creating American-style campuses and programs to appeal to students who want to study closer to home. Monterrey Institute of Technology, founded in 1943, now has over thirty campuses in Mexico, and over two dozen business incubators, and offers state-of-the-art facilities and programs to learners in Mexico and Central America.

American institutions have been expanding overseas for quite some time, via study-abroad centers, satellite campuses, and joint programs. A recent innovation is Education City in Doha, Qatar, which has attracted programs provided by

five U.S. universities to Qatari and other students, with luxurious facilities and all costs paid by the multi-million-dollar contracts with the Qatari government. American MBA programs now offer degree programs around the world.

Conclusion: What Presidents Should Know about Higher Education Marketing

American college and university presidents are the *de facto* chief marketers for their institutions. Acquaintance with a marketing perspective can add another dimension to their decision making, and an appreciation for its fundamentals can be invaluable.

Books, articles, and workshops for presidents can provide the knowledge foundation. Most important, presidents should seek out and hire the best applied marketing talent, experts who also understand academic culture and are in tune with the values of the college.

Where are the higher education marketers of the future going to come from? Some of the best are alumni of the institutions, which gives them a sense of connection and insight into why other people would care. But alumni status and institutional knowledge are not enough. Often the best candidates have experience at other institutions along with formal backgrounds in modern marketing tools and concepts.

Having hired the best, presidents should listen to them and give credence to their insights and judgments. The experts—in enrollment marketing, donor marketing, and marketing communications—can educate others in the institution and help keep the «big picture» in view.

Student and donor satisfaction are created in all the points of contact with the institution, with staff, faculty, and other students. David Packard, the co-founder of Hewlett Packard, stated: «Marketing is too important to be left to the marketing department.» The best institutions understand that marketing will be most effective when it is augmented by the combined efforts of all the members of the university community, with full support of the university's president.

Adapted from the chapter «Higher Education Marketing» by Karen F. A. Fox that appeared in *Beyond 2020: Envisioning the Future of Universities in America*, Mary Landon Darden, editor, American Council on Education, 2009.

Kazakhstan Has Joined the Bologna Process: New Challenges for the Higher Education Policy

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Annotation

The article is dedicated to the key goals of current policies and the reform of higher education in Central Asia. The author attempts to explain the significance of reform in the sphere of higher education for the countries in the region as a whole and more specifically for Kazakhstan, which is striving to become a true member of the international education community. It offers an evaluation of government initiatives on Kazakhstan's course towards becoming part of the Bologna Process and analyzes the significance of its instruments and means to ensure the high quality of education services, provided to Kazakh universities.

Key words: Bologna Process, the reform of higher education, university infrastructure, the quality of education services, corruption in higher education.

Introduction

In March 2010 Kazakhstan joined Bologna process. The efforts of Kazakhstan go back to the beginning of this century and, thus, include almost ten years of preparation for this acceptance. Joining the Bologna process has been an important part of the higher education policy in Kazakhstan for a number of years, and both policy makers and the educational community perceive the recent acceptance as a considerable achievement which may mean that a country now has become tightly integrated with the international educational community. However, is it really so? This paper attempts to examine how the integration with the international educational community is understood locally, by university faculty, administrators, and students in Kazakhstan, and what the challenges, set by the Bologna process, are to the Kazakhstani higher education policy, after this country has joined Bologna. Some sections included in this paper have been reported by the author at Fifth International Research Forum «Ryskulov Readings» in Almaty, Kazakhstan[1]. However, this paper focuses mainly on challenges that Kazakhstan faces after it has joined the Bologna process.

While the policy agenda and conditions in higher education vary widely in Central Asian countries, the natural question is what common features they may have. The literature and interviews with many professors and university administrators allow to conclude that the common feature is the rhetoric (reflected in multiple policy documents, government programs, university strategic plans, analytical papers, etc.) that suggests that each of the five countries wants to become a part of the international educational community.

[1] Mouraviev, N. Policy Agenda for Higher Education in Central Asian Countries: Why Globalization? In the proceedings of the Fifth International Research Forum. Ryskulov Kazakhstan Economics University, Vol. 5. 2010. Almaty: 85-91.

This rhetoric became widespread in the beginning of the 21st century when government officials (and, later, the university community) started to include routinely the phrase about the intention to join the world educational community in the policy documents and university reports. The convincing illustration of this is the government Concept of the Development of Kazakhstan to 2030 in which the section devoted to education clearly describes the Kazakhstan's goal to join the international educational community in the timeframe used in this document[1].

The goal of joining the world educational community poses the following question: are Central Asian countries considered a part of the international educational community now? They probably were in this community - together with other republics of the former Soviet Union - until 1991 when the Soviet Union disintegrated. How did it happen that between 1991 and now the countries in Central Asia «lost their membership» in the international educational community? If countries intend to join it, does it mean that they previously have excluded themselves or were excluded from this community? If yes, in what way?

This also poses yet another set of questions. What is the international educational community, in the context of policy agenda of Central Asian countries[2, 3]? What countries are its members, and why, and what countries are not its members, and why? In other words, what are the criteria that would allow to include one country in the international educational community and to exclude another[4, 5]?

An Overview of Developments in the Higher Education Policy Agenda in Central Asia

The need for reforms in higher education has been discussed in Central Asian countries of the former Soviet Union for a long time, from the beginning of the 1990s. However in the 1990s there was little or no discussion about the influence of globalization processes on formation of new systems of higher education in those countries. In each of the five Central Asian countries democratization processes, development of the civil society and of the market economy took different paths, and higher education inevitably served the needs of a society and reflected the society's understanding of its current priorities. Though a detailed analysis of higher education policy in the 1990s is not included in the scope of this paper it would be useful to review what the main trends in higher education were. This would allow to find out how well Central Asian countries are prepared to meet globalization challenges that could be observed in the beginning of the 21st century.

Two countries in Central Asia — Kazakhstan and Kyrgyzstan - underwent rapid transition to a market economy, and the natural key elements of reforms in higher education were the massive formation of private higher education institutions (HEIs) and introduction of the variety of educational programs that were supposed to serve the needs of an emerging market economy. The general trend in higher education policy in these two countries in the 1990s was substantial liberalization of many aspects of higher educational sector that was previously tightly managed and fully owned by the government[6, 7].

Both Kazakhstan — especially due to its leading economic role in the region — and Kyrgyzstan are in the search for better solutions that would allow to advance their higher education systems and get them closer to international standards. While many reforms (such as changes in the curriculum, changes in the degree structure and the introduction of Bachelor and Master degree programs, privatization of many government-owned universities, etc.) have been accomplished in the 1990s, there is general consensus in these two countries that a lot more progress in many aspects of higher education is required. Unlike other countries in the region, Kazakhstan and Kyrgyzstan have items on their policy agenda that show their ambitions to develop higher education further and respond in a certain way to globalization challenges that come from the rest of the world.

In Tajikistan reforms in higher education clearly were pushed back or at least slowed down by the civil war in the 1990s. However in the beginning of this century Tajikistan appeared to

[1] Tuimebayev, Zh. (2007). Integration of Kazakhstan in the International Education, Report for the International Workshop on Implementation of Credit Hour System. Taraz, Kazakhstan, accessed on 11 July 2007, <http://www.edu.gov.kz>

[2] Anderson, K. and Heyneman, S. (2005). Education and Social Policy in Central Asia: The Next Stage of the Transition. *Journal of Social Policy and Administration*. Vol. 39, No 4: 361—380.

[3] Bassett, R. (2005). The High Profile of Trade in Higher Education Services. *International Higher Education*. Vol. 40: 5—6.

[4] Alderman, G. (2001). The Globalization of Higher Education: Some Observations Regarding the Free Market and the National Interest. *Higher Education in Europe*. Vol. 26, No. 1: 47—52.

[5] Altbach, P. (2001). «Higher Education and the WTO: Globalization Run Amok», *International Higher Education*, Vol. 23, pp. 2—4

[6] DeYoung, A. (2005). «Ownership of Education Reforms in the Kyrgyz Republic: Kto v Dome Hozyain?» *European Educational Research Journal*, Vol 1, pp. 36—49.

[7] Merrill, M. (2006). Internationalization of Higher Education in Kyrgyzstan: Three Potential Problems. *Central Eurasian Studies Review*, Vol 5, No. 2, pp. 34—40.

be open for reforms though no clear direction was or is set. This openness for reforms, based on the understanding that the country is substantially behind its neighbors in terms of improving higher education, presents a variety of opportunities for Tajikistan in terms of formation of higher education policy that would include adequate, well-justified responses to modern globalization challenges. The agenda for higher education policy remains open and the country is in a search for solutions and appropriate ways for improving its higher education.

In Uzbekistan from the beginning of the 1990s to now there have been little or no improvements in higher education. The latter largely remains how it was during the Soviet time. Though some new universities were formed and many changed their names there is still no law that allows the formation of private HEIs in Uzbekistan. Most of undergraduate programs are still of the Soviet style in terms of length (traditional five-year programs) and curriculum (which is largely fixed, with little or no electives, and with contents similar to what it was many years ago). It would be an overstatement to argue that there is some noticeable degree of openness to reforms in higher education in Uzbekistan. While this country has not yet accomplished some fundamental changes such as reforming the program degree structure, or updating the curriculum, or providing universities with any flexibility in program and course design, it is unlikely that Uzbekistan currently is prepared to meet international globalization challenges with some meaningful and adequate responses.

Yet another country in the region — Turkmenistan — remains largely closed to any kind of external influences. Little information that is available about higher education in Turkmenistan shows that during the 1990s higher education has been dismantled to a large extent and that the country needs substantial time and resources in order to build its higher education to the levels at least comparable to those in neighboring Central Asian countries.

A brief review of where five Central Asian countries are in terms of reforming their higher education and whether their policy agenda includes or may potentially include in the near future responses to external impulses from the rest of the world shows that it is two countries - Kazakhstan and Kyrgyzstan - that may have some realistic, not just pure theoretical, interest toward closer integration with globalization processes. The status of higher education reforms allows these two countries, as they argue themselves, to discuss globalization challenges and what needs to be done to meet them. The most powerful impulse, as these two countries see it, comes from the Bologna process in Europe.

It is important to note that both Kazakhstan and Kyrgyzstan see themselves this way — that to the large extent they are ready to include responses to the Bologna process in their policy agenda [12]. In the international community, including the European Union, there is much skepticism about preparedness of the two countries to join the Bologna process and much criticism of the overall quality of education in those countries.

Joining the International Educational Community: the Meaning

Except of Turkmenistan, countries in Central Asia have established systems of higher education, with a large number of higher education institutions (HEIs) relative to the size of population (for example, as of 2012, there are more than 120 private and public HEIs in Kazakhstan with its population of about 16 million people), with a certain program degree structure (Bachelor and Master degrees, five-year undergraduate degree of a specialist, and the advanced degrees of a Candidate of Sciences and Doctor of Sciences which are now being replaced by PhD programs), sizable workforce in higher education, a set of government laws and regulations (such as requirements and procedures for obtaining a license to grant a degree), and a certain governmental management structure for the entire sector of higher education. In all of the five Central Asian countries governments play a leading role in higher education and, as a result, the governmental management structure and the scope of government regulation of various aspects of higher education appear to be quite extensive.

With all this in mind, what do they mean in Central Asia when they speak about the need to join the international educational community? Apparently, the sole existence of educational infrastructure complemented with the established degree structure, work force, and government regulations appears to be insufficient to claim that a Central Asian country is a legitimate member of the international educational community, much like the United States, or Australia, or France. What is lacking is the quality attached to higher education in Central Asia.

Concerns about the sharp decline in quality of higher education that happened after the disruption of the Soviet Union have been commonly repeated all across Central Asia for many years in a row. The widespread opinion argues that quality of university graduates dropped substantially compared to time of the Soviet Union,

and knowledge and skills of graduates usually are deemed substandard. One clear indication of low quality of higher education is high unemployment among university graduates. In contrast, a resident of Central Asia, who gets an undergraduate degree from a Western university in almost any field, typically does not have any difficulty finding a well-paying job upon his/her return to Central Asia and his/her career advances a lot easier and faster.

The sharp decline in quality of education is also associated with many other things such as bribery, when a student pays a professor for a grade. Since the disruption of the Soviet Union bribery became widespread in HEIs in Central Asia. If the key component of education — acquisition of knowledge and skills — is undermined, is it still possible to call a corrupted university system with widespread bribery a legitimate part of international educational community?

Yet another aspect associated with poor quality of higher education is that academic degrees granted in Central Asia are not recognized in the Western Hemisphere. Government officials as well as university professors and administrators usually focus on the legacy of the Soviet Union in terms of the outdated academic degree structure including the degree titles that do not easily find their equivalents in the West. Occasionally the discussion raises the questions whether a structure of an educational program offered by a Central Asian HEI is comparable to a structure of a similar program in a Western university. However, almost never the discussion reaches more advanced levels that require the comparison of the contents of what exactly being taught in universities of different countries and, most importantly, the quality of teaching and learning.

It can be summarized that there is a consensus in Central Asian countries that their academic degrees are not (easily) recognized by the Western universities and employers as degrees carrying knowledge and skills comparable to degrees of university graduates in the U.S., Canada, Australia, or Western Europe. So, the two interconnected factors — overall poor quality of higher education and lack of recognition of academic degrees granted in Central Asia — allow to conclude that Central Asian countries do not see themselves as a part of the international educational community. It is likely that the same applies to many other transitional countries that currently are building their higher educational systems. This is why joining the Bologna process was one of the priorities of the higher education policy in Kazakhstan.

However, the understanding of why exactly this is important appears to be simplistic. In the educational community there is a widespread belief that, after Kazakhstan has joined Bologna, there should be some kind of automatic recognition of academic degrees granted by Kazakhstani universities. This opinion was obtained and confirmed in multiple interviews, both formal and informal, with faculty, university administrators at various levels, and students. Many expressed a view that from now on it may be easier for graduates of Kazakhstani universities to get accepted for further studies, for example, in a Master program in a European HEI. Also, many persons expressed an opinion that from now on it may be easier to get a job in Europe because a Kazakhstani academic degree is going to be recognized.

Kazakhstan is Part of the Bologna Process: What's Next?

There is substantial evidence available that most people in the educational community believe that for Kazakhstan getting accepted in the Bologna process means that the ultimate goal has been achieved. They fail to understand that joining the Bologna process is just a beginning of a lengthy and, likely, difficult process of extensive changes in universities in order to comply with the requirements and processes of Bologna. These changes include first of all the use of a credit as a measure of student load, and a certain number of credits have to be assigned by a university to each course that it offers. This may lead to the need to revise curriculum which may not be an easy task, given that curriculum is largely formed by government educational standards. In turn, government standards may need to be revised and updated which by itself is a difficult and lengthy process.

In order to highlight some tasks set by Bologna, the following example can be used. A Bachelor degree in the framework of the Bologna process normally includes three years of studies while currently in Kazakhstan a Bachelor degree requires four years of studies[1]. This presents a new challenge for the higher education policy, specifically, of how to revise or reconcile existing educational programs in Kazakhstan with the guidelines set by Bologna.

In addition, the Bologna process requires that a semester should have a standard length, and changing the number of weeks in a semester for Kazakhstani HEIs may not be a quick and easy task given the educational traditions that this country has.

[1] Bologna Secretariat (2004). «*Requirements and Procedures for Joining the Bologna Process*» (no. BFUG B3 7 fin), Bergen.

However, assignment of credits to courses offered by universities and introduction of other related tools and processes are not going to guarantee the final result (i.e. an expectation that Kazakhstani degrees will be recognized in Europe). There is no doubt that the key to degree recognition is in the high quality of education which is often lacking at local HEIs [1, 2, 3, 4].

Among immediate concerns for the public policy of higher education there are two each of which requires extensive government involvement. One is that Kazakhstani universities for a number of years worked on the implementation of the U.S. model of credit hour system. This work has not been fully completed, and much has yet to be done at the government level (i.e. by the Ministry of Education and Science), as well as by HEIs. It is worth noting that in the U.S. model a credit hour is broadly used as a measure of student load (and contact time) as well as faculty load. However a credit hour in the U.S. model has a different meaning compared to a credit used in the Bologna process. In the latter, a credit refers to number of student working hours per week. For example, a six-credit course means that a student is expected to spend six hours a week studying including time in the classroom and outside the classroom (i.e. library, computer lab, home, etc.). The use of both terms (U.S. credit hour and European credit) may create massive confusion in the university community and may lead to misunderstanding of what each system is about. Essentially, a legitimate question in the university community (and beyond it) is likely to be as follows: which system are we going to implement: one, or the other, or both? The challenge for the public policy in this regard is to clarify the difference, and to set the direction for further reforms. Additionally, it would be useful if the government provides extensive guidance for the implementation and explanations how to reconcile the U.S. and European models.

The second challenge for the public policy is to decide whether it is useful and practical to start massive implementation of the tools and processes of the Bologna process by Kazakhstani HEIs without (or before) addressing the issue of quality of higher education. While quality can be improved in the long run, in the short run only marginal improvements can be expected. However marginal improvements in quality are unlikely to assure recognition of academic degrees granted in Kazakhstan by the European universities. This may backfire the government: why was it necessary to join the Bologna process if, for example, a receiving university in Europe is not willing to recognize a Kazakhstani degree based on the concerns regarding quality of education? The privilege to recognize and accept a certain degree granted by a HEI in any country belongs to a receiving university, and tools and processes of the Bologna process are supposed to make this recognition easier, however not automatic.

Conclusion

The conclusion is that policy makers need to revisit the understanding of what joining the Bologna process means for Kazakhstan and for the public higher education policy. While joining the Bologna process may be a positive event, it is just the beginning of the lengthy road toward quality improvement and degree recognition. Moreover, after joining the Bologna process, the country is facing new challenges regarding further direction of reforms and these challenges need to be adequately addressed by the Kazakhstani higher education policy.

[1] Douglass, J. (2005). How All Globalization is Local: Countervailing Forces and their Influence on Higher Education Markets. Higher Education Policy. Vol. 18: 445–473.

[2] Heyneman, S. and DeYoung A. (2004). *The Challenges of Education in Central Asia.* Information Age Publishing.

[3] Mouraviev, N. Policy Agenda for Higher Education in Central Asian Countries: Why Globalization? In the proceedings of the Fifth International Research Forum. Ryskulov Kazakhstan Economics University, Vol. 5. 2010. Almaty: 85–91.

[4] Tuimebayev, Zh. (2007). Integration of Kazakhstan in the International Education, Report for the International Workshop on Implementation of Credit Hour System. Taraz, Kazakhstan, accessed on 11 July 2007, <http:// www. edu. gov.kz>

THE COOPERATION OF BUSINESS AND UNIVERSITIES: the experience of «Ernst & Young»

IELYZAVETA MAKSYMETS
Human Resource Specialist and Head of Educational projects for Students at Ernst & Young

Today's corporate standards dictate that farsighted employers begin to select and develop new employees while the latter are still students. To this end, Ernst & Young works closely with higher education institutions, supporting education programmes in finance, economics, taxation and IT. Ernst & Young gives special grants to universities, presents lectures, holds competitions, offers vocational training and more. Ernst & Young was one of the first companies on the Ukrainian market to hire young specialists even before they graduate. The goal is to give students professional experience and teach them how to apply their classroom knowledge in a professional environment.

Svitlana Strelnyk, a representative of KNEU Institute of Higher Education, met with Ielyzaveta Maksymets, Human Resource Specialist and Head of Educational projects for Students at Ernst & Young. They talked about the strategic guidelines for cooperation between businesses and universities. We are presenting the full text of the interview for your attention.

Ms. Maksymets, Ernst & Young accounts for a large share of the audit and consulting services market in Ukraine. What competitive strategy does the company use?

Ernst & Young is indeed a recognized leader on the audit and consulting services market in Ukraine. At present we have almost 500 employees, who provide the highest quality services to clients. It's no coincidence that the company's motto is «Quality In Everything We Do.» People are our most valuable asset. Ernst & Young's management made the decision to implement a leadership strategy in all areas, since it understands very well that it's much more difficult to maintain a leadership position than to reach it in the first place. To interest and engage the best employees, management offers high salaries and transparent opportunities for career and professional growth.

It's well known that Ernst & Young leads in implementing education programmes for students. What sort of cooperation with universities do you practice?

Our approach to hiring students and graduates for starting positions at the company was initiated in the 1930s by one of the company's founders — Arthur Young. We hire about 100 students and graduates a year in Ukraine. The Ernst & Young Human Resources Department actively cooperates with the student job centers at universities. It's nice that students themselves express interest in us and serve as volunteers for us, helping organize student projects.

Could you please tell us about the youth institutions you cooperate with and the education projects you participate in?

Ernst & Young has cooperated with the AIESEC youth organization for many years and actively participates in students events directed at engaging students in extra-academic activity. Our employees often act as mentors or judges in various national competitions in which students participate — SIFE, the CFA Challenge, Real Start, GMC Junior and others. Participating in these projects, young people gain knowledge and skills that help them to develop leadership and organizational qualities. Taking part in such projects will give students lacking practical experience a significant competitive advantage over other candidates whose achievements are solely academic.

Today, higher education institutions are trying to give students a unique set of professional skills. However, employers still complain about the shortage of young job candidates with practical experience, analytical capabilities and problem-solving skills. What skills does your company value the most among graduates of economic universities?

Universities today are actively working with employers and various youth and educational institutions, which, of course, is important for students. After all, a university can help to develop certain competences (such as knowledge of foreign languages and the ability to work with various software products), but communication skills, an understanding of business, leadership and the ability to manage a project and work as part of a team can only be acquired by participating in public initiatives. That's why we encourage students to use their free time as productively as possible, by participating in the competitions and education programmes that companies and youth organizations offer.

Does Ernst & Young engage students from higher education institutions in its initiatives? Which programmes are the most important for undergraduates, and in which would it be expedient to participate after graduation?

Since our task is to find the best students at higher education institutions, we not only engage students via job tests and interviews, but also encourage them to participate in special projects on a voluntary basis. Thus, for the third consecutive year now, Ernst & Young is implementing its «Step into the Future» programme for students of Kyiv National Economics University named after Vadym Hetman. The project consists of a range of interesting and useful educational initiatives. More specifically, our «Ernst & Young University» provides classes on auditing, taxes, transactions and IT audits, as well as on corporate social responsibility. The classes are conducted by company specialists. At «Coffee with a Partner» meetings, students speak with top managers about career prospects, life at the company and the secrets of success. Within the project students can also participate in open-door days and apply for jobs at the company. This year we've launched another new project — «The Young Generation of Financial Executives» — within the framework of KNEU's masters programmes. This comprehensive programme allows 50 selected students to attend a course of lectures on auditing, tax and financial management and to participate in the resolution of a profile business case. The top ten participants will receive internships with Ernst & Young's Audit Department as part of their master's work.

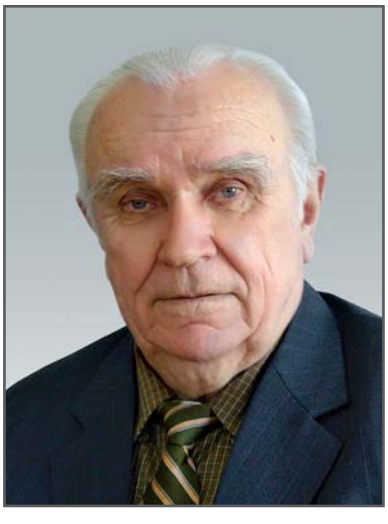
Internationally-recognized certificates of the sort that authoritative institutions and international organizations confer make their holders more competitive. Which such certificates does your company give out? Are such certificates taken into account when candidates apply for jobs at Ernst & Young?

During vocational training at the company, each employee has to attend a range of training courses and take exams in order to obtain professional certification. The company ensures that its employees have the chance to attain ACCA, CFA, CPA, CIA, CISA and other certificates. We have access to an on-line database with over 5,000 different personnel training courses that employees can undergo during their free time. Of course, a certificate is a certain indicator of a person's level of training, but what's more important is for a person to put his or her academic knowledge into practice at Ernst & Young.

Ielyzaveta, on behalf of Kyiv National Economics University named after Vadym Hetman, thank you for this interesting interview. We hope to talk to you again in the future!

The interview was conducted by Svitlana Strelnyk, Candidate of Economic Sciences, Institute of Higher Education, KNEU.

A SCIENTIFIC AND PEDAGOGICAL SCHOOL AS A BASIS OF THE INTELLECTUAL POTENTIAL OF A UNIVERSITY



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Annotation

This article highlights the methodological and adaptive aspects for the interpretation of the essence of a scientific and pedagogical school as the main criteria for the evaluation of the intellectual potential and public recognition of today's universities. It determines the key signs and mandatory attributes of scientific and pedagogical schools, the position of a university department in it and their specific features for economic university institutions. The article examines the continuum of university scientific-pedagogical schools, models for their innovative oriented activity and organizational support mechanisms.

Key words: scientific and pedagogical school, continuum of university scientific-pedagogical schools, organizational support of scientific-pedagogical schools, university department.

Modern university practice in Ukraine requires the transition to an innovative model of development, the determining credo of which is the intensification of the influence of universities on the level of cultural and scientific-technical advancement of society, the expansion of skills among the young for the purpose of harmonizing a person's interests and intensifying his/her participation in the development of the national economy in line with the demands of the 21st century.

A significant impact on this should be universities joining the *Magna Charta Universitatum,* which determines the main principles for the functioning of higher education under the influence of the Bologna Process.

This means, that the time has come to clarify the readiness to work under new standards and principles, which requires, first of all, an in-depth understanding of current needs regarding the modernization of education; secondly, a detailed analysis of the completed stage from the position of the gradual development of the scientific, as well as the learning and teaching process; thirdly, the readiness of scientific and pedagogical staff to embrace innovations. In connection with this, it is worthwhile to place particular emphasis on the fact that during 105 years of its existence, our university has achieved and done quite a lot for the requirements of the Charter to become an everyday plan.

One of the objective criteria of an evaluation of such readiness on the part of the university should be the scientific-pedagogical school, which personifies the unity of the scientific and educational process as an indispensible basis of modern university education. It is a scientific-pedagogical school that is capable of resolving two fundamental tasks: first — to give students comprehensive, scientifically enriched knowledge and second — form an adequate system for evaluation of this knowledge. This should become the principle for the operation of each university department.

The scientific and pedagogical activities of our university convincingly attest to the fact that most of the departments, from their establishment until the

present day, are and continue to be centres with a high and powerful potential in the area of conducting scientific research and the training of scientific and pedagogical personnel and specialists of a general profile for the needs of the national economy.

At the same time, as fairly pointed out by the Rector of KNEU and Member of the Academy of Pedagogical Sciences of Ukraine, A.F. Pavlenko, in his address to readers in the first issue of the new journal «University Education» «today, we are living in a world, which is becoming more closely correlated than ever before, and the escalation of both international competition and expanded cooperation make knowledge and competence strategically important resources for the global leadership of international organizations»[1]. This is why each department and each faculty must be guided by the objective need to generate new knowledge as a sort of intellectual resource, which can ensure not only relevant competitive advantages, but also the subsequent development of the understanding of the necessity of learning throughout life, which in its turn should be considered as a significant propeller of qualitative economic growth.

Of course, one has to agree that a decisive and integral feature of such perceptive advancement can be a scientific-pedagogical school, which has acquired certain historic roots and due recognition by the public. The truth is irrefutable: a university can be considered to be a national one, if it has strong scientific-pedagogical schools, which in fact ensure its public (domestic and foreign) recognition as a higher education institution, and confirm the authority and position of our country in the world.

Official recognition of the scientific-pedagogical schools of any university will become significant and objective evidence of its viability and place in the Ukrainian higher education system.

It is necessary to have official support in the area of the determination of such a category as a university's scientific-pedagogical school, at least on the level of the Ministry of Education and Science of Ukraine. This is particularly so because the very name of the ministry attests to the organic symbiosis of science and education at a higher education institution.

In contrast to established notions of «a scientific school» and a «pedagogical school», a scientific-pedagogical school can be characterized as the intellectual potential of a department which, with its developments in scientific activity and achievements in teaching and pedagogical activity, has attained the recognition of the public and remains a leader for all other educational institutions in one sphere of knowledge or another. A scientific-pedagogical school is a mandatory component of the evaluation of universities as a whole.

A scientific-pedagogical school should be viewed, first and foremost, from the position of the formation of scientific and pedagogical personnel. However, it should be noted at this stage, that this process has its own specific features and differences, in comparison to the recreation of scientific personnel in scientific and research institutions, which generally have a narrow (single) specialization and where the training of scientific personnel is conducted exclusively in the area of the scientific research of certain issues, directions and paradigms of a scientific nature. The formation of a teaching staff is based on the fact that during postgraduate and doctoral studies, there is an organic joining of scientific and pedagogical activity. More specifically, faculty postgraduates undergo teaching practice, performing the relevant mandatory load in either the teaching of disciplines, or in conducting seminars or practical work. Students enroll in doctoral study departments (associate professors, as a rule), who already have specific acquired and successfully developed experience of scientific and pedagogical work.

For this, it is important to stress that in the practice of higher education institutions, there are quite a few instances of a person with a very high level of essentially scientific qualification, being unable to adapt to the specifics of the learning and teaching process. This is what can explain such everyday interpretation as «not everyone can be a teacher». In order to comply with his/her vocational appointment, a lecturer at a higher education institution must:

1. Be a highly erudite person in the area of one skill or another.

2. Constantly work on scientific research and implementing results in the teaching process.

3. Continuously improve his/her teaching skills, in other words, the ability to draw the attention of the student auditorium by means of using modern teaching methods and all-round erudition in a specific discipline.

4. Have excellent mastery of the methodology for the teaching and evaluation of students' knowledge by means of the intensification and individualization of classes.

5. Be guided by the main principle of the learning and teaching process, based on which. the student should be evaluated as an equal partner, who has enrolled at the education institution to gain knowledge, necessary to him/her for his/her successful job placement on the labour market, where a relevant competition reigns.

If one is guided by these principled requirements, it is possible to unambiguously confirm that compliance with them is the fundamental formation of a scientific-pedagogical school at a department.

[1] *A.F. Pavlenko*. Introduction of the Rector of Vadym Hetman Kyiv National Economics University // University Education. — 2011. — No. 1. — P. 1.

Understandably, time is necessary to achieve such a status, which could take years. In any case, regarding the specific features of our university, the formation of scientific-pedagogical schools at departments, has different age-specific roots: some of them originated in pre-revolution times (prior to 1917); others were formed during pre-war times (prior to 1941—1945); still others developed during the post-war period. It is also worth noting that during the years of Ukrainian independence, relatively new scientific-pedagogical schools have emerged and developed significantly.

Regardless of the age of the scientific-pedagogical school, a mandatory attribute, which is determinant by its features, is the founder, and his/her followers — continuers. Figuratively speaking, a true scientific-pedagogical school, recognized in the scientific and pedagogical environment must be built on the basis of a «father—son—grandson» scheme. Such a principled approach offers the possibility to objectively evaluate the scientific and pedagogical activity of departments and, most importantly, determine the vector of their activity from the position of responsibility of both modern needs, and the needs for the training of highly qualified specialists of a certain vocational orientation. Due to such an algorithm, a scientific-pedagogical school gains the features of continuity and consistency in its development. And this, in turn, complies with the requirements of the Bologna Process, which recognizes the objective requirement to join scientific-research and learning-teaching works together at education institutions as the basis for the progressive development of world universities.

It is the Bologna Process that is the objective requirement, which determines the need to join together research and teaching activity as an indispensable base of university education, since it is accepted to recognize universities as centres of cultural, scientific and technical development, where culture, knowledge and research concentrates. In contrast to the scientific schools of scientific-research entities, scientific-pedagogical schools at higher education institutions bear a double obligation. On the one hand, the teaching staff has to comply with its designation and the challenge of the progressive development of science (in any sphere of knowledge) and is obligated to conduct scientific research of a fundamental and applied nature. Of course, as a result of scientific activity, to a certain extent, the conclusions, proposals and generalizations are used in the learning and teaching process during the teaching of certain disciplines. Actually, this is how the education process is updated and provided with scientific depth. Secondly, in order to teach disciplines on the level of the requirements of the 21st century, academic staff are called upon to extend their pedagogical skills and satisfy the growing needs of the students' auditorium, be consistently concerned about introducing new technologies into the learning and teaching process, the overall modernization of education, build learning and teaching on the basis of active teaching methods, the individualization of tasks and the computerization of the process for the formation of practical skills. This requires considerable efforts, mental and intellectual energy, as well as constant orientation towards the modern world achievements of universities. In addition to this, a professor or associate professor, who teaches disciplines, cannot be trapped within just the limits of his teaching programme. To a certain extent, he/she must be an encyclopaedist.

Teaching any university discipline today in merely such a way, as required by the programme, is impossible. It is vitally necessary to combine your discipline with others, find connections between them and create a certain structural-logical dependence, interconnection or adaptability. In other words, a modern University lecture should be of an investigative, research and problem, rather than a cognitive nature. This is particularly important for those departments, where teaching has full methodical support, in other words, includes textbooks and manuals for independent study, practical work and software. In no way can a scientific-pedagogical school be viewed as the mechanical combination of the scientific and pedagogical activity of a teacher. It's true, at first, essentially formal glance, this is how it looks. If one is only guided by this principle, in practice, it would be possible to conclude that each department of a university is a scientific-pedagogical school.

In reality this has to be looked at differently. More specifically, it is necessary to differentiate the provisions of such fundamental weight:

1. Without doubt, a scientific-pedagogical school should have certain achievements and results in the area of scientific, as well as learning and teaching work. This is a starting point, of sorts.

2. A scientific-pedagogical school is initiated, given birth to and operates under one important condition: scientific research must be directed not only towards the area of the innovative development of science, society and the economy, but also the innovation of the learning and teaching process. Clearly, it would be fair to stress the interdependent notion that the scientific activity of the teaching staff at a higher education institution must be directed towards improving teaching work and the deepening of students' knowledge.

3. A department's scientific-pedagogical school can be considered one, which in the sphere of scientific and pedagogical activity, has developed (or in an extreme case, improved) certain

methodologies of both scientific search and the teaching of disciplines of a learning and teaching curriculum. The point is that to the extent of the development of the national economy, improving and accelerating economic and social connections under the influence of the action of market mechanisms, the need to expand both fundamental and applied research becomes a priority. Clearly, this question requires an in-depth scientific approach, broad strategic thinking and the understanding that without scientific substantiation of advancing development, it will simply be impossible. This is why relevant methodologies, new approaches and the measure for evaluating social and economic processes must be implemented. These elements of the responsible nature of innovations have to gain an adaptive nature and during the course of teaching a discipline, so that a student can prepare himself/herself for efficient activity in practice.

4. Only strong scientific-pedagogical schools, which have developed and tested teaching and research methodologies are capable of training competitive specialists, who are able to forecast technical, public, economic and social processes, analyze complex situations in society and develop efficient proposals.

5. The unity and interdependence of the scientific and pedagogical process must be determinant in the status of scientific-pedagogical schools. At that, the department decides for itself which of its representatives is given preference in scientific or teaching activity. One of the only criteria for the evaluation of the activities of a department must be the unity of these two components.

For economic universities, particularly ours, the status of research and pedagogical schools is somewhat specific. This is explained by the fact that in the economic science process, the recognition of social and economic phenomena is movable, which is determined by the very nature and dynamic character of economic development. And this requires the constant expansion of both knowledge and scientific research, the formation of new paradigms and concepts, as well as comprehensive learning in the world achievements of economic science and practice.

As a rule, modern scientific-pedagogical schools guarantee the full learning, teaching and methodological support of one discipline or another. This means the following:

— modern textbooks and manuals for independent learning must be prepared for these disciplines;

— classes should be of a non-traditional (general-cognitive) nature, and become investigation, problem and discussion-based;

— during lessons and when students execute independent work, an individualization method, the resolution of situational tasks and the use of modern research methods should be extensively applied;

— since they are mandatory elements, course work and degree theses must contain specific reasoned recommendations or conclusions;

— the entire learning and teaching process should be built on the principle of the self-fulfillment of the student in the area of disciplines, which form his/her professional training.

It is worth emphasizing one more detail of the activity of scientific-pedagogical schools. The point is that the innovative process in learning and teaching becomes a joint task for both the teacher and the student. For this purpose, the basis for these specializations can be conducting such mandatory discipline as «Fundamental Principles of Scientific Research», which is capable of giving the learning and teaching process an investigative and research nature, which can later be embodied in course work and degree theses, as well as the participation of students in scientific conferences, symposiums and discussions.

On the basis of such preliminary considerations, it is possible to determine the mandatory attributes, which should characterize a specific scientific-pedagogical school, namely:

— the name of the scientific-pedagogical school;

— an objective description of the school's founder;

— scientific and pedagogical doctrine (problem), initiated by the scientific-pedagogical school, and its advancing development;

— the creation of a fundamental theoretic-methodological and methodical base on the problems of the scientific-pedagogical school at the department;

— a list of monographs, memorandums, scientific reports and textbooks, which reflect the direction of the scientific-pedagogical school;

— the composition and defense of candidate and doctoral theses;

— the development of recommendations for production as well as learning and teaching programmes;

— appearances at scientific and practical conferences (domestic and foreign);

— participation in the drafting of acts of state and legislative documents;

— relations with foreign educational and scientific institutions;

— prizes and distinctions of the department.

A scientific-pedagogical school should be viewed as a productive influence. The point is not only about how well-known it has become in the scientific and pedagogical space, but rather about the extent to which its activity has become oriented towards the continuous improvement of knowledge, qualification level and learning. In other words, whether such

a school was able to create an atmosphere of continuum. This applies equally to both the teaching staff and the students. This can be achieved under one condition — the innovative moving forward of the university school. It cannot exist without innovation in science and pedagogical activity.

Based on the above, it can be seen that the need for innovation is an objective condition for improving the entire system for the training of specialists. Innovations are equally necessary in the teaching of disciplines and in the learning and teaching of students. Otherwise, it is impossible to ensure the training of highly qualified specialists in accordance with current requirements. And since development is a dynamic process, the need for advanced training must be laid down during the course of the learning and teaching itself. Moreover, the life cycle of knowledge, particularly in the field of economic science, is quite movable, which is why the teaching staff must also continuously strive to improve their skills or the level of scientific quality and objectivity of the techniques for passing them on to students, in order to ensure continuum. The following conclusion emerges: all the activities of a university's scientific-pedagogical schools must be built on a constantly repeating cycle, beginning and ending with its innovations.

Thus, innovations in scientific and teaching activity should be considered an integral and determinant characteristic of scientific-pedagogical schools. A department can have a highly qualified teaching staff, but when clear stagnation was noted in scientific and pedagogical work and there was a lack of improvement and signs of continuum, such a department cannot be viewed as a base for the formation of a scientific-pedagogical school.

The existence of scientific-pedagogical schools at a university is not yet proof of their vitality and viability. It is necessary to clearly understand this important detail: the advancing development of scientific research and teaching methods can only be ensured if the eternal «teacher — student» tandem is interested in it. In other words, for a scientific-pedagogical school to exist, it is necessary to have the relevant motivational approach, which also has to be subject to continuum requirements.

It is here that a whole motivational system, which has to determine the expedience of the training of specialists on the one part and the essence of national education policy on the other, is formed. In other words, the motivational factor of the functioning of scientific-pedagogical schools must be equally laid out and formed by both the state and each university. But this now depends on the requirements of the national economy for specialists and the readiness of the education environment to meet these requirements. All of this brings to mind the thought that scientific-pedagogical schools can be formed and can function in a society that is interested in this, in other words, one which creates conditions for the development of university education by innovative means. If the above-mentioned considerations are generalized as a whole, the overall scheme for the organizational support of scientific-pedagogical schools under current conditions can be determined as follows (Figure 1).

This figure indicates the sequence and legacy principle of scientific-pedagogical schools, which provides for innovation and motivation as mandatory elements. Obviously, the task of a scientific-pedagogical school, just like that of university education as a whole, lies in the fact that it is necessary to provide students with such a level of knowledge, in other words, to form its professional potential, which in time, will transform into human (intellectual) capital, capable of providing a relevant income.

Of course, this can be attained on condition that the student masters the deep theoretic knowledge and practical skills, which will give him/her a competitive advantage on the labour market. This is why a clearly functioning motivation system for both learning and teaching must be determined. On these grounds, it is possible to confirm that such a result should be the burden of each scientific-pedagogical school.

These considerations allow us to come to the following conclusions:

1. A scientific-pedagogical school should be interpreted not only as a simple combination of education and science, while the potential of the department or higher education institution, which in the area of scientific research and education activity gained public recognition, remains a leader for all other education institutions in a certain sphere of knowledge, capable of forming highly qualified specialists on the level of current requirements.

2. The main indications of a scientific-pedagogical school are:

— a voluntarily formed team, which joins together scientific-pedagogic employees of different generations and with different scientific qualifications, whose activities are directed towards the improvement of the methods and practices of scientific research, their extensive application in the learning and teaching process and the implementation of innovations;

— creative cooperation in the area of the scientific research of actual theoretic and practical issues in the scientific sphere and their adaptation to the teaching of academic disciplines on the basis of developed methods;

— the availability of a scientific-pedagogic leader — the founder of the school, who in his/her time, brought forward original scientific ideas and pedagogical approaches for teaching disciplines in the department (or original doctrines for their

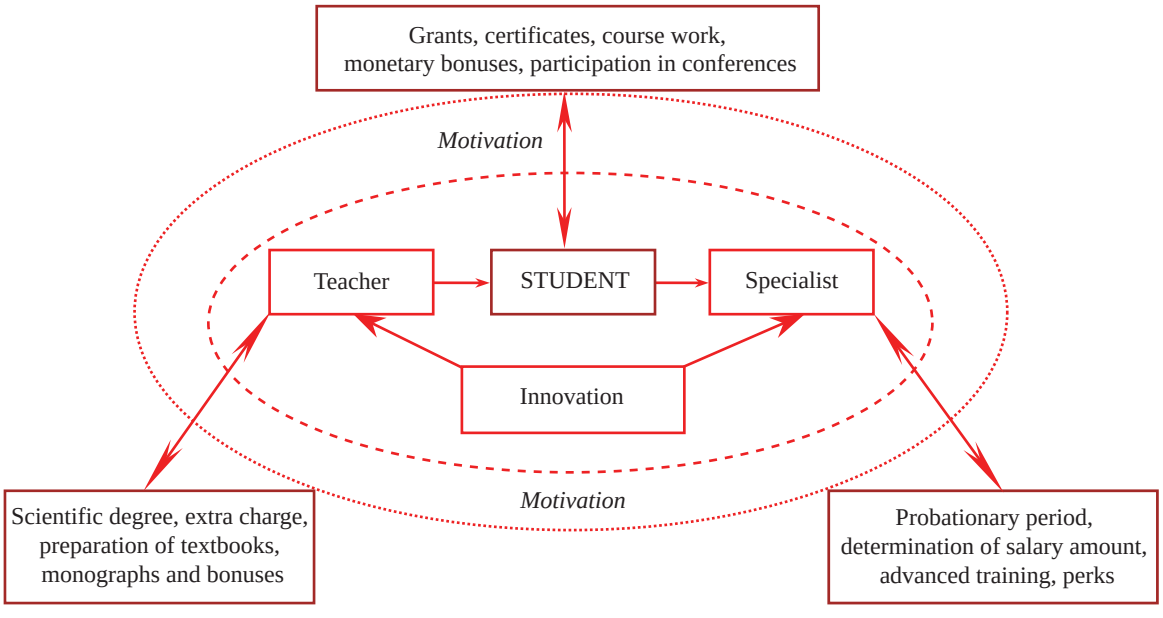

Figure 1. The Organizational Support of Scientific and Pedagogical Schools

integration), which provided the push for the further development of the department in the area of innovation in scientific and pedagogic activity;

— the implementation by the department of common approaches and the comprehension of methodological principles, type of thinking, modes of the analysis and teaching of scientific disciplines (distinct from those in other departments), the availability of necessary analytical material at the department, research and teaching methods, as well as the development and generalization of a necessary theoretic base;

— the attainment of certain results in scientific and pedagogic activity, which gained recognition both in Ukraine and abroad, and have unconditional prospects for further development;

— the availability of materials required for the schools' activity (textbooks, manuals, workshops and monographs), which with their direction, correspond with the selected doctrine, are subordinate to it and are evidence of its progressive development;

— the legacy of the scientific-pedagogic activity of a school by young scholars and teachers, the engagement of students and postgraduate students of the department in the work of the school.

3. The formation of a scientific-pedagogical school is stipulated by the status of long-term scientific and pedagogic acquirements, which are passed on to the next generations of teaching staff. In relation to this, the leader-head of the school, who enjoyed (enjoys) specific scientific-pedagogical authority, also foresaw (foresees) prospects and real possibilities for further development, in the direction (directions) of scientific-pedagogical activity initiated by him/her, plays a special role.

4. A university department is the exclusive basis for the formation of a scientific-pedagogical school. In individual cases, a school can be formed on the basis of several departments, depending on the level of similarity and interdependence between the disciplines of the teaching plan. Since modern departments encompass dozens of profile disciplines, several scientific-pedagogical schools can form and function within its framework.

The inclusion of Ukrainian universities in the *Magna Charta Universitatum* naturally requires adjustment, and in individual cases, also a fundamental review of the selected strategic line, which obviously, only scientific-pedagogic schools can ensure. This is stipulated by the following objective circumstances:

1. As determined by the Charter, prospects for the expansion of cooperation between all European countries stipulates the necessity to understand the specific mission of universities, which, in addition to their traditional recognized role — to provide society with highly qualified specialists, must focus ever more attention on the formation of highly cultural, scientific and innovative components in students. Only universities which have relevant intellectual potential and formed scientific-pedagogic schools have these capabilities.

2. The modern world, with its all-round informatization and computerization, which ensures extensive access to diverse literary, historic and professional sources, presents students with new enhanced tasks — to orientate themselves to the needs of individually serving the interests of society, as well as its cultural, social and economic achievements. And this means that

must generate comprehension within the student environment that without its direct participation, it's impossible to ensure the progressive development of the scientific, production, social and education spheres of society as a whole.

3. University education must also serve the interests of the change of the world-view and professional position of the generations. A determinant feature in this plan should be the comprehension of the fact that the skills of professional activity, acquired during the learning and teaching process at university, as well as the world-view behavior in society, should form the necessity in the student, to pass them on to their children and grandchildren. In view of this, scientific-pedagogic schools are called on to ensure relevant harmonization between education and training, so that each graduate can be a continuator of their achievements and traditions in following generations.

The *Magna Charta Universitatum* determines the main principles, which have to become fundamental for universities. The most important of them directly address scientific-pedagogical schools. We shall examine them in greater detail:

1. The university is an independent entity in society. It creates, teaches, evaluates and passes on culture, with the aid of research and learning and teaching, which is the foundation of a scientific-pedagogical school.

2. To satisfy the needs of the outside world, university research and teaching activity must be moral and intellectually independent of any political and economic power.

3. Teaching and research work at university should be indivisible, in order for the learning and teaching contained therein to correspond with the changing needs and requests of society.

4. Freedom in research and teaching activity is a fundamental principle of university life. Key bodies and universities, each within the framework of his/her competence, should guarantee compliance with this fundamental demand.

5. Rejecting intolerance and always being open to dialogue, a university is an ideal place for the meeting of teachers, capable of passing on their knowledge and who have the necessary means for their improvement with the aid of research and innovation, and students, who have the right, capability and desire to enrich their intellect with this knowledge.

6. A university is the keeper of the traditions of European humanism. When fulfilling its calling, it constantly strives to achieve universal knowledge, crosses geographic and political borders and confirms the urgent need for the mutual knowledge and interaction between different cultures.

As we can see, the very essence of the principles determines the behavior of universities in the modern world. Only universities that have gained relevant recognition can be ready to take the path towards European scientific-education integration. Of course, this can only be achieved by universities where scientific-pedagogic schools have been established and are running successfully.

However, even under conditions of the existence of such schools, integration in the European scientific and pedagogic space demands, and will always demand the expansion of both scientific research and the technology of teaching university disciplines. And this, in turn, establishes a need to develop an agenda for a system of measures for the implementation of the demands and principles of the *Magna Charta* at the level of each university and its departments.

According to the principles of university life declared by the Charter, particular attention should be paid to the following, when developing a system of measures for integration into the European scientific-pedagogic community:

1. The teaching staff must have free access to scientific research and the teaching of academic disciplines, each professor, associate professor and lecturer must be provided with the necessary means for the practical realization of his/her inquiries and opportunities.

2. The formation of the university's teaching staff should be based on compliance with the fundamental principle of the inherence of research and teaching work.

3. The Charter also anticipates the provision of relevant guarantees to students regarding compliance with the freedoms and conditions, under which they could attain their goals in culture and education. At the same time, each university has to base its actions on its own capabilities and specific circumstances.

4. European universities consider the mutual exchange of information and documentation as well as an increase in the number of joint projects in both the sphere of scientific research and in the development in education, as a fundamental element of the continuous advancement of knowledge.

The above-mentioned recommendations are called on to stimulate the mobility of teachers and students. In addition to the above, this requires the implementation of joint policies in the area of ensuring the equality of knowledge, exams, as well as the allocation of grants and other attributes of student life. From here, it follows that scientific-pedagogic schools face new, responsible tasks. Their generalized criteria can be summed up as follows: the only scientific-pedagogic school that has the right to consider itself to be one, is if it has become well-known in European space for its scientific and pedagogical potential, and experience of its activities is directed towards the formation of an effective state policy in the sphere of university education and science.

The Road to Competitiveness: The Importance of Database Access at a Research University

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Annotation

The article highlights the place and significance of the information factor in ensuring and building up the international competitiveness of research-intensive universities. It examines current trends and dynamics of the publication activities of scholars in the sphere of economic research. With the aid of a correlation and regressive analysis, the significance of international cooperation for increasing the volume of the publications of researchers in renowned economic journals has been established. The necessity of the expansion of international cooperation between Ukrainian scholars-economists and their foreign colleagues and partners, for the purpose of increasing the competitiveness of Ukraine's research universities has been substantiated.

Key words: the competitiveness of a research university, publication activity, international cooperation in the research sphere, electronic sources of information.

Each year the Swiss business school IMD compiles a *World Competitiveness Yearbook* that ranks the relative competitiveness of economies among a group of fifty to sixty countries[1]. The range of criteria upon which the ranking is based includes over 330 factors that reflect the economic performance, business and government efficiencies, and infrastructure conditions within each national economy. Within the subset of infrastructure conditions, numerous aspects of a country's educational system and scientific resources are acknowledged as important sources of economic competitiveness. Among the factors included here are the quality of university and management education, as well as the ability to create knowledge and transfer innovation between academia and business. From a quantitative perspective, the IMD report incorporates such metrics as per capita spending on education, the number of science degrees granted, and the number of scientific articles published. Other, more qualitative indicators, include the effectiveness of language skills, the production of high quality research, and the attractiveness of the environment for researchers.

In a parallel and more detailed manner, recent studies (World Bank 2002, Altbach and Salmi, 2011)[2, 3] focus on the contributions made by research universities to social, economic, and political progress through the development of human capital, the creation of knowledge, and the generation of technology. For all countries, the ability to nurture and retain a capacity for innovation, along with a proficiency in the application and transfer of knowledge, are essential elements in constructing a productive,

[1] IMD. (2011). *World competitiveness yearbook*. Lausanne: IMD.

[2] World Bank. (2002). *Constructing knowledge societies: New challenges for tertiary education*. Washington DC: World Bank

[3] Altbach, P. G., & Salmi, J. (2011). *The road to academic excellence: The making of world-class research universities*. Washington DC: World Bank.

flexible, and competitive economic environment. As a consequence, faced with the need to attract investment capital, developed and developing countries alike are placing increased emphasis on the enhancement of tertiary education in general and research universities in particular.

Ukraine is not exempt from these global forces. Of the 59 economies ranked by IMD in 2011, Ukraine ranks 57th on the competitiveness scale with a score of 51.45 out of 100 possible points. Ukraine's low competitiveness score correlates with the qualitative and quantitative measures of its educational resources and scientific results. The per capita publication rate for Ukraine (46 articles per million citizens) is below the average found in Western Europe (569), North America (534), Japan (450), Eastern Europe (90), and Middle East (61), but above that in Asia Pacific (39), South America (31), and Africa (9). As a result, the evidence suggests that Ukrainian institutions of higher education need to improve the environment for academic research in ways that better replicate international standards and contribute to national development.

The search for improvement extends beyond the engineering and the hard sciences to include economic and management disciplines. As Ukraine's preeminent research and teaching institution in the areas of economics, finance, business, management, and law, the Kyiv National Economic University named after Vadym Hetman (KNEU) plays an influential role in the development of economics-related research towards international standards. In this regard, KNEU mission recognizes a responsibility to «contribute to the development of society by means of scientific research, the generation and the dissemination of new knowledge, and the training of competitive specialists and creative individuals». It is in the experience of other European universities in the area of economic research that KNEU might find a model to help Ukraine advance beyond its current low position in international competitiveness rankings. As illustrated below, the shift towards greater international collaboration—aided by greater access to world class electronic databases, journals, and reference materials—has enhanced the position of European authors in the global production and dissemination of economic thought. Efforts to embed research at KNEU into the wider European and global networks could produce similar results.

In the field of economics, academic research has for many years been dominated by authors residing at North American universities. (Cardoso, Guimaraes & Zimmermann, 2010) report the share of articles published in economics journals coming from North American authors at 66% in 1991 versus 24% for Western European authors, 3% for Asian authors, and less than 1% for African authors[1]. By 2006, Western European economists had increased authorship in economic journals to 40% thereby closing the gap with their North American colleagues whose share declined to 45%. Although, the 2006 share for Asia increased to 9%, no increase was found for African authors. Despite the increase in authorship among a broad range of economics journals, there was markedly less change in the origination of authors among the top economics journals. For the most prestigious journals, North American economists' share of articles decreased slightly to 76% from 81% and Western European economists' share increased to 22% from 14% between 1991 and 2006.

The increased presence of Western European authors across a range of economics journals is a function both of the increased productivity of individual researchers and the increase in the number of recognized economics journals in which to publish. Between the period 1991-95 and 2002-06, Scandinavian countries have equaled or surpassed the US in the per capita number of articles published in economic journals. Despite experiencing significant growth in the per capita number of economics articles published between the two periods, the four largest EU economies remain below the US (40) level with Spain (20), Germany (16), France (13), and Italy (10) at less than half the US rate. A striking feature of the increased presence of Western European authors among the global presence of articles published is the greater prevalence of international collaboration among authors. Table 1 compares the percent share of articles from West European authors that involved international collaboration during 1991-96 relative to 2002-06. In all instances, economists at West European universities have expanded the proportion of their research devoted to international projects with the biggest increases recorded for economists from Denmark (128,3%), Netherlands (89%), UK (87,7%), and Germany (82,5%). American and Canadian economists have also increased the level of research across national borders (77,2% and 39,2% respectively) while Japanese authors generated a slight decline.

For articles published in the top economics journals during 2002—06 (last column in Table 1), the incidence of international collaboration during the 2002—06 period is even more pronounced. As economic research has become increasingly

[1] Cardoso, A. R., Guimaraes, P., & Zimmermann, K. F. (2010). Trends in economic research: An international perspective. *IZA Discussion Paper No. 4785*, Bonn: Institute for the Study of Labor.

Table 1

SHARE OF ARTICLES IN ECONOMIC JOURNALS INVOLVING INTERNATIONAL COLLABORATION BY COUNTRY OF AUTHOR

Country of Author	All Journals			Top Journals 2001—06 Average %
	1991—96 Average %	2001—06 Average %	% Change	
Austria	25,0	43,6	74,4	54,5
Belgium	42,9	56,7	32,2	92,0
Denmark	18,7	42,7	128,3	70,0
France	38,5	45,7	18,7	59,3
Germany	19,4	35,4	82,5	67,2
Italy	31,9	43,8	37,3	76,2
Netherlands	20,9	39,5	89,0	52,1
Norway	18,8	30,8	63,8	86,7
Spain	32,8	35,3	7,6	65,3
Sweden	20,2	29,5	46,0	55,6
Switzerland	33,1	46,6	40,8	77,8
UK	17,9	33,6	87,7	57,9
US	9,2	16,3	77,2	17,9
Canada	28,8	40,1	39,2	58,4
Japan	21,0	20,5	-2,4	39,4

collaborative in scope and international in scale, it is essential that the universities and researchers across the world integrate with global networks. The effect is especially pronounced for economists from smaller countries. Regression analysis in Table 2 shows that the share of articles involving international collaboration in both top journals and all journals is significant and inversely related to the population size of the country. Consequently, economists from smaller countries rely more on international cooperation to advance their research and achieve publication in recognized economics journals. For smaller countries like Ukraine, the results point to increased collaboration between economists across national boundaries as a way to contribute to the dynamism of economic research.

The increase in international collaboration among authors in countries big and small is no doubt the result of advancements in information and communication technology. Over the past 20 years, technological innovation and political reforms have enabled instantaneous communication between researchers across great distances, easier access to databases and journals in electronic formats, the development of global research networks, and the spread of English as the lingua franca of economic discourse. Consequently, economists are more apt to come into contact with the work of their international colleagues and more able to pursue collaborative projects to advance common research interests. Salmi (2009) recognizes these effects and identifies three interconnected sources of success in developing and maintaining a top research university[1]. In addition to maintaining a talented pool of faculty and students and implementing institutional governance that provides for flexibility and innovation, successful universities need to provide resources to conduct advanced research and build a rich learning environment. Not least of these resources is the availability of access to a relevant set of international research databases.

Like their European counterparts, it is crucial that Ukrainian universities like KNEU integrate into the wider international research network.

[1] *Salmi, J.,* (2009). The challenge of establishing world-class universities. Washington DC: World Bank

Table 2

OLS RESULTS FOR INTERNATIONAL COLLABORATION IN ECONOMICS PUBLICATIONS RELATIVE TO COUNTRY SIZE

	All Journals n = 15		Top Journals n = 15	
	Parameter Estimate	*t*-stat	Parameter Estimate	*t*-stat
Constant	239,99	4,326	244,159	5,179
Population	-4,981	-3,471	-3,066	-4,197

During the author's visits to KNEU in 2010 and 2011, it became apparent that both faculty and students faced limited access to the standard research tools available to and expected by their international colleagues. A review of the electronic resources available to KNEU faculty and students reveals an eclectic set of electronic research resources that might not fit the mission of KNEU. With the objective of providing the resources needed to conduct advanced research and foster a rich learning environment, Table 3 contains a partial list of electronic resources (journals, databases, references) commonly used in the economic sciences.

It is not possible, nor recommended, to acquire access to all these sources. Budgetary limits would preclude this for even the most endowed universities. However, some consideration could

Table 3

ELECTRONIC DATABASES

Database	Contents
ABI/INFORM	Scholarly articles in management, industry news, & company information
Alternative Press Index	Covers newspapers, magazines and periodicals relating to politics and economics
Business Source Complete	Full text coverage for over 1,120 business publications
Cairn	196 journals in humanities and social sciences full text (since 1999). The portal covers the following themes: Economics and management, law, history and geography, general interest, letters and linguistics, psychology, education, political science, sociology and society, sport and society, philosophy and information science
EBSCO HOST Research Databases	Bibliographic and full-text databases in the humanities and social sciences, medicine and health
EconLit	Journals, books, and working papers on economics
EIU Market Indicators & Forecasts	For more than 60 countries and regional groupings monitors economic indicators, including indicators of infrastructure, consumption, financial sector workforce demographics, health, political structure, etc
ESDS — European statistics	Information about the statistics provided on its website Statistical Office . Users have access through hyperlinks to the Eurostat statistical databases , to selected publications by subject areas and other useful resources . Freely available
EZB Elektronische Zeitschriftenbibliothek — Electronic Journal Library	A project of the University Library of Regensburg, which aims to create a list of full text scientific and scholarly electronic journals freely accessible online and available by subscription, through licensing and consortia

Continuation Table 3

Database	Contents
FirstSearch	An OCLC collection of scholarly journals
Global Market Information Database	Integrates the entire data base of Euromonitor into a web portal with a searchable data and their aggregation for: statistical information on countries, different sectors of the market, lifestyle indicators (macro / micro indicators), analysis of individual companies
JSTOR	Inter-disciplinary scholarly content. Narrow by discipline, or search across the sciences and humanities for a broader scope
Kompass World	1.8 million companies in more than 72 countries and 23 million products and services referenced
Lexis-Nexis Academic Universe	Full-text articles, company, industry, and financial information
New Palgrave Dictionary of Economics Online	Online economic dictionary contains full texts of eight volumes of the printed version of the dictionary of economic terms are thematically arranged by JEL classification
Oxford Handbooks Online: Business and Management	27 thematic guides focusing on: business, business administration, business groups, human resources management, information and communication technology, innovation, international business, etc
Oxford Scholarship Online: Business and Management	Collection of electronic books from leading authors of business and management (history, administration, knowledge management, human resources, information technology, innovation, political economy, etc.)
Oxford Scholarship Online: Economics and Finance	Collection of electronic books from leading authors in the field of economics and finance (history, international trade, macro and microeconomics, etc.)
ProQuest	All purpose database. Search for information on a broad range of subjects. Science, Humanities, Social Sciences, etc.
SCOPUS	Bibliographic and citation database of scientific literature, mainly oriented to European scientific production
World Bank Data Catalog	Free access to all data collected in the World Bank Open Data Initiative, including the full contents of the World Development Indicators (WDI) and Global Development Finance (GDF) databases. Use the tabs at the top to view data by country, topic, indicator, and more.

be made to making a well considered mix of these electronic resources accessible to KNEU faculty and students. This is especially important in light of the increased weight given to faculty research productivity and KNEU's efforts to be an effective consulting resource for external business, governmental, non-profit partners. Without such access, research at KNEU will be hindered by a lack of awareness of scholarly advances made abroad. Without knowledge of the work of their international colleagues, KNEU researchers will be precluded from establishing the collaborative contacts and research networks that have so successfully contributed to improving the dynamism and relevance of economic research in other European countries. Simply stated, KNEU will be less able to continue its development as a world class research and teaching university in line with its mission and its commitment to advancing the competitiveness of Ukraine.

The Organization and Substance of Class Work at Research Universities

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Annotation

This article examines the organizational principles and substance of class work at world class research universities, substantiates its role and place in the provision of global competence to today's students, which the abilities and skills of the 21st century comply with. Key priorities in academic activities for the efficient mastering of global competence have been determined and the strategies of leading world universities in this sphere have been highlighted. Effective models and methods for the activation of class studies on the basis of research, existing approaches to the evaluation of class work and motivational factors for the productive academic activities of the students in the class have been systemized. World trends of the informatization of higher education have been distinguished and the contribution of open education in the development of the research potential of universities has been shown.

Key words: class work, research university, global competence, abilities and skills of the 21st century, learning and teaching on the basis of research, motivation of the academic activities of a student, open education.

Today's society is characterized by the latest world trends — economic, cultural, technological and economic changes, which are part of the entire globalization process. The growing mutual dependence of national economies requires a generation of highly qualified people, who can effectively resolve the problems of mankind and at the same time, take an active part in local, national and international public life. This is why, in the dynamic educational and scientific environment of the 21st century, the main purpose of universities is the training of competitive graduates, capable of quickly and creatively reacting to social challenges, as well as immediately adapting to rapid changes in external conditions. The training of such students for fully-fledged participation in today's world and that of the future requires the development of their own new level of skills and practices — global competence, the orientation for the attainment of which should be a key element of the class work at modern research universities.

As is well known, the urgent issues of the development and the attainment by students of global competence during the learning process were

examined for the first time on the international level in the Report of the International Commission on Education for the Twenty-First Century, which was presented by UNESCO in 1997. Jacques Delors' report, «Learning: a hidden treasure» distinguished the four «pillars» of global competence, on which the education of the 21st century should be based: learning to know; learning to do; learning to live together; and learning to be[1]. This approach was extended and developed by other authoritative organizations and individual university institutions, particularly by the team of educational experts, practitioners and scholars under the name *Global Competence Task Force*, under the aegis and within the framework of a special educational initiative of the Council of Chief State School Officers (CCSSO-EdSteps) and the patronage of the Asia Society Partnership for Global Learning. Specialists from this expert group proposed a definition of the category of global competence as «the ability and disposition for understanding and actions on issues of global significance» and the characteristics of «globally competent citizens»[2]. It is considered that globally competent citizens are interested in discovering about the world and the means by which it functions. They aspire, and have the ability to use great ideas, instruments, methods and languages, which are important for any sphere of learning, in order to take part in the resolution of today's urgent issues. They use and develop this experience, taking different approaches into account, efficiently exchanging views and drawing out their thoughts and taking measures for the purpose of improving the environment's conditions. The purpose-oriented group presented key and basic global competence in the form of a global competence matrix (Table 1).

[1] *Delors, Jacques* et al. 1996. Learning: The Treasure Within. Paris: UNESCO.

[2] Veronica Boix Mansilla & Anthony Jackson. Educating for Global Competence: Preparing Our Youth to Engage the World. Council of Chief State School Officers' EdSteps Initiative and Asia Society Partnership for Global Learning, 2011. *Available at:* http://www.edsteps.org/CCSSO/SampleWorks/EducatingforGlobalCompetence.pdf

Table 1

GLOBAL COMPETENCE MATRIX[2]

Investigate the world	Recognize perspectives	Communicate ideas	Take action
Students investigate the world beyond their immediate environment	**Students recognize their own and others' perspectives**	**Students communicate their ideas effectively with diverse audiences**	**Students translate their ideas and findings into appropriate actions to improve conditions**
Identify an issue, generate a question, and explain the significance of locally, regionally or globally focused researchable questions.	Recognize and express their own perspective on situations, events, issues or phenomena and identify the influences on that perspective.	Recognize and express how diverse audiences may perceive different meanings from the same information and how that affects communication.	Identify and create opportunities for personal or collaborative action to address situations, events, issues or phenomena in ways that improve conditions
Use a variety of languages and domestic and international sources and media to identify and weigh relevant evidence to address a globally significant researchable question.	Examine perspectives of other people, groups or schools of thought and identify the influences on those perspectives.	Listen to and communicate effectively with diverse people, using appropriate verbal and nonverbal behaviour, languages and strategies.	Assess options and plan actions based on evidence and the potential for impact, taking into account previous approaches, varied perspectives, and potential consequences.
Analyze, integrate and synthesize evidence collected to construct coherent responses to globally significant researchable questions.	Explain how cultural interactions influence situations, events, issues or phenomena, including the development of learning.	Select and use appropriate technology and media to communicate with diverse audiences.	Act, personally or collaboratively, in creative and ethical ways to contribute to improvement locally, regionally or globally and assess the impact of the actions taken.
Develop and argument based on compelling evidence that considers multiple perspectives and draws defensible conclusions.	Articulate how differential access to learning, technology and resources affects quality of life and perspectives.	Reflect on how effective communication affects understanding and collaboration in an interdependent world.	Reflect on their capacity to advocate for and contribute to improvement locally, regionally or globally

It is worth noting that in recent times, world class research universities (Harvard and Michigan Universities, etc.) have joined the initiative for the development of global competence, developing their own competence hierarchies, learning and practice systems, which are necessary for students in the current globalization era, developing their own methods for their evaluation and implementing effective means for the training of globally competent students and teachers into their own practice. In addition, active discussions regarding transformation of existing competence approaches in higher education for the purpose of training globally competent specialists, are currently being held in the world. An example of such discussions is the approach towards the classification of abilities and skills in the 21st century, which was proposed and developed by the specialists and experts of the Metiri Group consulting agency, which is involved in the development and implementation of the latest educational technologies (Figure 1). The indicated classification of abilities and skills is characterized by relative universality, since it reflects competence, which is globally meaningful today, which each student has to attain during the course of studies at any university institution.

In his recent publications for the «Change» magazine, «The Globalization of College and University Ratings» (2012), renowned American researcher, P. Altbach, Director of the Center for International Higher Education at Boston College, focused his attention on the fact that the main function of any university is teaching[1]. It is this important component that is ignored in most current international university ratings. The scholar stresses the fact that currently, world practice does not have a generally accepted approach to the evaluation of the teaching process at higher education institutions, but methods are used which

[1] *Altbach Philip* G. The Globalization of College and University Rankings // Change. The Magazine of Higher Learning — 2012 (January-February). *Available at*: http://www.changemag.org/Archives%20Issues/2012/January-February%202012/Globalization-abstract.html.

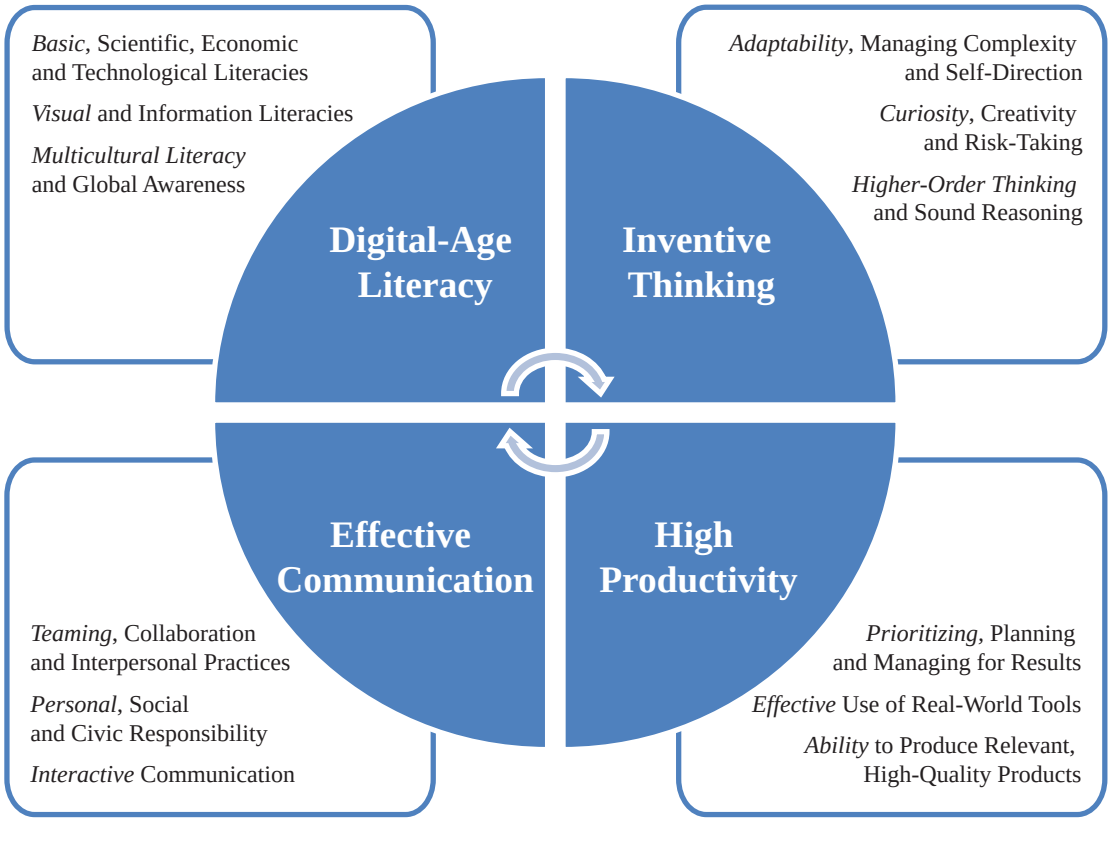

Figure 1. Abilities and skills of the 21st century

Source NCREL & Metiri Group 2003. enGauge 21st century skills. Literacy in the digital age. Naperville, IL: NCREL & Metiri Group. *Available at*: http://pict.sdsu.edu/engauge21st.pdf

operate with such indicators of teaching quality as the evaluation of the university's reputation in the teaching sphere (based on a survey of respondents), the correlation between the number of students and lecturers with a scientific degree, etc. (particularly applied during the compilation of the *Times Higher Education* university rating), which only indirectly pertain to the teaching process and do not show the contribution of the latter in education and the results of the students' learning.

Similar conclusions are reflected in the research of other American scholars — A, Richards and R. Coddington, particularly their work «30 Ways to Rate a College» (2012), published in the popular world edition of «The Chronicle of Higher Education»[1]. Scholars have analyzed six of the most famous of today's university rating systems for the existence in them of indicators pertaining to the quality of education, including teaching. As a result, it was discovered that the list of applied indicators does not include a single one that directly pertains to the results of the academic activities of students. This is why, in the absence of an appropriate system for controlling the process and results of learning, there are often situations, particularly in the practice of research universities, where the weight of the initial process (teaching) becomes of a secondary significance, and is somewhat ignored by university institutions because of the immediate priority of research components.

Arshad Ahmad, a well-known Canadian professor from McGill University, appeals for a similar practice and the necessity for its liquidation in his article «Ensuring Student Success — Students are not to blame» (2012)[2]. The scholar draws attention to the fact that it is possible to see many fragmented and homogenized undergraduate programmes today that are adapted neither to the needs of individual students nor to the needs of various employers. There are not enough interdisciplinary courses; those that exist are inadequately interconnected while first-year students are generally taught by teaching assistants and part-time instructors' assistants. Thus, the researcher argues that it's no wonder that students miss classes or, what is worse, drop out university due to underachievement. However, in no case should the students be blamed, claims Arshad Akhmad. If the learning environment and key parameters (such as exposing them to good teachers) that influence learning outcomes are changed, those uninterested students will never miss a class, show sophisticated, deep approaches to studying and become passionate about their learning.

Arshad Ahmad also focuses attention on the fact that today's teachers and professors at western universities are forming a somewhat erroneous behaviour model, pitting research against teaching, trying to minimize their teaching load at a higher education institution and accordingly focusing their attention on research grants. Pitting teaching against research is not only a false dichotomy; it also has the deleterious effect of degrading the role of teaching in the broader definition of what counts as scholarship. As long as this culture in the university environment exists and teaching is viewed as a poor cousin of what we have come to define as true scholarship, it will be difficult to expect dramatic changes in the quality of teaching.

Overall, regardless of the fact that in the university and expert environment and the strengthening and promotion of student learning is recognized as the top priority of an educational institution, generally recognized and effective indices of the evaluation of the results of studies, or the quality of learning and teaching do not exist. As a result, an objective situation emerges, whereby students, teachers, experts, employers and representatives of the public have irrelevent information regarding the actual successes of universities in the sphere of learning and teaching, while there are simply no comparable international indicators. In view of this, world class research universities develop and implement their own policies and systems of measures, directed towards improving the efficiency of the learning and teaching process, and with the mediation of relevant indices, ensure their monitoring and make effective decisions regarding the modernization of strategy in the sphere of learning, teaching and evaluation.

The issue of learning and teaching strategy under new conditions is viewed by many universities as an imperative for their future development. A vivid example of the development of university strategies, directed towards the improvement of the learning and teaching process, is Harvard University, which in 2012 saw the launch of the so-called «Harvard Initiative for Learning and Teaching», which is a perspective plan for the renewal of the learning and teaching system, based on the latest innovative achievements of world science and technology. According to the President of Harvard University, Drew Faust, the fundamental purpose of the Initiative is to «use the unique

[1] *Richards, Alex* and *Coddington, Ron.* «30 Ways to Rate a College» The Chronicle of Higher Education. 29 Aug. 2010. 21 Oct. 2010. *Available at*: http://chronicle.com/article/30-Ways-to-Rate-a-College/124160/.

[2] *Arshad Ahmad.* Ensuring Student Success — Students are not to blame // University World News. — 2012 (05 February). — Issue No: 207. *Available at:* http://www.universityworldnews.com/article.php?story=20120131141103909

enlightenment of Harvard for the reformation of teaching on the basis of the ideas, experience and technologies of the modern world»[1]. It should be noted that for the realization of this idea, a USD 40 million private grant was used, the funds of which are also to be used for the modernization of student classes and the establishment of an up-to-date learning environment.

The goals of the systematic improvement and updating of the learning and teaching process are reflected in the Learning and Teaching Strategy for 2009—2012, which was developed by Cambridge University. The priority directions of this strategy provide for:

— support in the creation of new research courses;

— encouraging the initiatives of teachers on issues of teaching innovations;

— the continuation of the development of a stimulated academic environment process;

— the creation of new teaching programmes;

— the priority of students learning in small groups;

— the setting up of close contacts between teachers and researchers;

— the introduction of certified programmes for learning foreign languages;

— the development of a student exchange programme;

— further orientation on a feedback system;

— informing students on the substance and philosophy of the learning process at the stage of enrolment at a university[2].

The University of Hong Kong has also developed similar initiatives for gaining strategic leadership in the sphere of the training of graduates, post graduates and doctors of philosophy (Figure 2). Thus, the main goal of the University of Hong Kong for «making every effort to select prominent university entrants» is the attraction of the most talented youth for learning. In order to achieve this, there are plans to develop and support the spirit and innovative atmosphere at the university, encourage teachers to develop new courses and the practical use of innovative teaching methods, giving the English language teaching a prominent status.

[1] Harvard Initiative for Learning and Teaching: 2012-2013 Hauser Fund Grant Guidelines / Harvard University: http://www.harvard.edu/sites/default/files/content/HILT-guidelines_111018.pdf.

[2] The University of Oxford. University Strategic Plan 2008-9 to 2012-13. *Available at:* http://www.admin.ox.ac.uk/media/global/wwwadminoxacuk/localsites/planningandresourceallocation/documents/planningcycle/strategicplan.pdf.

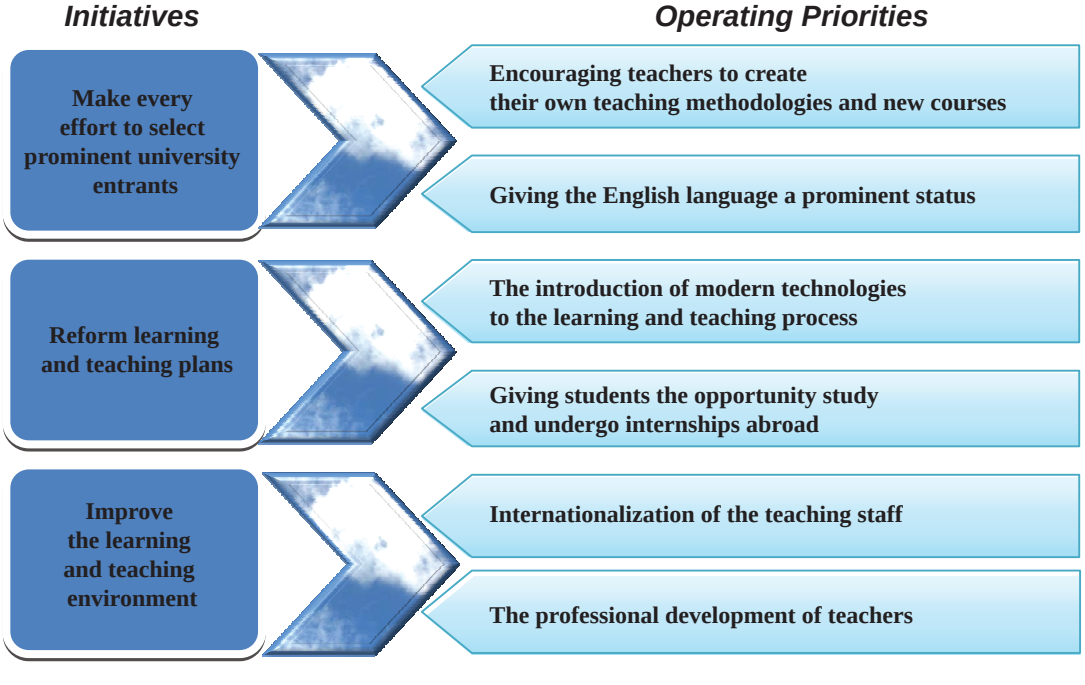

Figure 2. Strategic initiatives for attaining strategic leadership in the sphere of the training of graduates, post graduates and doctors of philosophy (University of Hong Kong)

Source: The University of Hong Kong. Strategic Themes for 2009-2014 / Strategic Initiatives and Operational Priorities. Available at: http://www.sppoweb.hku.hk/sdplan/eng/strategic-themes-for-09-14/enhancing-the-student-learning-experience.php.

The next initiative was directed towards the reform of learning and teaching plans, strategically oriented towards giving students freedom in the selection and breadth of learning. The main qualities, which are anticipated for development in students and, accordingly, integration in the learning and teaching plan, provide for critical and independent thinking, the development of communication practices and teamwork, creative leadership, as well as the due moral qualities of students. The introduction of modern technology to the learning and teaching process and giving students the opportunity to study and undergo internships abroad, will be part of the operative priorities within the framework of this initiative.

The purpose of the improvement of the learning environment (third initiative) is the creation and support of favourable conditions at the university and for the learning and research activities of both students and teachers. In this case, operational priorities are the internationalization of the teaching staff and their professional development. It also provides for the support of students through relevant consultations and the opportunity for practical training in partnership with state authority bodies, private organizations and commercial enterprises.

Another world class research university, Stanford, published a list of recommendations in its paper, «The Study of Undergraduate Education and Stanford University» (2012), which determines top priority modern learning disciplines, oriented towards the attainment of new and necessary learning, knowledge and skills throughout life[1]. More specifically the expected reform of teaching programmes at Stanford provides for a reorientation of class work and giving students, particularly undergraduates and first-year students, core knowledge and skills, instead of overly narrow disciplinary ones.

The most important aspect of the reform of teaching programmes, as stressed in the document, will be the introduction of a new learning and teaching discipline during the first year — *«Thinking Matters»*. Other new courses proposed, include *«Art of Living»* — based on the philosophy of thought; *«Freedom, Equality, Security»* — a combination of political science and jurisprudence; *«The Science of Myth Busters»* — covering biology and chemistry using television programmes, which will teach different scientific methods of research. Other proposed innovative teaching courses include *«Brain, Behavior and Evolution»* and *«Everyday Life: How History Happens»*. Overall, as a result of a review of university strategies and reforms implemented by leading world research universities in the sphere of learning and teaching, it is possible to make a conclusion regarding the granting of priority status to class work, the efficiency of which, to a great extent, determines the global competence of today's students.

An original international standard in higher education as pertains the organization of teaching activities in classes is considered to be the seven principles for good practice in undergraduate education in the USA[2], proposed by American researchers, A. Chickering and Z. Gamson. The first edition of their work was published in 1987, while the generalizations and results were based on 50 years of learning and teaching experience. The substance of these principles is determined as follows:

1. Encouraging contacts between students and the faculty — it is considered that good (pedagogical, class, teaching) practice promotes student-faculty contact in and out of classes and is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

2. The development of interaction and cooperation between students — it is considered that this good practice encourages cooperation between students. Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding of one study material or another.

3. The use of active learning — it is considered that this good practice provides for the involvement of active learning methods, when the learning and teaching process is not based on passive observation, but on active involvement and the direct integration of students outside the class, which is directly related to the practice and is in line with the realities of life.

4. Ensuring prompt feedback — it is considered that good practice gives prompt and effective feedback between the faculty and the student,

[1] The Study of Undergraduate Education at Stanford University (SUES) / The Board of Trustees of the Leland Stanford Junior University, 2012. *Available at:* http://news.stanford.edu/news/2012/january/SUES_Report.pdf.

[2] *Chickering Arthur W., Gamson Zelda F.* Seven principles for good practice in undergraduate education. American Association of Higher Education Bulletin. — 1987. — vol.39. — No.7. — P. 3—7.

as well as between the students themselves. To achieve this, the teacher must create all conditions and opportunities in the class, for students to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.

5. The allocation of time for the execution of tasks — it is considered that good practice is orientated on clear time limits for the execution of learning tasks, in order for students to learn efficient time management, which encourages effective learning.

6. Informing students of high hopes and expectations of them — it is considered that good practice anticipates informing students of good performance expectations. High expectations are important for everyone - for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations of themselves and make an extra effort.

7. Respect for diverse talents and ways of learning and teaching — it is considered that good practice respects diverse talents and ways of learning and teaching, so that students are able to express themselves and have more opportunities to do so.

The above-mentioned principles for the organization of the learning and teaching process are still relevant for the American training system today. The only difference is the method and mechanism for its implementation in practice, depending on the university's profile, its research potential, its well-established traditions and customs, etc. It is also worth taking into account the model for the activation of class work, developed by Professor S. Kozlowski and Professor B. Bell from Michigan State University, which is typical for most research universities (Figure 3). In this model, the process for students to gain global competence is an original cycle of transformation of knowledge, skills and practices, as well as inclinations and motives in one competence or another through the activation of class studies.

Recognizing the significance and priority of the teaching component in the learning process of research universities, in its time, the National Commission (Boyer Commission) on Educating Undergraduates in the Research University under the aegis of the Carnegie Foundation (USA)

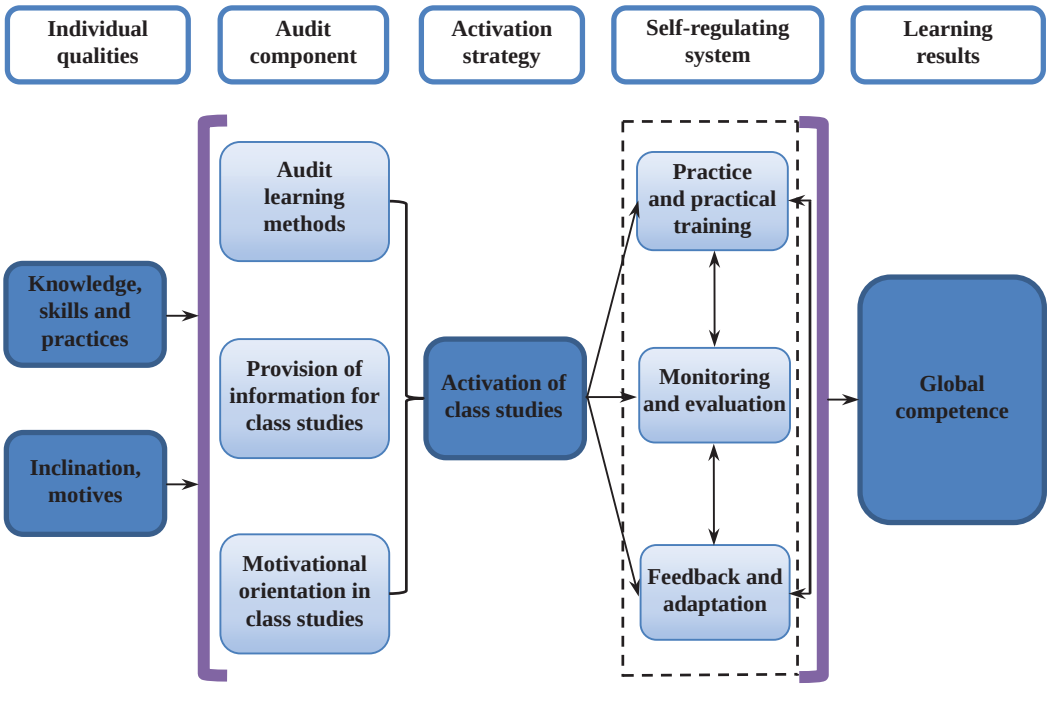

Figure 3. Model for the activation of class studies at research universities

Adapted from: S.W.J. Kozlowski & B.S. Bell (2008). Team learning, development and adaptation. In V.I. Sessa & M. London (Eds.), Group Learning (pp. 15-44). Mahwah, NJ. LEA.

conducted important research into teaching quality at American research universities[1]. This resulted in certain conclusions and recommendations regarding means for the qualitative improvement of the teaching process, such as:

1. Make research-based learning the universal university standard by engaging students in research in as many courses as possible, teaching to effectively convey the results of their scientific research, the inclusion of joint students' scientific projects in the structure of academic courses and the overall transformation of the research-based learning and teaching process into efficient practical experience.

2. Build the first year of university courses, based on research and the forming of research competence via: students' self-identification of stimuli for intellectual growth; the effective mastering of relevant fundamental knowledge and skills to continue further learning based on research; offering students diverse research seminars composed of small groups, conducted by experienced researchers, first-year students gaining competence in the written execution of their research (academic literacy), the establishment and conducting of scientific presentations and interpersonal cooperation.

3. Remove barriers in interdisciplinary student learning. Research universities must expand the directions and specialties of interdisciplinary studies for students in one sphere or another, first and foremost, taking into account the interests of the student body.

4. Give priority to students mastering communication skills, so that they are able to easily and effectively communicate both orally and in writing.

5. Creatively use modern information technology. Since research universities create new technologies and technological innovations, students should have the best opportunities to master them and be aware of means for the possible application of such technology.

6. Finalize undergraduate training with the defence of a scientific project. It is recommended that the last semester culminates with the execution of special research work on the basis of the research and communication competences that have been gained.

7. Teach Masters as potential lecturers. In this context, research universities must consistently review and update their teaching programmes, thus training masters in the teaching profession.

8. Create a strong system for stimulating lecturers. Research universities must be responsible for the highest standard of learning and conducting research, for which it is necessary to develop and implement effective systems for the material encouragement of scientific-pedagogical workers.

9. Develop an active scientific community atmosphere at the university. This aspect is not yet fully taken into account by modern universities, in particular in class work. It is considered that an active scientific community is formed under conditions, whereby during the learning process, students reach collective goals, a general purpose and professing the same values. It is under these conditions that students generate the greatest learning productivity and motivation.

As world experience shows, the formation of an effective scientific community as a key factor for accumulating the research competitiveness of the university is possible in the following key directions:

— the use of specially designed class premises;

— the application of information technologies for the establishment of contacts and cooperation.

A vivid example of such favourable learning environment is the modern learning office of London School of Economics and Political Science. This complex of classes is a replica of a real business office, where specialized types of class studies are conducted for students, with the participation of representatives of firms and companies, which, within a simulation regime, allows the recreation of business processes and on the basis of this, students can learn to take one decision or another. In addition, the office serves as a place for conducting joint government seminars, scientific forums, fulfils the function of an advisory centre, with the extensive involvement of the student body. In essence, it is the university's modern innovative laboratory.

An example of the rational support service of the learning process is Harvard University. Lessons at this institution are often conducted in auditoriums-amphitheatres, where up to 90 students can be seated at the same time. A name plate is placed in front of each student and lecturers can invite any student to a discussion, without moving away from the board. The auditoriums are equipped with parallel boards, which change in such a way, that there is no need to clean the relevant writing on them. The auditoriums also have video equipment with screens, which are used when required. In addition, each seminar is recorded continually by video cameras depending on the number of students, the recordings from which serve as proof of the activity of each student during the seminar, as well as material for

[1] Boyer Commission on Educating Undergraduates in the Research University. Reinventing Undergraduate Education: A Blueprint for America's Research Universities, 1998. — 53 p. *Available at:* http://www.eric.ed.gov

subsequent analysis by lecturers, representatives of companies and students. There are also live video transmissions of lectures on the Internet.

An important component of the system for the organization of class work at research universities is lectures. Many universities are developing general recommendations for conducting them and relevant materials are posted on their official sites. Thus, Stanford University has developed general recommendations for preparing and delivering lectures, the involvement of listeners in active work and particular significance is given to feedback after the lectures have taken place[1]. For the activation of class work during lectures, the lecturers at Stanford are advised, for example, to use small tests or other evaluation technologies, which check the understanding among the listeners of the goals of the lecture. Students, have to give one-two sentence answers to such questions: «What was the most important aspect of today's lecture? What did you not understand?» It is recommended that lecturers conduct such types of activities during several lectures, on which no more than 15 minutes are spent, but as a result, it is possible to gain a lot of information about the students. Also during the teaching, it is recommended that formative (continuous) assessments are applied mid-semester, or that questions are posed to students regarding relevant proposals and comments on a monthly basis, based on which it would be possible to efficiently adapt the teaching process. In addition, the university has developed a special programme — «Oral Communication Development Programme», which allows each employee and student to develop their communication and oratory skills, provides for the holding of diverse master-classes and seminars for improving the professional skills of the participants, etc.

Significant attention at US research universities is devoted to the integration of the research element into class work. To do this, as was shown by the generalizations we have conducted, the following effective combination of teaching and research methods is often used:

— the organization of so-called guest lectures, with the participation of colleagues or renowned scientific experts in one sphere or another, for the purpose of public debate with students on important aspects of research during a lecture;

— the use of special video materials, presentations or other materials during lectures which have been collected and prepared beforehand, pertaining to the issued being researched and reflecting the views of authoritative scholars in one sphere or another;

— the inclusion of the latest results of scientific research in the education programme in order to develop and discuss them during lectures and other studies;

— the development of a special package of scientific tasks for students, the purpose of which is to develop their skills for the professional review of literary sources, planning various types of scientific experiments, writing opinions, presenting scientific papers at conferences, the due execution of documents for receiving research grants, etc;

— engaging students for participation in scientific projects, specialized student scientific communities, internet forums and discussions, for discussing and developing important scientific issues.

For the purpose of researching the importance and level of the significance of the evaluation components in a university's class work system, current practices for the evaluation of educating students on the basis of a range of teaching disciplines, which are taught at world level universities, were studied and analyzed. Such indices as the share of class work (percentage of the contribution in the overall evaluation), compared with interim modules and final exam were taken into account (Table 2).

As a result of analytical research that has been conducted, it was determined that the class component share was quite high for the vast majority of the disciplines that were taken into account, and constitutes between 5% and 40%, and in individual cases, is the fundamental evaluation for the certification of a student of the discipline. At the same time, the final exam in the structure of the overall evaluation for the learning course constitutes 20—50%.

World practice for the development and use of information and communication technology (ICT) in education demonstrates a trend for the extensive inclusion of modern information and communication technology in class work. Together with these radical changes, the actual substance of education, educational methodology and didactic approaches are changed. Of the current world trends for the development of the informatization of education, it is worth paying attention to the principal ones:

— the development of open education;

— the active introduction of new means and methods of teaching, which are oriented towards the use of information technology;

— a synthesis of means and methods for traditional and computer teaching;

— the formation of a system for continuous teaching with the mediation of ICT as a universal form of activity, directed towards the continuous development of individuality throughout life as a whole.

[1] Lecturing / Center for Teaching and Learning. Stanford University — http://ctl.stanford.edu/handbook/lecturing.html.

Table 2

AVERAGE INDICES FOR THE EVALUATION OF THE CLASS COMPONENTS OF THE EDUCATION PROCESS AT WORLD CLASS RESEARCH UNIVERSITIES*

Teaching disciplines	Share of class work, %	Interim exams, modules, %	Final exam, %
Introduction to mathematical economics	5—25	30—40	35—45
Introduction to economics	10—30	30—70	20—50
Introduction to microeconomics	5—10	40—70	25—50
Global marketing	10—20	55—70	20—25
International economics	30—40	40—60	30—40
International finance	100 (there is no exam)	—	none

**Compiled* on the basis of the education programmes of research universities.

Experts interpret open education as being different types of educational activity, in which knowledge, ideas and important aspects of the methodology and organization of learning and teaching, which are freely extended and used with the help of information and communication technology. Since its introduction in 2000 open education has been one of the determinant trends of the development of the world higher education system and adult education in many countries. This is evidenced by both objective changes in education institutions and the teaching process, and ever more attention is being paid to open education by governments and international entities, education and scientific institutions. As noted by specialists, more than 10 years have passed since the decision of the Massachusetts Institute of Technology, approved in 2001, was made regarding the provision of open access to all of its teaching materials, but the principles of open education are increasingly becoming a modern standard[1]. Large scale initiatives for the introduction of elements of open education are today being implemented in dozens of countries, among which are both leaders (the USA and Great Britain), as well as countries, striving to make up the distance in the education and scientific spheres as quickly as possible (China and Vietnam).

The broad concept of open education is closely related to the active application of modern information and telecommunication technology (first and foremost, the capabilities of the Internet) in the education process and scientific research. In connection with this, open education particularly provides for:

— giving open access to educational and teaching materials (text books, manuals, courses, etc.), as well as the results of scientific research;

— the essential expansion of the opportunities for collective work within the framework of the teaching process on both the vertical lecturer-student level (as well as in long-distance education), and the horizontal level — between colleagues-teachers and lecturers in higher education institutions (as well as students and postgraduates within the framework of the resolution of specific educational and scientific tasks);

— management of the education process, based on modern computer technology, which opens extensive opportunities for the essential improvement of both the awareness of the public regarding the state of affairs in education and a significant growth in the efficiency of managing the education system at all levels.

Overall, the fundamental advantages of the application of ICT in university teaching and research practice lie in the capability to:

— combine academic and consolidation processes and control of the mastering of the learning material, which according to traditional teaching, are most often torn between themselves;

— individualize the teaching process, reducing the frontal types of work and increasing the share of individual-group forms as well as learning and teaching methods;

— promote increased motivation towards learning and the development of creative thinking;

[1] Opening up Education: The Collective Advancement of Education through Open Technology, Open Content and Open Knowledge (Edited by Toru Iiyoshi and M.S. Vijay Kumar) Translation from English by A. Ishchenko, O. Nasyka — K.: Nauka, 2009. — 256 p. — Access: http://vidkrytaosvita.org.ua/resources/vidkryta_osvita.pdf.

— economize on study hours;
— ensure interactivity, clearness and the better mastering of information.

At the same time information and communication technology will not squeeze out traditional methods and modes of teaching; it allows its methodology to come closer to the requirements of the latest university practice and the existing realities of today.

More specifically, a certain traditionalism is characteristic for the motivational factors of the teaching process, when interpersonal psychological relations and the attitudes of lecturers towards students are determinant.

Needless to say, motivation plays an important role in teaching students, particularly in the class work system. Lecturers should be aware of the fundamental means for adapting a teaching plan and class teaching methods to the requirements, needs and interests of the students, effectively motivating then to class work, in order for the learning and teaching process to be an interesting, fascinating and purpose-oriented activity, leading to the attainment of competencies. For this reason, modern researchers and experts devote considerable attention to the motivation component, proposing and developing their own approaches, principles and strategies for the motivation of students.

In this context, the classification of key principles for the motivation of students, developed by experts of the Centre for Educational Research and Innovation, OECD (Figure 4) deserves individual attention. The most important ones are cultivation at a university, favourable class environments where students feel competent to do what is expected of them; the existence of effective feedback between the lecturer and the student; the connection between the learning and teaching process and its results; the formation of such an emotionally saturated learning and teaching atmosphere, that the engagement of students stimulates a relevant intellectual process, etc.

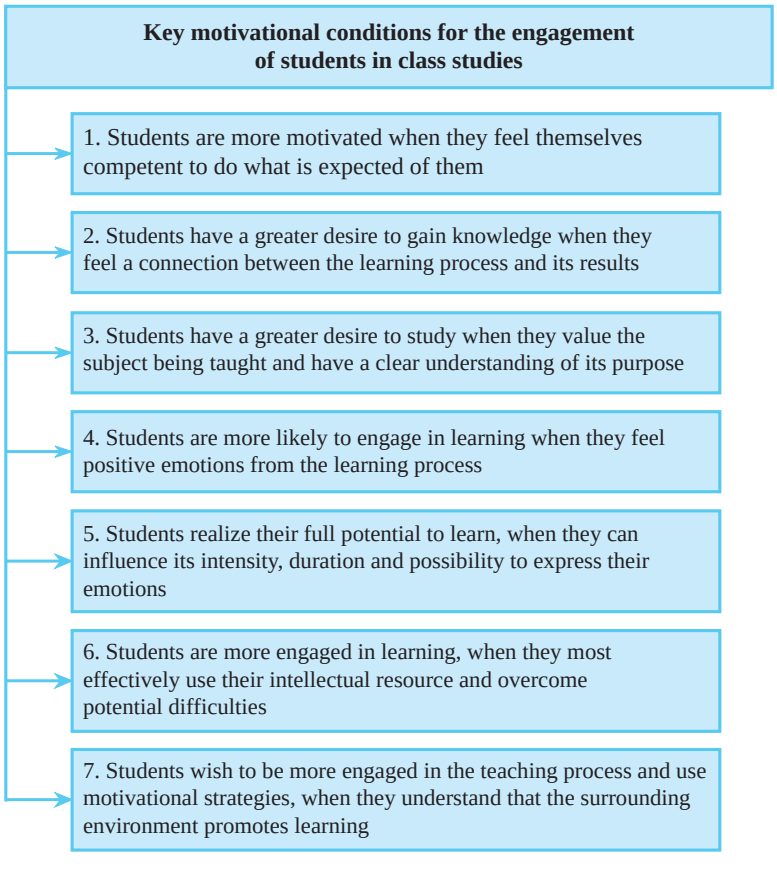

Figure 4. Key motivational conditions for the engagement of students in class studies

Source: The Nature of Learning: Using Research to Inspire Practice — Ed. By Hanna Dumont, David Instance and Francisco Benavides. — Centre for Educational Research and Innovation, OECD. — 09 Aug 2010. — P. 99—109.

Researchers have also developed many other theories for the motivation of students to effective class work. Particular attention should be paid to the theory supporting motivation by Jeremy Harmer (the «Five A's» theory). This theory largely focuses attention on the means to support motivation in the class in its five key elements format:

1. Activity — Students need to have a lot of good activities. Moving around, role-plays, hands-on experiences, singing/variety.

2. Agency — Students are more motivated when they are the doers, when they are the agents, intermediaries or lecturers, who delegate part of their responsibilities to the student auditorium, so give them some power to decide things when you can (the participation of students in the resolution of tasks, the execution of which is only designated for the lecturer — the presentation of teaching material, organization and management of processes in mini-groups, control of the learning and teaching process and participation in its evaluation).

3. Affect — How they feel. They need to know you care about them; you need to know their names. This stimulates their learning activity during the course of class studies (the lecturer should address students in a civil manner)

4. Adaptation — The teachers' ability to respond to the unexpected, which can emerge during class work. His/her flexibility and ability to adapt to changes in the teaching environment stimulates the increased engagement of students in learning.

5. Attitude — The teacher's attitude. The teacher should demonstrate high professionalism his/her sphere, in order for students to take in the material proposed to them with respect and interest (the lecturer who operates using the latest scientific research in his sphere during the course of class work, also skilfully and effectively uses modern education technology, calls forth greater fascination from students and a greater interest in studying).

Thus, in the current practice of world class research universities, the organization and substance of class work as a complex and multivariate system of actions and mechanisms, called upon to provide students with global competence, is of great significance. The key components of this system are: learning and teaching activity, the necessity for the priority development of which is determined in the strategic documents of many universities; methods for the activation of class studies, which allow the integration of the research component into the learning process; evaluation strategy and motivation conditions for the engagement of students in class studies. The scientific productivity of research universities and their international competitiveness depend on an effective combination of the indicated components.

Innovation in Ukraine — Policy Options for Action

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Annotation

The purpose of this article is to highlight the fundamental difficulties, faced by Ukraine in the process of its integration in the global market economy. More specifically, a system of measures is proposed for review, with the aid of which Ukrainian universities can contribute to the increased competitive capacity of the national economy, the development of entrepreneurship and the effective implementation of the scientific and technical potential of Ukraine. The material was prepared in order to initiate an interactive discussion regarding different scenarios for actions and innovative strategy, as well as the legislative support of necessary reforms on the course of Ukraine's establishment of a competitive knowledge-based economy. The article generalizes the results of the author's research during work on the EU project «Enhance Innovation Strategies, Policies and Regulation in Ukraine», within the framework of which, options have also been developed for the strategy for reforming the national university administration system.

Key words: innovative development, scientific and technical potential, research university, the financial autonomy of universities, the university's broker functions.

Untapping Ukraine's scientific capacity for strengthening its economy

Ukraine has come a long way in the difficult and still ongoing transition process from state to market economy.

However it still seems Ukrainians do not trust its infrastructure is conducive to exploit its talents. When Apple co-founder Steve Jobs died on 5.10.2011 he deprived the world of one of its greatest innovators. Ukrainians (almost) unanimously stated that if he had been born in Ukraine, he most likely would have left it.

I had the pleasure of working with Kyiv National Economic University named after Vadym Hetman at various occasions. The university is full of smart and dedicated people. However far too few of them start up a new business in Ukraine. This is also true for other top Ukrainian universities.

Upon suddenly and unexpectedly acquiring its independence in 1991, Ukraine's technological, scientific and educational communities found themselves in a curious position. They had been a major and formidable player in the technological-scientific enterprises of the former Soviet Union. As such, they had at their command a wealth of developed scientific knowledge, a powerful scientific community, an extensive high technology industry, an advanced educational system, and a highly educated literate population thoroughly grounded in the sciences and technology.

With such substantial attributes, one might expect that after a certain period of adaptation, Ukraine would be ready to forge ahead and be able to compete effectively in the global marketplace of applicable ideas and technology, as well as in the areas of research and innovation. However, that is not what happened. Although in its study of global sustainability, «Geoinformatics and sustainable development» (http://www.wdc.org.ua), the World Data Center assessed that Ukraine at the end of the 1980's had one of the best starting conditions among the countries of the former Soviet Union and its sphere of influence, it also noted that Ukraine had not managed to benefit from its advantage. During the last four years, the rating table of the index

of global competitiveness shows a decline from 72nd to 82nd place out of 139 countries ranked (http://www.weforum.org). And so, now after 20 years of independence, Ukraine is still struggling and unable to fully capitalize on its significant educational, scientific, and industrial strengths.

Considering the various positive developments that could arise from having a strong Ukraine, the major question at this stage is: «Can Ukraine's economic decline be turned around and, if so, how?» An understanding of why such a technologically advanced country did not thrive would begin to give us insight both into what was lacking and what is needed now.

The obstacles to economic and commercial success for Ukraine were numerous ranging from the shock of the breakup of the Soviet Union to the realization that Ukraine was not fully prepared for independence and was not prepared to fit into a market driven consumer economy, let alone to reap any benefits from it. A market economy requires a lot of initiative and capital. Initiative, while often available, was not always promoted. There were no precedents for business development on a large scale. There were no ready ways to know who owned what especially when it came to intellectual property. There were no laws to protect inventors, investors, businessmen, and their businesses. Both among potential innovators and among lawmakers, there was a lack of knowledge and experience in how Western style market economies work. As for capital, Ukraine was hard pressed to maintain itself and had no capital for innovation and commercialization investment. Foreign capital, given the legal uncertainties and the risks, shied away from investing in Ukraine.

Evidence shows it is difficult for Ukraine and other countries of the former Soviet Union to change. The world is witnessing the struggles that arise when a country and its popultation must consciously choose another approach to living and conducting their affairs. In the former Soviet system scientific research and innovation were basically state owned and as such had to be strictly guarded and controlled. Since independence, Ukraine and the other CIS countries have tried to develop legal systems to help manage their scientific activities. The Western models for business creation and operations were, and are still regarded with suspicion by some. Changing a country's old habits and beliefs takes education, re-training, re-interpretation and time.

The old centrally planned economy had failed. The old system had determined the value and worth of the various scientific and technological endeavors according to how they furthered the priorities of the state. Foremost among these priorities was the military complex. Generally, rewards were not linked with economics or the consumer; consumer innovation and commercialization could not be a central priority of the state run economy.

Changing to a consumer market driven system meant that the state's priorities had to change - a difficult process under any circumstances with Ukraine being no exception. In turn, a change in priorities would also mean changes in the established systems of rewards, honors and privileges. Such changes cause major disruptions that test and fray the existing social fabric of a country. Today, Ukraine is still struggling with these disruptions. Some segments of society have been willing to cast aside many of its former values; other segments have not. The formation of a viable, unifying and dynamic Ukrainian identity is ongoing, and the struggle to bring about useful and workable changes goes on. In such a climate the help to Ukraine's economy is especially critical in the areas of science, innovation, technology, commercialization, and international collaboration through knowledge management and exchange.

In terms of growth, the economies of the West are knowledge-based. Technology is the major driving force, and through patenting and licensing and the formation of new start-up companies high technology jobs are created. Success leads to profits and more jobs which then lead to national well-being, national stability and further investment and success. These are all sorely lacking in Ukraine at present; the world of commerce is still relatively new and the world of consumer product commercialization still holds many mysteries. And yet, each year approximately 100,000 students graduate from Ukrainian universities only to discover that Ukraine's economy still has to create enough suitable jobs in order to absorb this annual flow of newly educated professionals. The development of high-tech ideas and products that can compete in the marketplace is a necessity, but so far it has not gained momentum.

There are many obstacles to the commercialization of scientific research in Ukraine: scientists lack adequate knowledge, experience, and preparedness for commercialization; management lacks effective managerial skills as regards research activities; financing for innovation is markedly insufficient; commercialization of research activity is hampered by the shortcomings of the legal structure; and overall there is the absence of an effective infrastructure for innovation. In contrast, market economies are empowered by their utilization of trained business and commercialization experts ranging from MBAs to patent and corporate lawyers, from knowledge and innovation managers to business development experts. Such experts are scarce in Ukraine.

Formerly there had been no perceived need for them or their services. Now, however, it is becoming clear they are needed.

Statistics in Ukraine show that only 14,2% of enterprises are involved in innovative activity and only 6,7% of sales volume is realized through innovative production. All of these factors highlight the need for training, experience, and exposure to effective practices. In order to compete globally, various Ukrainian professional and social institutions need to understand how technology makes money and affects the economy, and then to coordinate their efforts toward rewarding goals.

Certainly there are obstacles that Ukraine has to overcome; however, the foundation and potential for innovation do exist. Ukraine, today, has more than 100,000 industrial enterprises, about 300 scientific institutes and universities, and an active scientific community of approximately 100,000 scientists. In terms of the total volume of natural resources, Ukraine occupies one of the leading positions in the world for coal, metals, uranium ores, and minerals. Although Ukraine's exports consist largely of metallurgy products (up to 35%), every year the share of machine-building, high precision equipment construction, and information technologies is growing. Even more indicative of technological potential is the fact that today's Ukrainian university graduates and scientists are welcomed in all parts of the world, and Ukraine remains a world leader in the areas, among others, of space and aviation technology, cardiovascular surgery, high-tech specialized metal welding, and in the preparation of certified computer programmers. On the political scene, in 2007 the Parliament of Ukraine adopted a law enabling the formation of the country's first scientific park at the Kyiv Polytechnic Institute (KPI), the largest university in the country, thereby providing an environment in which innovative activity can thrive. According to the resolution of Cabinet of Ministers of Ukraine #163 (17.02.2010) «Statement on research universities» 31 criteria on the activity of a «research university» were defined. These criteria confirm the research status of the university which entails inter alia both the duty and the right of running a science park. It seems the efforts brought some fruits. In 2011 for the first time two Ukrainian universities have made it into a respected international ranking (QS World university rankings of top 700 universities).

Furthermore it is important to recognize that, even at such a time of economic difficulties, collaboration between investors and scientist-innovators can be mutually rewarding, and that the commercial potential of scientific discoveries and technology developments can be great if one takes the time to uncover them and to work collaboratively with them. Ukrainians scientists are eager to see their developments and inventions in use by consumers in the global arena, and they are seeking collaborative opportunities with Western investors and the formation of joint ventures. The more training, experience, and exposure to the West that they can get, and the more trained business and managerial professionals (that) they can work with, the more smoothly will it be for them to participate in the global market economy. It is clear that training business/managerial professionals is central for Ukraine's transitioning to a market economy.

Policy recommendations

Our effort was concentrated on identifying some main barriers and drivers of innovation in order to propose sets of actions that could be useful for the policy makers to consider. University governance was analysed in the EU and in Ukraine. Main comparisons between Ukraine and some EU countries were drawn. Strategic policy issues and challenges for action were drawn.

Ukrainian universities are a major pillar of the national innovation system. This article proposes how an enhanced role of Ukrainian universities can contribute to leading Ukraine to a knowledge-based competitive economy. Some Ukrainian universities are leaders in technology and science. They have survived the various storms of regime changes and continue to strive. Kyiv National Economic University named after Vadym Hetman is one of them. It actively pursues scientific and economic interactions and partnerships with numerous countries around the world. In the area of knowledge and innovation management they can be highly effective. They can develop in Ukraine a critical mass of experts that would make a significant difference to Ukraine's economic outlook. They would become instrumental in developing an innovative enterprising climate for Ukraine's industry and business thereby leading Ukraine out of the present unproductive economic path.

As a result four major recommendations can be given:

1. Grant Ukrainian universities with some financial autonomy to be able to carry out some financial transactions without engaging into often lengthy and tedious application procedures with the Ukrainian Treasury. Allow Ukrainian universities to use funds provided as assistance, grants, gifts, sponsorship and other contributions without observing the public procurement procedure stipulated by the Ukrainian legislature. In a pilot phase Ukrainian universities holding a «research status» may participate. Enable universities to enter

income stemming from grants, sponsors, contract research, or IP licensing and commercialization on the credit side. Allow universities to self govern the income from different funds for setting up university Technology Transfer Offices, for sharing with their professors and inventors who license their technologies, for international projects, for R&D support, organisation of international conferences, uptading university equipment and laboratories, publication of articles and journals, promotion of the university and its research programmes, travelling of Ukrainian and foreign professors, provision of stipends to selected high scholarship students, and similar activities.

2. Incentivize research institutes and universities to engage in commercial activities. Consider increase of public budget share to stimulate research institutes and universities to seek collaboration with industry (contract research, business training, etc). Special programmes of such collaboration have to be introduced through a dedicated agency or a special fund to be created. Experience from the EU suggests an average university might raise up between 10% and one third of its expenditures from collaboration with the industry. Qualitative impact stems from more focused research enhanced by industry exposure of university staff.

3. Simplify the procedures for start-ups from research institutions and universities; define the sources of statutory funds formation by institutions and universities, the procedure of inclusion of valuable intellectual property rights into statutory funds, and the procedure of transfer of dividends to the institutions. Incentivise universities and research institute by allowing all revenues received from licensing and spin-offs to be not taxable and remain in the university to modernize their laboratories and equipment. Universities and institutes are to share the revenues raised among technology transfer office, university/ institute department where research is performed, and researcher(s). Auditors for this function need to be appointed within each institution. Universities and research institutes must report licensing revenues; investments from external investors into R&D and into spin-offs, number of spin-offs, revenues from spin-offs; number of jobs created in the community; and number of medical and societal products developed.

4. Expand effective brokerage functions (e.g. liaison offices) in the main research institutions based on real market oriented models. It is recommended that institute management and administration staff be trained with skills in subjects such as accounting, evaluation of technologies, licensing, technology marketing, and creating spin-off companies based on the institute's technologies. To embrace the experiences gained by Science and Technology Centre of Ukraine (STCU), and of pilot Technology Liaison Offices (hosted by Institute of Physics NASU, Institute of Material Sciences NASU, both in Kyiv, Institute of Radio Physics and Electronics NASU in Kharkov, and Institute of Technical Mechanics NSAU in Dnepropetrovsk), and to provide services to professionally present selected technologies at international exhibitions and online. The relations between the universities and institutes and these offices have to be regulated by special legal acts, which will protect the inventors and which will not allow university and institute administration to obtain one-sided benefits from R&D results of the university and institute staff. Evidence from major university and liaison offices in the EU (e.g. Max Planck Innovation, or Patent exploitation agency Saarland) indicate the need for approximately five dedicated full time staff of experienced people in these offices. Evidence furthermore indicates the break even of investment reached on average after 10 years of operation. It is often observed that the majority of revenues stem from licenses of only a few internationally protected «block busters».

Outlook

The purpose of this article has been to shed some light on Ukraine's major difficulties in transitioning to a global market economy. In the areas of scientific innovation and commercialization the serious need for business development and managerial professionals has been identified, and we can return to the major question stated earlier above: Can Ukraine's economic decline be turned around and, if so, how? The how part of the question has been discussed as regards our major concerns, the scientific and business communities, and we now turn to the issue of reversing Ukraine's economic decline: «Can it be done?» The answer is a resounding, «Yes.» Ukraine has much to offer and certainly the effort must be made.

Disclaimer

The analysis at hand was carried out during the work on the EU Project «Enhance Innovation Strategies, Policies and Regulation in Ukraine». The project published inter alia «Innovation in Ukraine: Policy Options for Action» [1]. Therein policy options inter alia on university governance are given.

[1] *Rumpf G., Strogylopoulos G.*, Kyiv 2011. Innovation Policy: European Benchmarking for Ukraine Volume 3. «Innovation in Ukraine- Policy Options for Action» http://innopolicy.com.ua/wp-content/uploads/GR_Monograph_volume_3_EN.pdf

Career path surveys of university graduates as the main source of knowledge on educational mismatch

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Annotation

This article offers a systematic research of job placement conditions for university graduates in Poland, based on an analytical generalization of the results of pilot surveys of representatives of Cracow University of Technology, which have been systematically conducted by the university since 2006. Using relevant methodological tools, it provides an evaluation of the quality of teaching at the university, the characteristics of the employment of graduates, the time spent searching for employment and the specific features of the development of a professional career. It was established that the data collected and developed monitoring methodology can be used effectively for the research of existing deformations in the university education system as well as the scale and prime cause for the discrepancies between higher education institutes and the labour market.

Key words: conditions for the job placement of graduates, teaching efficiency, employers' competence expectations, structural deformations in higher education, labour market.

Introduction

Higher education system in Poland as a part of educational system regulated by a unique law[1] had gained significant autonomy over the 1990s.[2] According to the aforementioned law, public and private higher education institutions are defined as self-governed establishments, which are allowed to offer independent study programs in a liberal fashion, with the role of the government being restricted to determinate organizational and competence frameworks (fields of study, standards etc.). As a consequence, the number of students and university graduates had increased significantly since the beginning of 1990s (Figure 1). As the share of students stood at just 9,8% of school-age population at the beginning of transformation process, this indicator had increased to 25,4% in the 1998/99 study year. The number of students has been stabilized at the level of 37—38% since then.

It has been widely accepted until recently that a higher scolarization ratio is almost automatically transformed into higher wages, lower unemployment and higher GDP growth rate[3]. However, there are more and more empirical evidences recently that an increase of expenditure on education, especially on the tertiary education, does not guarantee as high individual and public

[1] The Law on Higher Education was adopted on September 12, 1990, with amendment of July 27, 2005.

[2] Autonomy of higher education institutions is guaranteed by the Article 70 of the Constitution of Poland.

[3] Barro Robert. Economic growth in a cross section of countries // *Quarterly Journal of Economics*. — 1991. — Vol. 10. — No. 2. — P. 407-443; Krueger Alan and Lindahl Mikael. Education for Growth: Why and for Whom? // *Journal of Economic Literature*. — 2001. — Vol. 39. — No. 4. — P. 1101-1136; Lucas Robert. On the mechanics of economic development // *Journal of Monetary Economics*. — 1988. — Vol. 22. — No. 1. — P. 3-42; Sala-i-Martin Xavier. I Just Run Four Million Regressions // NBER Working Paper No. 6252. — Washington: National Bureau of Economic Research, 1997.

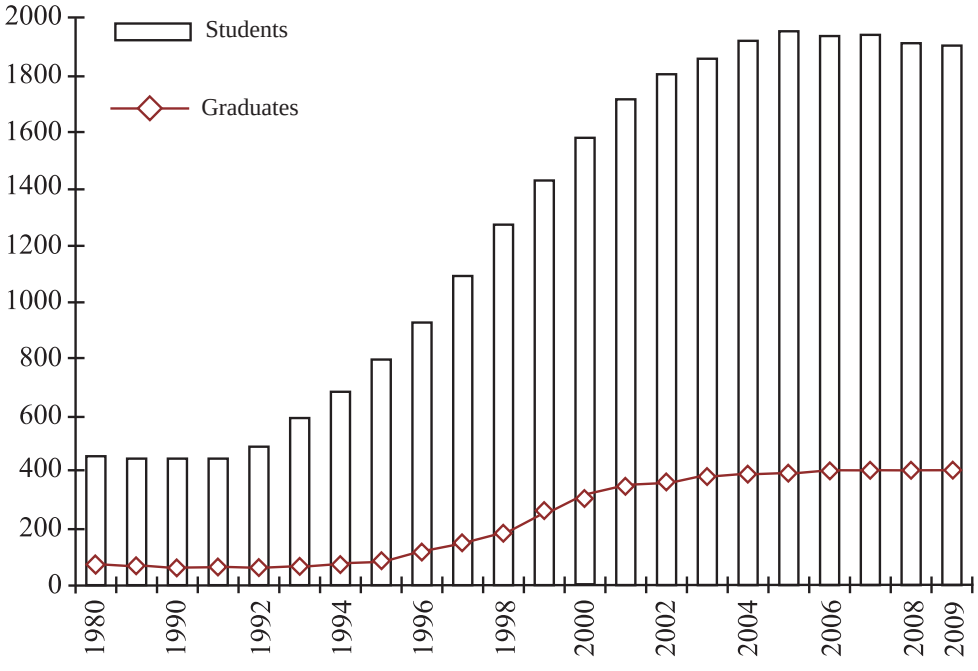

Figure 1. Poland: the number of students and university graduates, 1980 – 2009 (thousand persons)

Source: GUS.

returns as it is suggested by numerous theoretical models[1]. In the context of the new endogenous growth theories, there is an increased interest in many countries, including Poland, in the deepening mismatch between university education and labor market demand.

Career path surveys of university graduates are among the most reliable sources on structural[2] and competence[3] mismatches. Having been originated as individual university initiatives, this kind of surveys have been gradually transformed in many countries into systemic studies[4], involving more and more institutions, and ultimately covering the whole country. Monitoring of the career path of graduates allows forecasting of the demand for university-educated labor force across specific branches of the economy, and becomes more and more often the main argument behind deliberate government interventions aimed at steering future students towards specific educational institutions and fields of study, which provide with competences demanded on the labor market[5]. Published reports on the career path studies are the important source of knowledge about the competence level of university graduates from particular higher education institutions for employers and make it easier to conduct university recruitment. Career path surveys have the microeconomic dimension as well, being used by higher education institutions for marketing purposes, besides of monitoring of the quality of teaching. Dissemination of information on the university graduates performance on the labor market, their workplace status, wage level and employment contracts (temporary or permanent) has an important impact not to be downplayed on the choice of the field of study by youngsters.

[1] Siwinska Joanna. Badanie roli edukacji w rozwoju gospodarczym // *Ekonomista*. — 2007. — Nr 5. — S. 675—690.

[2] Structural mismatch is caused by the choice of irrelevant field of study by students, which does not match the structure of demand for university graduates on the labor market.

[3] Competential mismatch results from a low quality of education, regardless of the status of the field of study — either matched or mismatched, i.e. with the surplus of students.

[4] An extensive survey of the European experience could be found in *Analysis of Graduates' Career Path. Instrumental tools and methods in the EU Countries and Poland* (Analiza losow zawodowych absolwentow. Narzedzia i metody w krajach UE i Polsce / J. Zyra (red.). — Krakow: Politechnika Krakowska, 2007).

[5] Freeman James and Hirsch Barry. College majors and the knowledge content of jobs, *Economics of Education Review*. — 2008. — Vol. 27. — P. 517—535; Zietz Joachim and Joshi Prathibha. Academic choice behaviour of high school students: economic rationale and empirical evidence // *Economics of Education Review*. — 2005. — Vol. 24. — P. 297—308.

The goal of this paper is a presentation of the results of the pilot career path study of the graduates of Cracow University of Technology (CUT), which has been performed on a systematic basis since 2006. Organization and methodology issues are outlined in Section 1, with the selected results of the CUT graduates assessment of the study program, workplace conditions, an average time for the first job search and specific features of career path development being presented in the next two sections.

Organization and methodology of the survey

Applied multiannual research activities by the Institute of Economy, Sociology and Philosophy (IESP) at CUT are centered around the project titled «Enhancement of contemporary education of an engineer, manager and leader in the humanistic and economic aspects». The research is focused on the utilization of academic knowledge by university graduates on the labor market. As a consequence of the IESP research activities, the CUT had pioneered among the technical universities in Poland monitoring of the career path of its graduates after six months on graduation (starting in 2006) and after five years on graduation. These activities have benefited substantially from participation of IESP in the international research project financed by the European Union «HEGESCO — Higher Education as Generator of Strategic Competences». Starting in 2011, career path surveys of graduates with three years job experience have been started.

A specialized unit for study of education and labor market effects has been functioning at IESP since 2008, conducting research activities across three separate fields:

1) study of career path of graduates after 6 months, 3 and 5 years after graduation, which are focused on the field of study match, degree of the utilization of competences (acquired and developed during the study period), preconditions for job promotion, as well as specific features of the «competence gap»;

2) analysis of the competence expectations by employers, comparison of study effects on particular fields of study and educational levels with the labor market expectations;

3) analysis of educational strategies by higher education institutions aimed at better compliance with the labor market requirements, such as identification of the effective methods of teaching, effective cooperation with the business environment, and elimination of harmful barriers between higher education institution and labor market.

A pioneering study of the career path of the CUT graduates from the 2005/2006 academic year after six months from graduation had been initiated and conducted by IESP in cooperation with the Careers Service within the scope of the ZPORR Project, financed by the European Union and Polish government under the auspices of the European Cohesion Fund[1]. Conditions for the labor market entry and job satisfaction for 787 graduates (56% of all graduates of the 2005/2006 academic year) had been studied. Telephone survey combined with preparation of the answer sheet by a canvasser had proved to be the most effective way of conducting a survey, with 81% of answers received. The group of five canvassers under supervision of assistant of the project coordinator conducted surveys mainly during evening time (between 19 and 22.30 o'clock) and afternoon time (from 13.30 to 15.00 o'clock). All activities had been completed by funding of the project at 200 000 PLN.

Subsequent surveys of graduates had been realized by IESP independently by financing through individual research funds and partial support from the CUT leadership which provided with a paid managerial position. Main research instrument, i.e. survey sheet disseminated by email, has been modified over the research study period. Specifically, several positions have been added to the survey sheet of 2010 such as:

— opinion regarding the study program;
— time for starting the job search;
— education level which is the most adequate for the current job position.

At the same time the question on the employment during the study period has been eliminated from the answer sheet, as part-time employment for students is monitored by the Careers Service.

On the initial step of the survey, organizers faced several law and organizational obstacles, as misinterpretation of the law on personal data security led to concerns of a few departments regarding the use of e-mail addresses, telephone numbers or mailing addresses for the research purposes. Another setback was the lack of department databases containing addresses of graduates. However, university departments and the institution on the whole got much better

[1] Methodology and results of our research activities are summarized and published in the monograph titled *First steps on the labor market: the study of career path of the graduates by the Cracow University of Technology, research tools, methodology and results for the pilot survey for the year 2005/06* (Zyra, J. Pierwsze kroki na rynku pracy. Badanie losow zawodowych absolwentow Politechniki Krakowskiej, narzedzia badawcze, metodologia i wyniki badania pilotazowego rocznika 2005/06. — Krakow: Politechnika Krakowska, 2007).

prepared for career path surveys over last few years. Among documents for students of the last year of study, agreement for participation in the career path survey is included. If agreed, student provides with his/her e-mail address and cell-phone number. For initial preparation of the database with addresses of graduates, cooperation with administration of departments is of high importance. Unambiguously, direct contact of organizers of the survey with graduates during the solemn ceremony of diploma awarding which used to be organized at the department level makes start of the survey procedure more efficient.

Information collected from graduates over the 2006–2010 period (after six months from graduation)

Survey data allowed for analysis of the quality of study programs and career path patterns of the CUT graduates just after graduation.

The study program

–More than 60% of graduates declare that they would repeat their choice of the educational institution and field of study (Figure 2), and 40% of 2010 graduates consider that their study had high public status and the study program was highly demanding in the intellectual sense, contributing to the development of either professional or general competences with wide spectrum of possible use. Studies at CUT are viewed as a solid foundation for future personal career, development of professional competences, and finding a job. For 65% of graduates in 2010, obtaining the master degree is very useful for current professional duties in the workplace.

– As much as 50% of graduates have started improvement of their competences, such as knowledge and professional skills, IT, communication and language skills, during the study period (Figure 3). Main motivation for taking training programs was better adaptation for the labor market demand as well as personal interest. Vast majority of graduates reveal their interest in continuation of postgraduate studies.

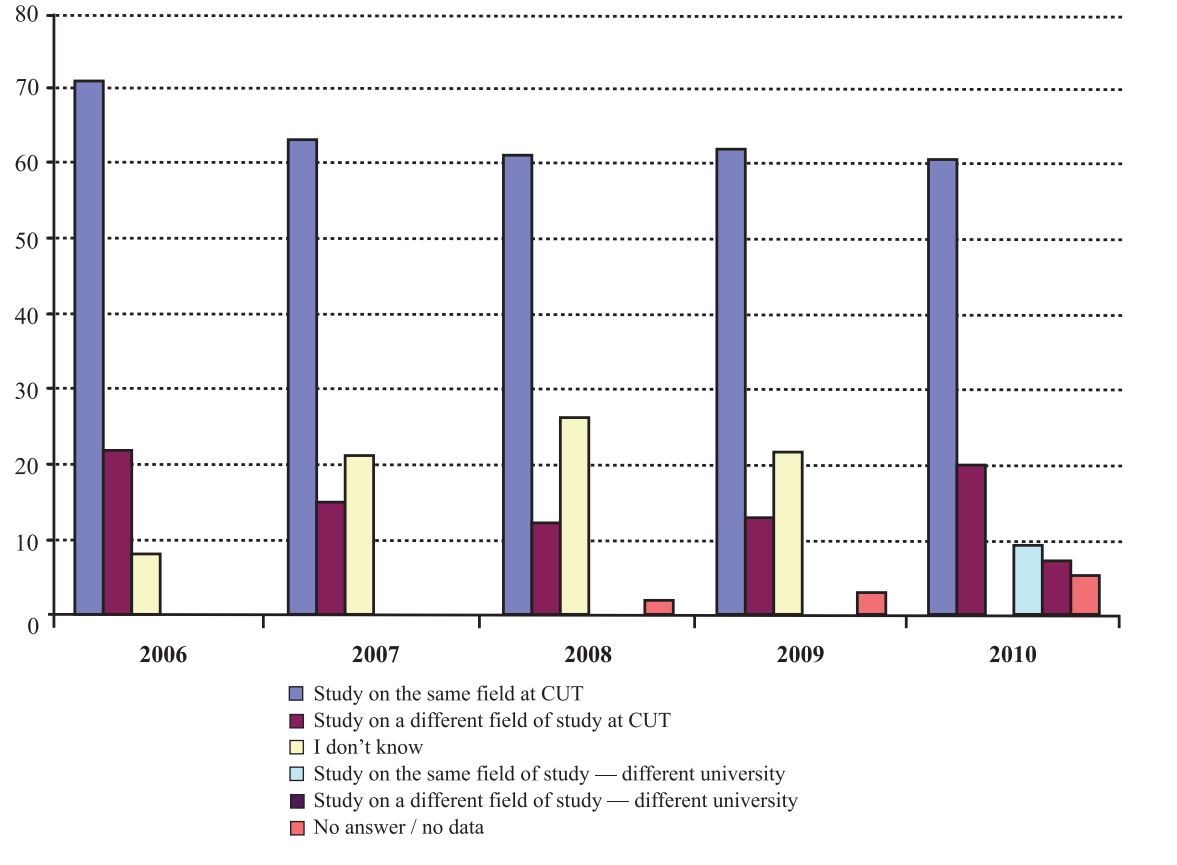

Figure 2. Response on the question regarding the renewal of the educational institution and the field of study by the graduates over the 2006–2010 period (% of surveyed)

Source: author's calculations.

Employment

— Six months after graduation, 80% of respondents declare a full match between their study and job requirements, with the field of study being an important factor behind obtaining a job. Almost 90% of employed graduates have signed their contracts even before graduation of just after it. Majority of the graduates are employed by domestic and international small and medium enterprises (SMEs), while about 35% are employed by large corporations. According to graduates, main barriers for obtaining a permanent employment are non-attractive job offers on the labor market in respect to wage level and career prospects. Almost 33% of respondents treat their first job as a base for career development and a source of skills improvement. About 30% of graduates are going to stay with their employer for a longer span of time.

— Knowledge and professional skills, interpersonal communication skills, team management, general knowledge and language proficiency (in English) are considered as most frequently used competencies in the workplace (Figure 4).

— About 60% of employed graduates are considering an establishment of their own private firm in the future (Figure 5). As revealed by the study, decision on setting up a firm just after graduation is undertaken quite rarely. As of 2010, just over 10% of respondents have such intentions. What is important, in the majority of instances the profile of a firm is relevant to education obtained. Personal ambitions, higher earnings and family traditions are mentioned as main motivations for starting a private firm.

— Based on the results of our studies over a five-year period, it is observed that graduates more and more often reject the first job offer on the basis of too low wage and lack of career opportunities.

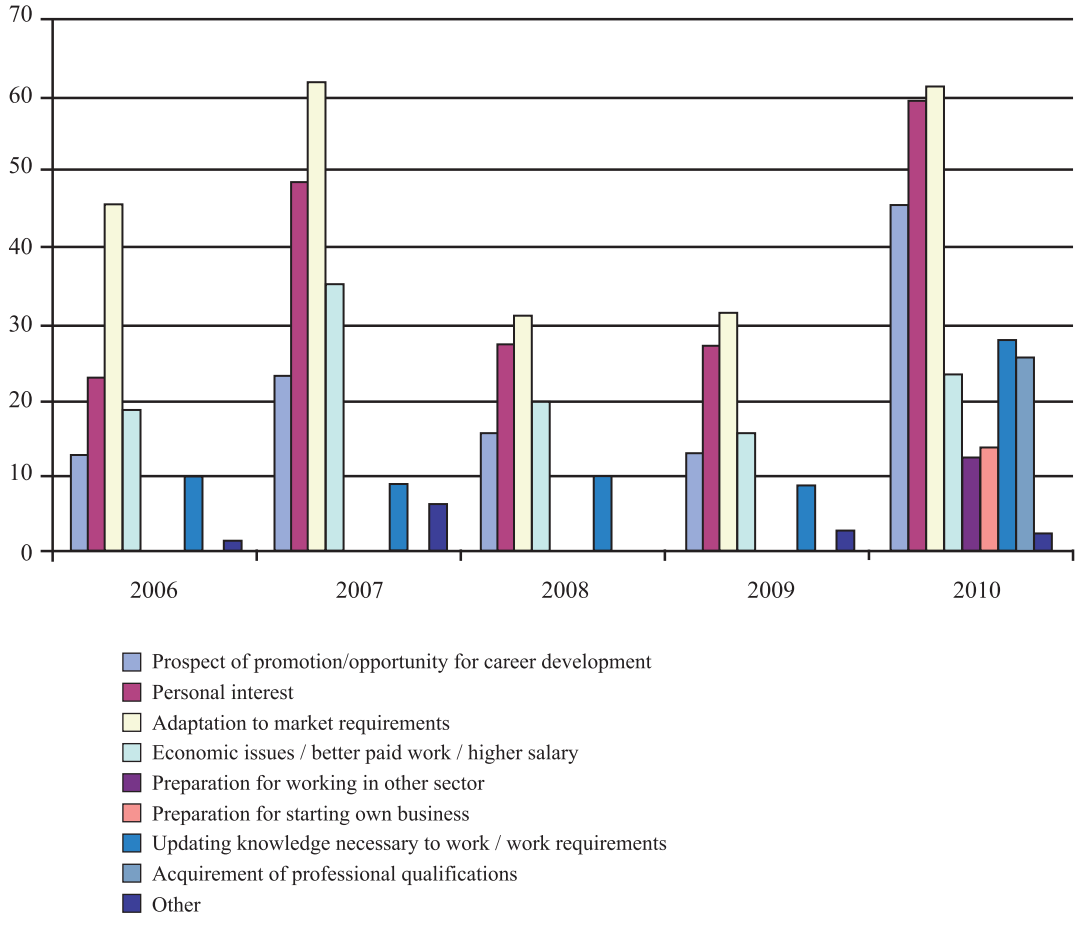

Figure 3. Most frequent explanations for participation in extra courses and training programs by graduates over the 2006–2010 period (% of surveyed)

Source: author's calculations.

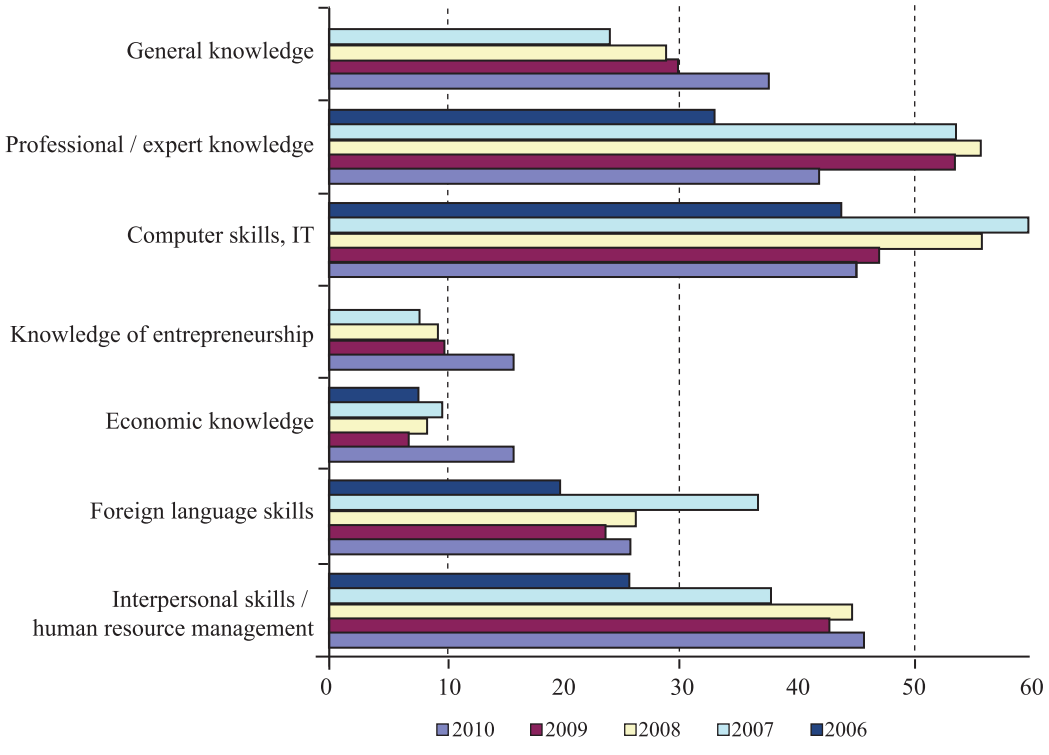

Figure 4. Most frequent competences indicated by graduates over the 2006–2010 period (% of surveyed)

Source: author's calculations.

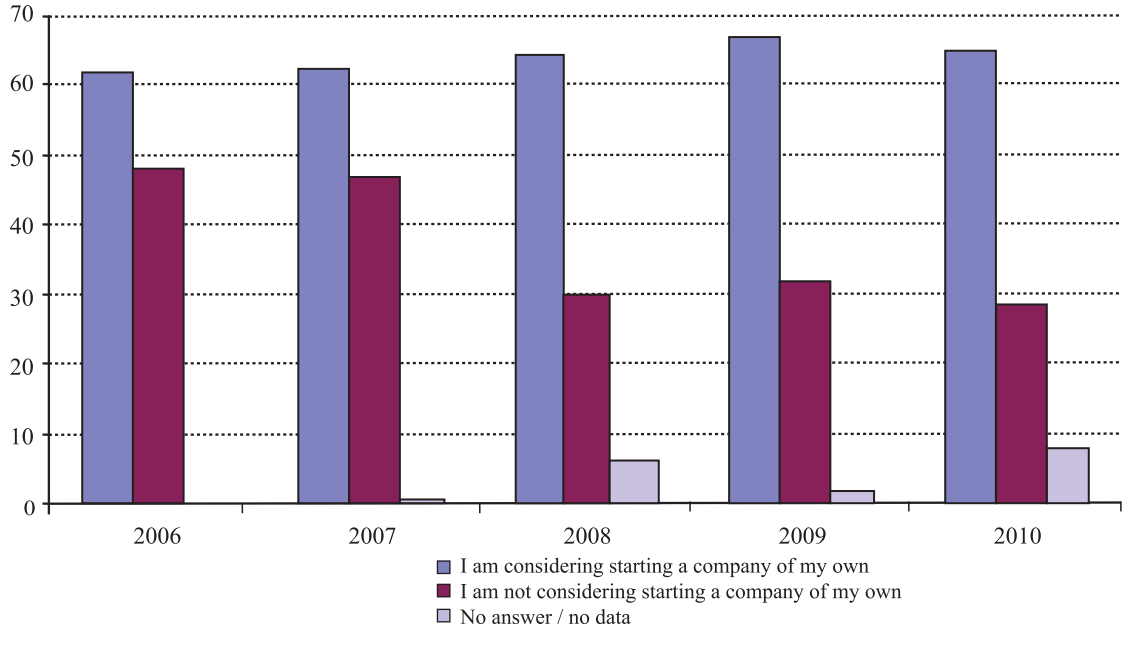

Figure 5. Percentage of graduates over the 2006–2010 period that consider setting up their own firm in the future (% of surveyed)

Source: author's calculations.

Information collected from graduates after 5 years from graduation

First study of the career path of CUT graduates after five years from graduation had been conducted among persons graduated in 2003. Obtained information allows for:

— Identification of conditions for entering the labor market by university graduates.

— Definition of the professional status of graduates on graduation.

— Explanation of the career path of university graduates.

— Assessment of firms which employ graduates in the context of innovative processes.

— Analysis of current employment situation by graduates.

— Assessment of the level of acquired competences and those ones used in the workplace.

— Assessment of the level of satisfaction from university studies.

It was extremely difficult to contact graduates of the year 2003. Based on the information obtained in the departments, 1481 answer sheets were disseminated by mail. Simultaneously, answer sheets were sent to graduates through Nasza Klasa and GoldenLine. Finally, 111 answer sheets were received.

Study

— From the vantage point of five years in professional activities, 83% of respondents declared that they would have chosen CUT again as their higher education institution, with 66% of respondents confirming their choice of the field of study. According to the graduates, their study had served as a proper basis for personal development and prepared for fast on-the-job training and acquiring professional competences necessary for performing of their duties. University study had created a very useful platform for the career path.

— Based on the scale from 1 to 5, *Automatic Control Engineering and Robotics* as well as *Electrotechnics* had the most demanding study programs, with *Electrotechnics* and *Environmental Engineering* having the most universal profile of the study (Figure 6). According to the survey results, *Construction and Engineering Structures* and *Transport* carries out the highest level of academic prestige. The lowest scores have been given to the flexibility of the choice of academic subjects in such departments, as *Automatic Control Engineering and Robotics*, *Mechanics and Machine Design*. Employers in the fields of *Construction and Engineering Structures* and *Environmental Engineering* have the best knowledge on the study program.

— During their period of study, graduates tended to obtaining very good marks (60%), but only a half of them had been preparing for classes in the range that exceeded examination requirements. Lectures, focus on theory and paradigms, problem-oriented studies, projects, written tasks are among the most memorized methods of teaching during the period of study. Participation in the research projects at the university had been rather marginal.

Employment — First job

— Immediately after graduation, 78% of graduates had signed their employment contracts, with 23% of them continuing the job obtained during the study period. Strategy of the first job search had been highly diversified, as 68% of graduates started looking for a job at the end of study program and just before the diploma qualification, and 25% of them contacted with employers during the study period. 70% of respondents had found employment in less than two months, and 32% of graduates in less than one month. Contact with the employer on one's own was the most effective method of the first job search (32%). The first job contract for 55% of graduates had been temporary, but in 40% of cases it was permanent. Any additional on-the-job training was not necessary for 75% of the graduates. A match of the first job with the field of study is reported by 56% of respondents, and for 13% of them it was a related field of study. Recently, employment on the first workplace is continued by a half of the graduates surveyed.

— Self-employment is practiced by 8% of graduates.

— Among graduates that never been employed since graduation, more than a half of them have not been interested in obtaining a job. Those of graduates who looked for a job have found a workplace in less than six months in 76% of cases (Figure 7).

Employment — Status in the workplace

— About 1% of respondents are not looking for a job, with 21% of all those who are employed being on maternity leave or taking care of a family member.

— In respect to the first job, there is an increase by 10% of the group of graduates that are employed in line with their field of study (up to 67%). On the other hand, there is a decrease down to 8% of graduates with job offers matched to related fields of study.

— Above 70% of graduates are employed not in accordance to their first job. Nobody have duties below qualification level, or being underutilized in the workplace.

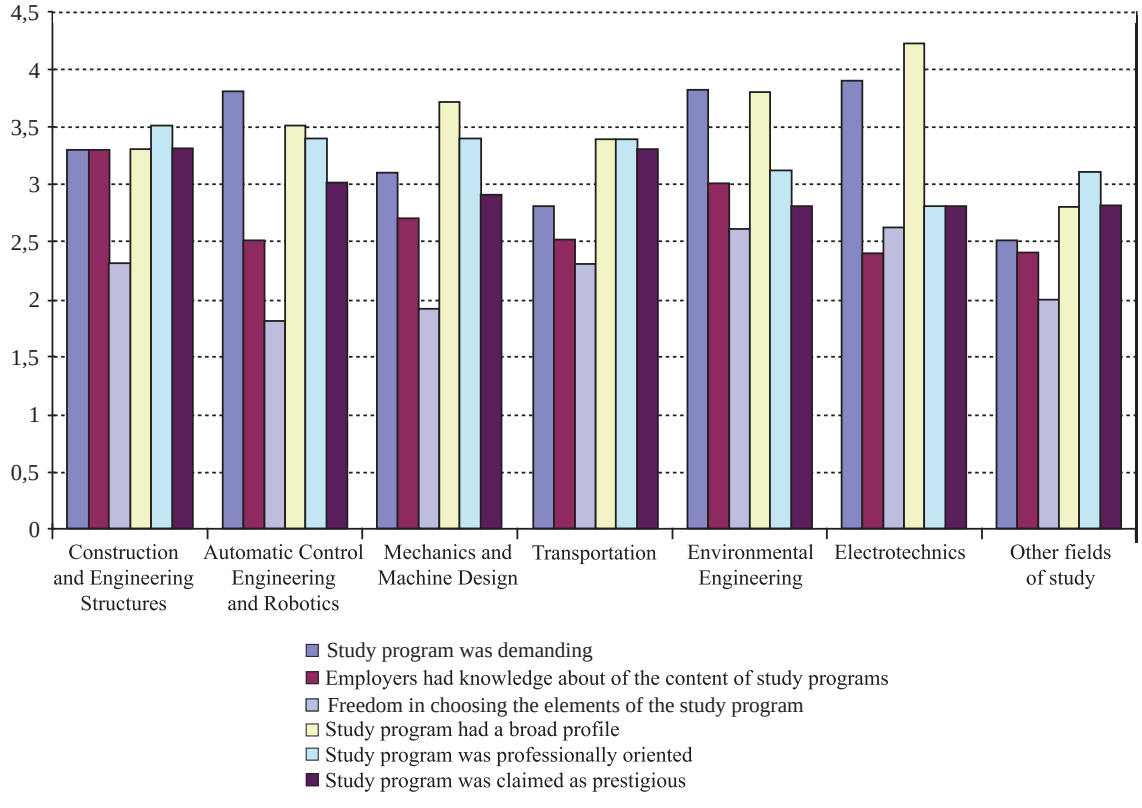

Figure 6. Opinion of the respondents graduated five years ago on their studies (scale from 1 to 7)

Source: author's calculations.

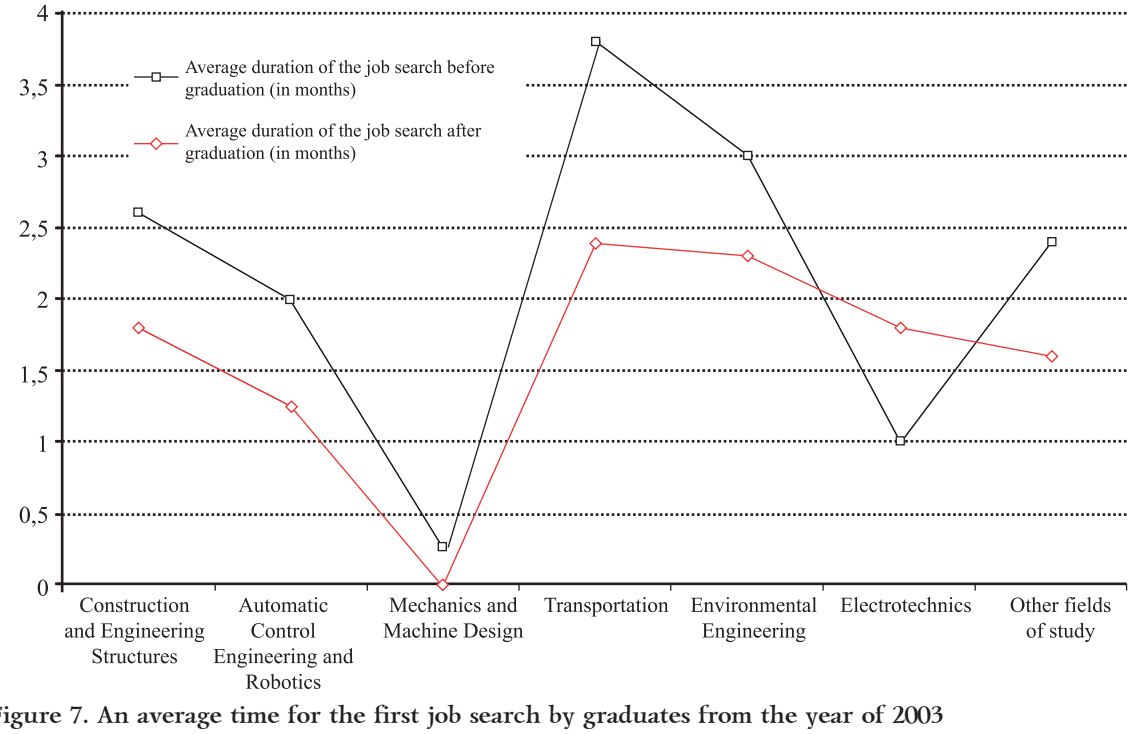

Figure 7. An average time for the first job search by graduates from the year of 2003

Source: author's calculations.

— Graduates are employed mainly by private SMEs (69%). Among employers, firms with international activities dominate (44%). As competition in the sectors where graduates are employed is considered to be strong and very strong (for 65% of firms), many of enterprises seek their competitive advantage in innovativeness of products, technologies and processes.

— Current occupation brings about a lot of job satisfaction for 78% of graduates, being employed on workplaces with high responsibility. For 94% of graduates, mistakes on the job have serious consequences for the firm. 55% of graduates are in top managerial positions at different levels (most frequently in firms with employment up to 10 persons), being responsible for supervision of other employees. 18% of graduates are responsible for strategic decisions of the firm (Figure 8). The highest level of self-reliance and independence in establishing personal goals and approaches for task performance is revealed by graduates from *Automatic Control Engineering and Robotics* and *Electrotechnics*.

— High level of utilization of acquired competences in their professional life is declared by 67% of graduates. Main mismatches between the competences of CUT graduates and employers include ability to work under pressure, ability mobilize others for the task, effective time management, report presenting. Among competences not fully utilized on the workplace, IT knowledge and skills, ability of fast search of necessary information, knowledge of multiculturality, ability to communicate across cultural groups, fluency in foreign language are identified.

— According to 48% of graduates, from 3 to 5 years of work experience are needed in order to achieve appropriate level of qualification at the workplace. The fastest improvement in the level of professional knowledge is achieved by graduates from *Automatic Control Engineering and Robotics* — after three years, but for graduates from *Electrotechnics*, *Environment Engineering*, *Transport*, *Mechanics and Machine Design* necessary time span increases to 3,5—4 years, and for graduates from *Construction and Engineering Structures* up to 4,5 years.

— 38% of respondents declared monthly earnings at the level at least 4000 PLN (Figure 11). Graduates from *Automatic Control Engineering and Robotics* and *Construction and Engineering Structures* reported the highest wages at 4150 PLN;

— Over four weeks preceding the survey, 15% of respondents have undertaken attempts in order to change the job or have been waiting for the answers of earlier job applications.

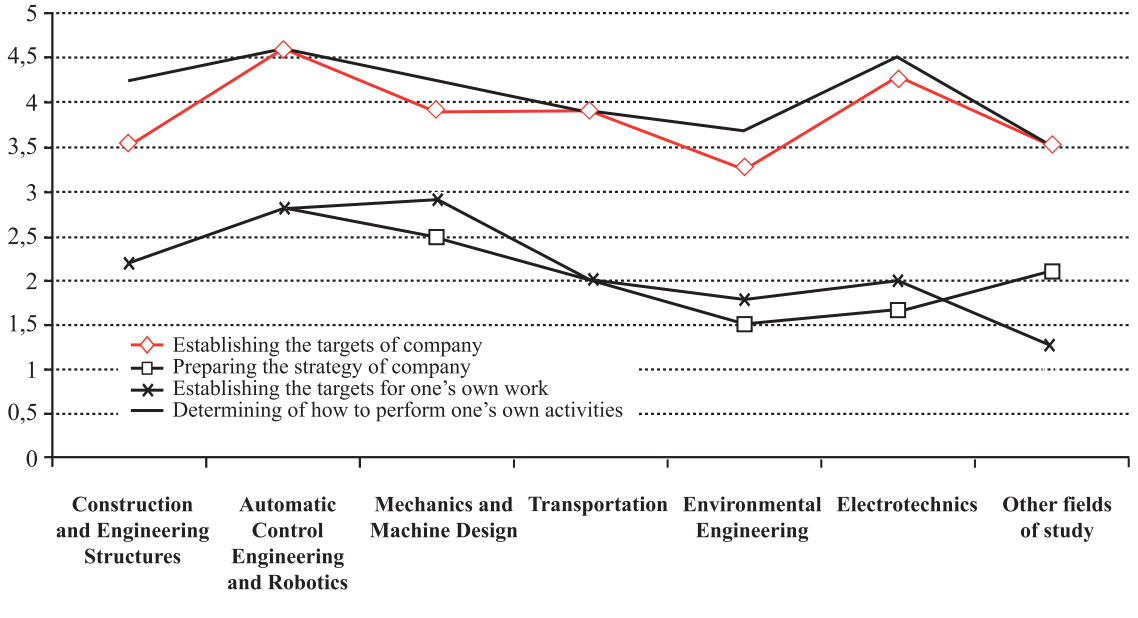

Figure 8. Opinion of graduates on the tasks performed at the current workplace (scale from 1 to 5, N=109)

Source: author's calculations.

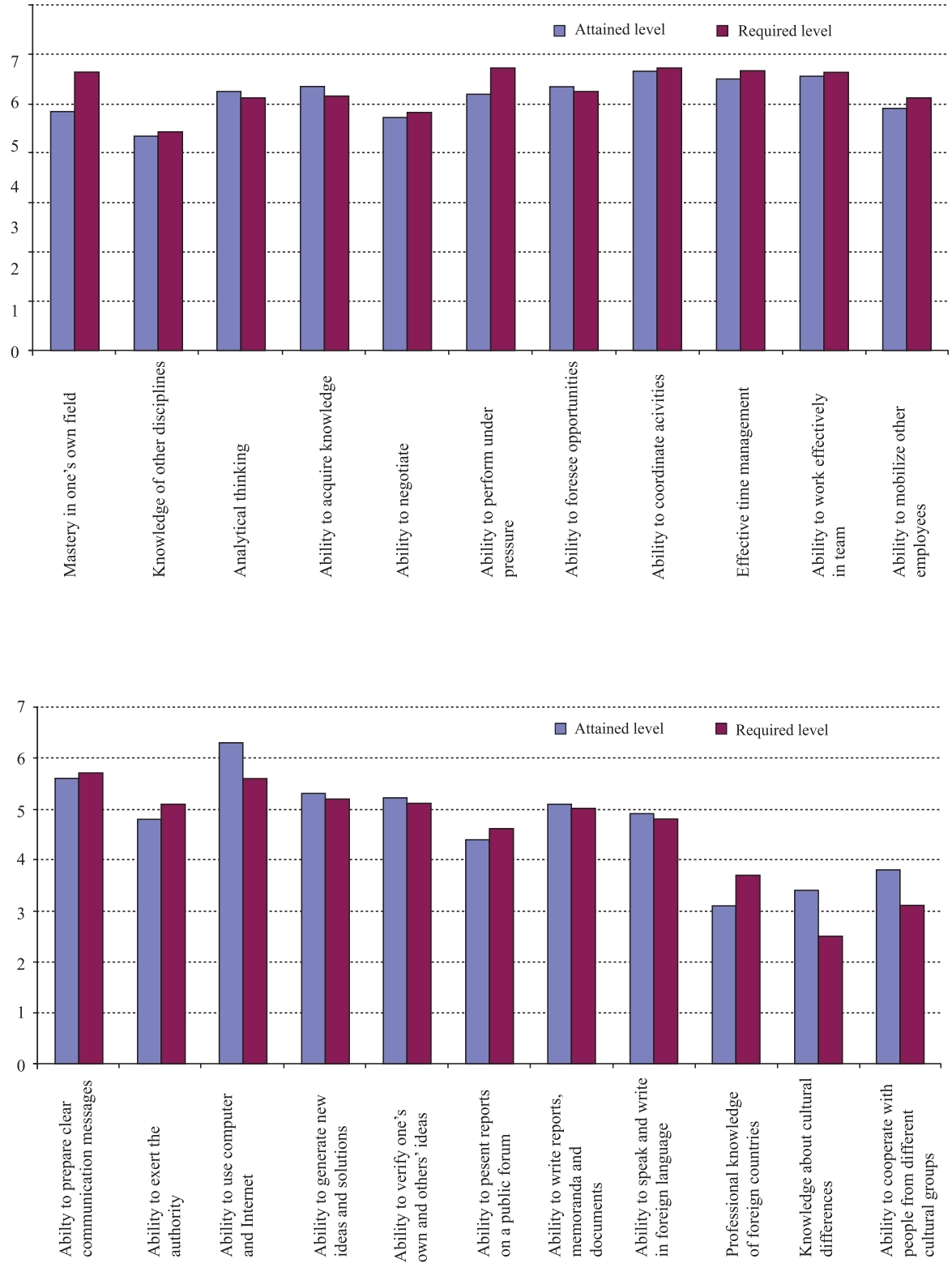

Figure 9. Structure of mismatch between acquired and utilized competences on the workplace for graduates from the year 2003 (scale from 1 to 7, N=109)

Source: author's calculations.

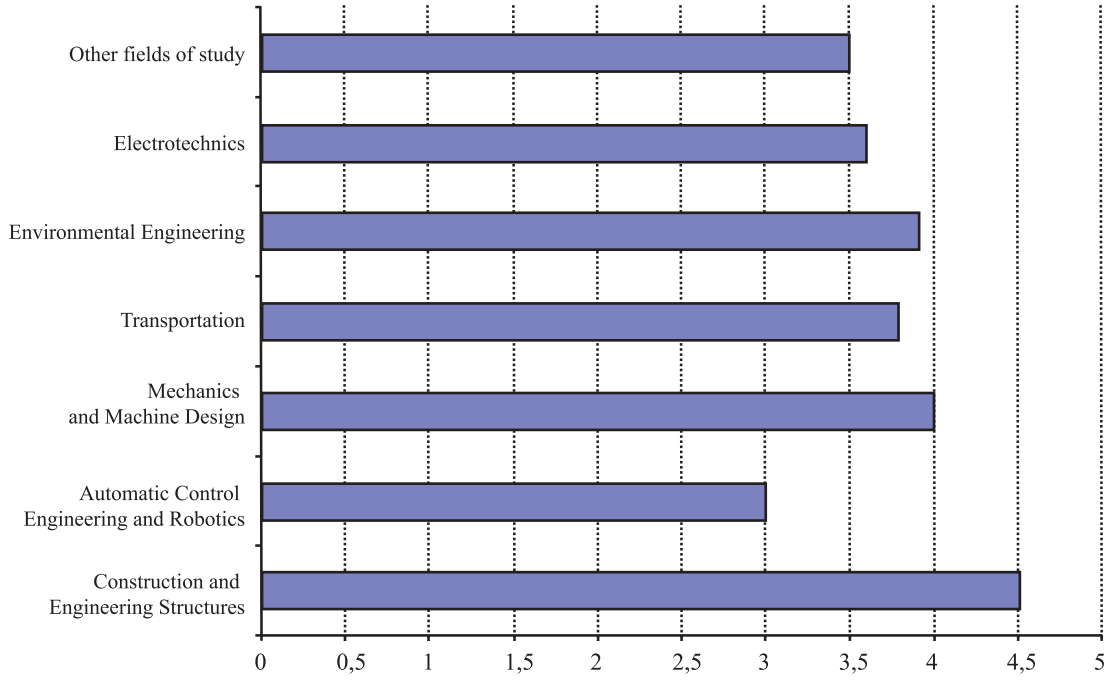

Figure 10. An average time span for achieving an appropriate level of qualification at the workplace according to graduates from the year of 2003 (in years)

Source: author's calculations.

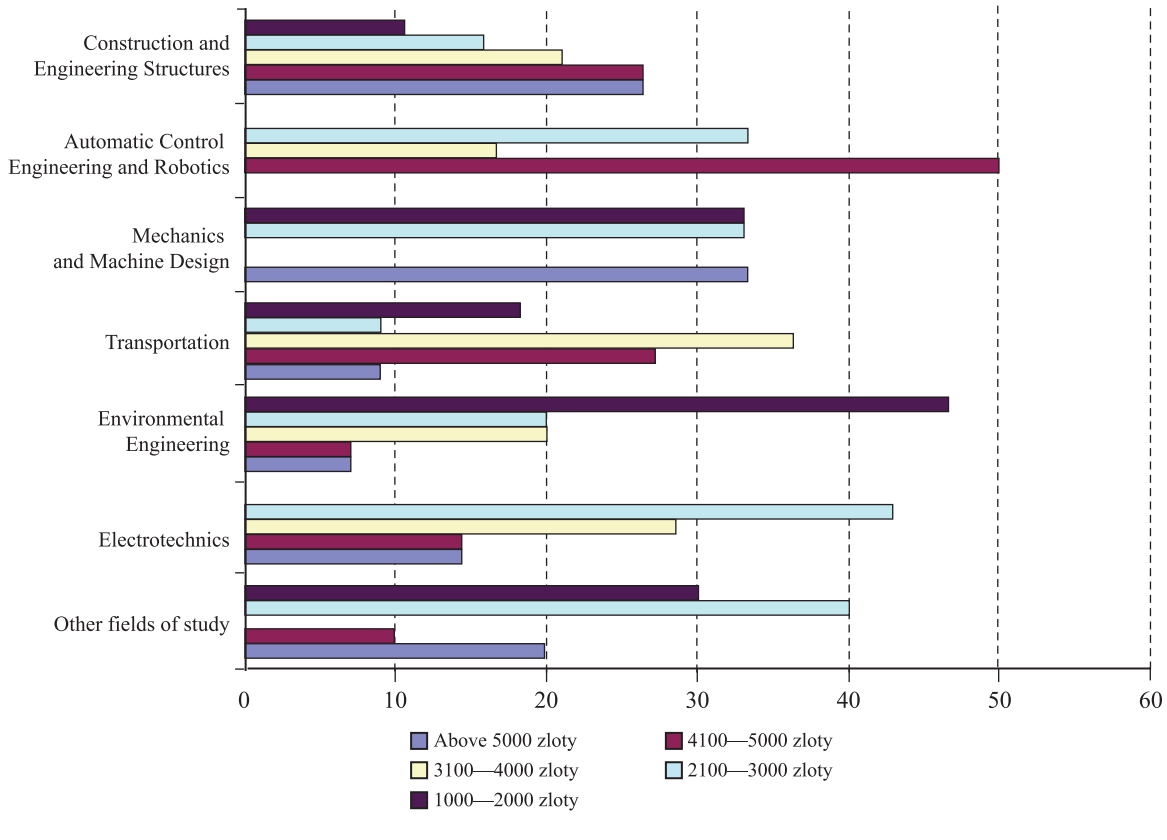

Figure 11. Monthly earnings on the main workplace after five years from graduation in 2003

Source: author's calculations.

Concluding remarks

As early as in 2006, CUT by its initiative on the monitoring of the career path of its graduates had preceded requirement of Article 13a of the Law on Higher Education from 2011 that «Higher education institution monitors the career path of its graduates in order to match fields of study and academic programs with the demand on labor market, in particular after three and five years from graduation.» As a consequence of the IESIF research activities, a lot of valuable information has been collected on the labor market requirements for specific competences, on the level of employers' satisfaction from the employment of CUT graduates, on the utilization during a job of competences acquired during academic studies, on the time span necessary to achieve a proper level of expert knowledge on the workplace, as well as about the level of graduates' satisfaction from their studies.

Results of our surveys are interpreted in many analytical dimensions — for departments, the fields of study, and for CUT on the whole. We identified the main obstacle for an effective monitoring of the career path for graduates (regardless of the length of work experience). It is lack of mandatory requirement for students to provide their mailing addresses, their actualisation and participation in surveys. Research activities on the career path for graduates require extra financing, which is a big problem under realities of the government belt-tightening fiscal policy. A favourable factor contributing to the effectiveness of research is acknowledgement of its numerous benefits for the higher education institution, students and employers. Data collected are used by the IESF staff for advanced studies on the scale and root causes of the mismatch between educational system and the labor market.

Legal Protection of the Results of University Research

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Annotation

This article is dedicated to a review of the system of institutes, which ensure the legal protection of the results of university research. The fundamental forms that scientific achievements take and the structure of scientific activity are determined in accordance with legislation. The possibility of the legal protection of the scientific and scientific-applied results by individual intellectual property right institutes is analyzed. The legal regimes of objects of intellectual property rights, which can be applied for the protection of objects of scientific achievements, were characterized on the basis of an analysis of valid legal acts.

Key words: scientific result, scientific-applied result, intellectual property right, scientific discovery, invention, useful model, industrial prototype, technical proposal, commercial secret, scientific work, selective achievements.

The management of intellectual property, which is created as a result of university research, is directed towards the achievement of the strategic goal of «from idea to value». Through management, the results of scientific research are introduced into the economy, transforming it into innovative production. Four fundamental tasks must be resolved on this course: first of all, the discovery of scientific achievements, worthy of protection, in other words those, which are of a novel and economic value; secondly, the formation of a «package» of results of scientific research in which the market is interested; thirdly, ensuring the legal protection of research results, which anticipates the acquisition of intellectual property rights for them; fourthly, the commercialization of intellectual property objects, which embody the results of scientific research.

The results of university research are the products of research universities, which are to be presented to the market. However, in order for a university to form a «package» of scientific achievements and commercialize them, it is necessary to include these results in the system of objects of civil rights that are objects of civil law that are capable of circulation, and ensure their due legal protection.

The legal principles for conducting scientific activity are determined by the Law of Ukraine «On Scientific and Scientific-Technical Activity»[1]. Having analyzed the regulatory determinations, set forth in the indicated Law, it is possible to distinguish the following structure of scientific activity and forms for the existence of scientific research (Figure 1).

The Law distinguishes two basic types of results of scientific activity: a scientific result and a scientific-applied result, which in turn can be implemented in certain forms.

The Statement on research universities[2], in which an attempt to establish the legal status of this category of domestic universities was developed, determined the execution of fundamental and applied scientific research based on specific priority directions of scientific, scientific-technical and innovative activity, the implementation of innovative projects for the development and production of new highly technological production as the fundamental direction of their activity. Based on the List of Priority Thematic Directions of Scientific Research

[1] The Law of Ukraine «On Scientific and Scientific-Technical Activity» in the wording of Law No. 284-XIV from 1 December 1998 with subsequent changes. According to this Law, scientific activity — is intellectual creative activity, directed towards obtaining and using new knowledge.

[2] Statement on research universities. Approved by Resolution No. 163 of the Cabinet of Ministers of Ukraine, dated 17 February 2010.

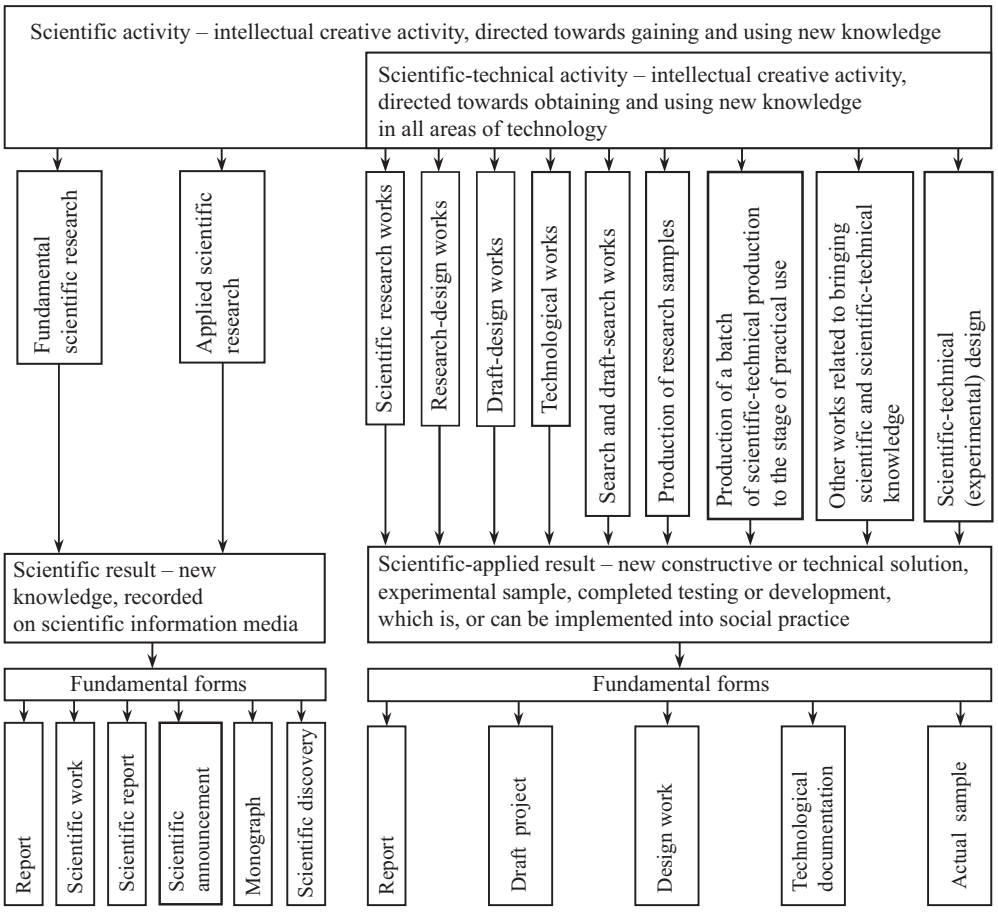

Figure 1. Structure of scientific activity in accordance with the Law of Ukraine «On Scientific-Technical Activity»

and Scientific — Technical Developments for the Period until 2015, approved by Resolution No. 942 of the Cabinet of Ministers of Ukraine of 7 September 2011, both scientific and scientific-technical results can be created within the framework of the activity of research universities.

The legal protection of the results of university research can be ensured via the legal regime of the protection of objects of intellectual property rights (hereinafter — IP). IP rights are objects of civil rights, which can participate in civil (economic) circulation. In connection with the above, it is expedient to pay individual attention to the legal protection means of scientific and scientific-technical results, which are provided for by domestic legislation.

The essence of scientific results[1] can be manifested in a scientific problem, research methods, a scientific fact, systematization, hypothesis, theory, interpretation and scientific experiment. However, it can only be protected by a scientific discovery institute. Currently, the legal regulation of relations in discoveries in Ukraine is largely declarative. According to Article 457 of the Civil Code of Ukraine (hereinafter — the CC of Ukraine), a scientific discovery is the establishment of previously unknown, but objectively existing conformities with the law, specific features and phenomena of the material world, which bring fundamental changes to the level of scientific knowledge.

The substance of IP rights regarding scientific discoveries constitutes a complex of an author's individual non-property rights: the right to the recognition of a person as a creator; the right to obstruct any encroachment of intellectual property rights, capable of causing damage to the honour or reputation of the creator; and the special right to give a name or title to a scientific discovery. Property rights to a scientific discovery, which would determine exclusive legal rights to a specific subject, are not established because of the unique nature of this

[1] The terms «scientific result» and «scientific-technical result» here and hereafter are used as interpreted by the Law of Ukraine «On Scientific-Technical Activity» (see Figure 1).

result of scientific creativity, the scientific discovery deepens the knowledge of the material world and is therefore an achievement of humanity.

The provision of part 2, Article 458 of the CC of Ukraine refers to the law, which should establish the legal regime for the protection of scientific discoveries, however it does not yet exist[1]. Unfortunately, the recognition of a scientific result as a scientific discovery and its registration is not conducted in Ukraine at this time. For the recognition of their achievements, domestic scholars apply to the International Academy of Authors of Scientific Discoveries and Inventions, which operates under the management of the Russian Academy of Natural Sciences. This Academy conducts the registration of discoveries in the area of social and humanitarian sciences, the registration of scientific ideas and scientific hypotheses. Based on an expert opinion, which is conducted by the Academy, a scientific achievement is recognized as being discovered, registered as such and certified with a diploma, which is issued to the author[2]. The Institute of Scientific Discoveries ensures the recognition of authorship, however does not provide the opportunity for the introduction of a scientific result into economic circulation.

The essence of a scientific result can be protected as confidential information, particularly as a commercial secret, as well as being protected by the institute of scientific discoveries. By definition, determined in part 1, Article 505 of the CC of Ukraine, a commercial secret is information, which is secret in the sense that in its entirety or in a certain form and as a collection of its components is unknown and is not easily accessible to persons, who work with the type of information, to which it belongs; in connection with this, it is of commercial value and under existing circumstances was the subject of adequate measures taken by a person, who legally controls this information regarding the protection of its secrecy.

In order for a scientific result to gain the status of a commercial secret and for a university to gain IP rights, it is necessary to conduct a range of measures, particularly:

— determine certain information as its commercial secret and identify it;

— inform people, who have access to a commercial secret, that it is such and to entrust such people with non-disclosure responsibility (on the basis of an agreement or unilateral non-disclosure obligation);

— have internal (local) regulatory documents, which establish the procedure for maintaining commercial secrets (provisions on commercial secrets and instructions on access to information, which is a commercial secret, etc.).

To maintain the confidentiality of information, which is a commercial secret, as a rule, it's necessary to apply not only legal, but also organizational (restricted access regime) and technical protection means.

Having conducted the indicated measures, the university gains the following IP rights:

a) the right to use a commercial secret;

b) the exclusive right to allow the use of a commercial secret;

c) the exclusive right to prevent the illegal disclosure, gathering or use of a commercial secret[3].

Forms for the implementation of a scientific result can be protected by copyright. The Law of Ukraine «On Copyright and Allied Rights»[4] (Article 8) considers scientific works as objects of legal protection, however stipulates that legal protection only extends to the form of the expression of the work and is not extended to any ideas, theories, principles, methods, procedures, processes, systems, means, concepts and discoveries, even if they are expressed, described, explained and illustrated in the work.

Copyright emerges from the moment of the creation of a piece of work, however, for its accounting in the structure of non-material assets and introduction into economic circulation, it is necessary to conduct state registration, which emerges from the Procedure for the application of model forms for the primary accounting of intellectual property rights objects in the structure of non-material assets[5]. Such state registration is conducted by the State Intellectual Property Service of Ukraine, according to the Procedure, approved by Resolution No. 1756 of the Cabinet of Ministers of Ukraine, dated 27.12.2001.

[1] In connection with the absence of a regulatory and legal act of Ukraine, which would establish the procedure for protection and the payment of a reward for the creation of a scientific discovery, in accordance with Resolution No. 1545-XII «On the Procedure for the Temporary Action of Individual Acts of the Legislation of the USSR on the Territory of Ukraine» of the Verkhovna Rada (Parliament) of Ukraine, dated 12 September 1991, the Instruction on the procedure for the payment of a reward for discoveries, inventions and technical proposals, approved by the Head of the State Committee of the Council of Ministers of the USSR in Cases of Inventions and Discoveries dated 15 January 1974, is formally valid in the part pertaining to scientific discoveries, however the Instruction cannot be applied because of a complete change in the state system for the protection of intellectual property.

[2] The Russian Academy of Natural Sciences: The registration of scientific discoveries / The registration procedure (http://www. raen.info/activities/reg_o/document170..shtml).

[3] Actions regarding the disclosure, collection or use of information that is a commercial secret, without the permission of the IP rights holder are only deemed legal in cases provided for by the law.

[4] The Law of Ukraine «On Copyright and Allied Rights» in the wording of Law of Ukraine No. 2627-III dated 11 July 2001.

[5] Approved by Order No. 732 of the Ministry of Finance of Ukraine dated 22.11.2004, registered at the Ministry of Justice of Ukraine on 14 December 2004 under No. 1580/10179.

Copyright, with the exception of the personal non-property rights of the author, includes the following property legal rights:

a) the right to use a work;

b) the exclusive right to allow the use of the work;

c) the exclusive right to prevent the illegal use of a work, including the banning of such use.

The legal protection of scientific-applied results, created at research universities, can be ensured by a number of institutes of intellectual property rights (Figure 2).

Scientific result			
	Intellectual property rights institutes, which can ensure legal protection		
	The object of protection is the essence of scientific achievements		The object of protection is a form of the implementation of scientific achievements
	Scientific discovery	Commercial secret	Copyright to a scientific work
	Nature of rights		
	Personal non-property and property rights	Property rights	Personal non-property and property rights
	Commercialization possibilities		
	No	Yes	Yes

Figura 2. Legal protection of scientific results

Thus computer programmes[1] and databases[2] are protected by copyright. A scientific-applied result in the form of a report, draft, design or technological documentation for scientific-technical production and a natural sample is considered a written literary work of a scientific nature, which is also protected by copyright.

In addition, the essence of the characteristics of scientific-applied results can be protected as inventions (useful models), technical proposals, topographies of integral micro schemes, industrial prototypes, selective achievements, also as a commercial secret.

Thus, a decision in the sphere of technology, embodied in a product (device, substance, stamp, microorganism, cell culture of a plant and animal, etc.); process (method), and even the new application of a well-known product or process, are protected by the institute of intellectual property rights to an invention and useful model.

A scientific-applied result can only obtain legal protection as an invention on condition that it is new, is of an innovative level and is industrially applicable. An invention is recognized as being new, if it is not a part of a technological level, moreover the technological level comprises all information, which has become generally acceptable in the world prior to the date of the submission of the application for a patent. An invention is of an innovative level, if it is not obvious to a specialist, in other words, it does not clearly emerge from the technological level. An invention is industrially suitable if it can be used in industrial or another sphere of activity.

A useful model is protected on condition of its novelty and industrial suitability. At the same time, discoveries, scientific theories and mathematical methods are not recognized as inventions (useful models); methods of intellectual, economic, organizational and commercial activity (planning, financing, supply, accounting, crediting, prediction, regulation, etc.); rules for the execution of physical exercise, conducting games, competitions and auctions; designs and schemes for planning structures, buildings and territories; symbols (road signs, routes, codes, print, etc.), schedules, instructions; computer programmes; forms for the submission of information (for example, in the form of a table, diagram or graph, with the aid of acoustic

[1] A computer programme — a set of instructions in the form of words, numbers, codes, schemes, symbols or in any other form, expressed in a form that is suitable for reading by a computer, which put it into action in order to achieve a specific goal or result (this interpretation covers both the operating system and the applied programme, expressed in a final form or in target codes) (Article 1 of the Law of Ukraine «On Copyright and Allied Rights»).

[2] Database (a compilation of data) — a collection of works and data or any other independent information in any form, including — electronic, the selection and location of components of which and its regulation is the result of creative work, and the components of which are individually accessible and can be found with the aid of a special search system on the basis of electronic means (computer) or other means (Article 1 of the Law of Ukraine «On Copyright and Allied Rights»).

signals, the pronouncing of words, visual demonstrations, books, audio and video disks)[1].

If a scientific-applied result is the result of artistic design, it can be protected by an industrial-type institute, but can also be viewed as design work, decorative-applied art or fine art and be an object that is subject to copyright.

The purpose of an industrial prototype as an IP rights object is the solution of the task of creating aesthetic and ergonomic «forms» of production. In contrast to an invention or a useful model, an industrial prototype does not resolve the technical improvement of production task. Instead, it forms its aesthetic and ergonomic qualities. An industrial prototype can be the artistic-design solution of an external view, production as a whole or part thereof, manifesting itself in the form of production, picture or ornament, painting or a combination thereof.

A requirement, under which an artistic-design solution can gain the protection of an industrial prototype institute, is its novelty[2](part 1, article 461 of the CC of Ukraine). An industrial prototype is recognized as being new, if the collection of its essential signs has not become generally accessible in the world prior to the submission of an application for a patent.

For the emergence of the IP rights of an invention, useful model or industrial prototype, the state registration of this right (patent registration) determines its legality by the State Intellectual Property Service of Ukraine, which is accompanied by the issue of a protective document — a patent, which verifies the priority, authorship and intellectual property right to the relevant object. In the case of obtaining a patent, the creator of an invention (useful model) or industrial prototype has personal non-property intellectual property rights, while the patent-holder has the material part of IP rights to the invention or useful model, which is the only complex of mutually related legal property rights:

a) the right to use the object;

b) the exclusive right to permit object use;

c) the exclusive right to prevent the illegal use of an object, including the prohibition of such use.

If a scientific-applied result is a composition (topography) of an integral micro scheme (hereinafter — IMS), the legal protection of such object is conducted in accordance with Chapter 40 of the CC of Ukraine and the Law of Ukraine «On the Protection of the Rights to the Topography of Integral Micro Schemes». IMS topography — the dimensional-geometric placement of the complex of elements of an integral micro scheme, set forth on a material medium and combinations thereof (Article 1 of the Law).

A condition, under which IP rights are obtained for IMS composition, is the originality of this object. To obtain the right, it is necessary to register the topography, which is conducted by means of submitting an application according to the set form to the State Intellectual Property Service of Ukraine. On the results of an expert opinion of the application, this body takes a decision on the registration or refusal to register the IMS topography. Registration is ground for the obtaining of IP rights to IMS topography, which is verified by a certificate.

The substance of IP rights to IMS composition are the personal non-property rights of the IP creator, as well as the property IP rights of the certificate-holder, are similar to those mentioned above regarding inventions, useful models and industrial prototypes.

Scientific-applied research can be concluded by the formulation of a proposition regarding the establishment or change in the construction of the product, regarding the composition of the material for the improvement of production technology. In this case, the result obtained can be protected as a technical proposal. IP rights to a technical proposal are established by Chapter 41 of the CC of Ukraine, where a proposal, containing technological (technical) or organizational solution in any sphere of its activity, is recognized as a technical proposal by a legal entity (part 1, Article 481). A legislator determines two subjects of IP rights to a technical proposal — the author and the legal entity, to whom this proposal is submitted. The procedure for the actions of the indicated subjects for obtaining IP rights is determined in the Temporary Provision on the Legal Protection of Industrial Property Objects and Technical Proposals in Ukraine[3] (hereinafter — Temporary Provision), according to which, the legal entity that has accepted an application for a technical proposal for review, should register it, and make a decision regarding it within a month of the registration date. After a decision has been made on the recognition of the proposal as being a technical one, the author must be issued a certificate for the technical proposal, which confirms the recognition of the proposal as a

[1] Rules for compiling and submitting applications for an invention and applications for a useful model are approved by Order No. 22 of the Ministry of Education and Sciences of Ukraine dated 22 January 2001. Registered at the Ministry of Justice of Ukraine on 27 February 2001 under No. 173/5364.

[2] Draft Law of Ukraine No. 7205 «On the Introduction of Changes to Some Legislative Acts on Intellectual Property Issues» proposes one more condition for the patentability of industrial prototypes — originality. The draft law determines an industrial prototype as original, if the overall impression it makes on an informed user, differs from the overall impression made on such user by any other industrial prototype that has been made public.

[3] Temporary Provision on the Legal Protection of Industrial Property Objects and Technical Proposals in Ukraine, approved by Decree No. 479/92 of the President of Ukraine, dated 18.09.1992. The indicated Provision remains valid in the part pertaining to technical proposals.

technical one, the submission date and authorship of the technical proposal (clause 35).

In addition to personal non-property IP rights, the author has property rights to good-will encouragement from the legal entity to which the proposal was submitted. The issue of a reward is regulated in the Temporary Provision however this does not deprive the author and the legal entity of the possibility to regulate the amount and procedure for the payment of the reward on a good-will basis. The legal entity that has recognized the proposal to be a technical one has the right to use this proposal in any scope.

The institute of technical proposals protects the decisions, designated for internal use by the business entity that recognized this object, but not for introduction into circulation by means of transfer, since the IP rights for technical proposals are of a local nature.

Some research universities, conducting research in the sphere of plant cultivation and cattle breeding, can receive results, which are selective achievements — plant variety and breed of animal. IP rights to a variety of plant and breed of animal is set forth in Chapter 42 of the CC of Ukraine, the provisions of which are developed in the Law of Ukraine «On the Protection of Rights to Plant Varieties». At the same time, the provisions of Chapter 42 regarding breeds of animals cannot be applied today, since there is no legal mechanism for their implementation. The Law of Ukraine «On the Pedigree Issue in Cattle Breeding» is currently valid, according to the norms of which, the breed of animal (selective achievements in the area of pedigree cattle breeding) can be considered an invention (Article 25).

According to the standards of the CC of Ukraine three groups of IP rights are recognized for selective achievements: personal non-property IP rights, certified by state registration; property IP rights, certified by a patent; property IP right for the dissemination of selective achievements, certified by state registration.

Intellectual property rights can be granted for a clone, line, first generation hybrid and population (variety of sorts) on condition that if under the manifestation of signs, generated by a certain genotype or a certain combination of genotypes, the sort is new, different, homogenous and stable (Article 11 of the Law of Ukraine «On the Protection of Rights to Plant Varieties»).

A university can obtain IP rights to varieties as a result of taking a number of formal actions: it is necessary to submit an application to the State Veterinary and Phytosanitary Service of Ukraine, after which an examination of the sort is conducted, the responsibility for the conducting of which is entrusted to the Ukrainian Institute for Plant Variety Examination. The state registration of rights to plant varieties is conducted, based on the results of the examination. These registrations are necessary grounds for the emergence of IP property rights (Figure 3).

Having ensured the legal protection of the results of scientific activity and having gained intellectual property rights, the university can begin the process of the commercialization of the results of scientific research in three directions: contractual (licensing, the transfer of property rights), institutional (the establishment of a legal entity) and informational (advertising).

Scientific-applied result								
Intellectual property rights institutes, which can ensure legal protection								
The object of protection is the essence of scientific achievements							The object of protection is a form of the implementation of scientific achievements	
Invention	Useful model	Industrial prototype	Technical proposal	Topography of integral micro-schemes	Selective achievements	Commercial secret	Copyright to a scientific work	
Nature of rights								
Personal non-property and property rights						Property rights	Personal non-property and property rights	
Commercialization possibilities								
Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	

Figure 3. Legal protection of scientific-applied results

The Formation of Single Open Education Space
AS A LEADING TREND IN THE DEVELOPMENT OF THE MODERN EDUCATION SYSTEM

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Annotation

The article examines the essence and principles of the openness of education, its purpose, specifics and key directions of formation. The evolution of the development of open education institutions is examined and a comparative characteristic regarding the traditional higher education system is presented. The article proposes a review of the most competitive modern open education institutions, their advantages and specific features. Basic trends of the current stage of the development of on-line education have been systemized.

Key words: open education, on-line education, fundamental technologiesї, open on-line courses.

The new education paradigm reflects the needs of human civilization in the 21st century. In-depth and objective processes for the formation of a single open education space are on-going in the world.

A new principle of education is the management of knowledge on the basis of latest education technologies. Specialized open-type education structures are created for this purpose.

Today, in one way or another, classic forms of education are experiencing a crisis in all countries of the world. The fundamental factors of this process in the sphere of higher education include:

— territoriality — the inability to ensure the attainment of necessary education for all people wanting to study;

— conservatism — the lagging of acquired knowledge from the level of informatization and technologies development;

— inertia — the poor adaptability of education systems to different socio-economic conditions;

— localization — the specificity of education, obtained at an individual education institution;

— limitation — the whole list of specializations may not be provided by regional higher education institutions to those, who wish to study on a specific territory[1].

The changing world calls for radically new demands in the substance of education, which should be based on fundamental values and knowledge. The development of the modern education system under current conditions, as shown by world experience, can successfully be ensured through the implementation of the principles of open education, such as:

— the open planning of studies, in other words, the freedom to compile individual study programmes by means of selection from the system of courses;

— the freedom to choose the time and rate of studies, or the enrollment of students in higher education institutions throughout the year and the absence of fixed study terms;

— freedom in the selection of the study location: students can be physically absent from study classes for the majority of the study period and can independently select where they want to study;

— the transition from the principle of «education for life» to that of «education throughout life»;

[1] Open Education – the strategy of the 21st century for Russia / V. M. Filippov, V. P. Tihomirov — M.: Publication MZSI, M., 2000.

— the free development of individuality, which is a fundamental factor, while the classic model of education presumes strict standards, which unify human individuality.

The idea of a personal approach as a fundamental factor of open education, to a large extent, has to correspond to the concept of education throughout a person's life. Together, they form the contours of a prospective education system, which will allow a person to understand himself/herself and the environment, and will assist in the execution of his/her social role in the life of society. For this, the structure of education programs is diversified, which allows each individual to build the education trajectory that best suits his/her education and professional capabilities.

Thus, open education is a flexible system for getting an education, accessible for everyone without an analysis of his/her literacy and the regulation of the periodicity and duration of an individual study course, which is developing on the basis of the formalization of skills, their transmission and control, using information and pedagogical distance study technologies. The specific features of the open education system also lies in the fact that it must be capable of not only arming students with skills, but also, as a result of its consistent and rapid updating, forming the need for continuous independent study, stimulating a creative approach towards a person gaining knowledge throughout his/her entire life.

The global goal of open education is the training of students for valuable and efficient participation in public and professional spheres under conditions of the informatization of society. Open education includes the student in developed information database systems, lifts space and time restrictions in work with different sources of information. Thus, information and its free circulation play a decisive role. The consolidation of the digital processing of data and telecommunications, modern means for the audio and video transmission of information and fibre-optic channels for passing on information, significantly increases the capabilities of networks, leading to the creation of new information technologies. The video, audio, computer and telecommunication means within them are combined with new, unexpected methods. In addition, demands made by users are becoming ever simpler, while information services are more individualized.

The most important directions for the formation of an open education system include:

— improving the quality of education by means of its fundamentalization and the application of new approaches, using new information technology;

— ensuring the «stay-ahead» nature of the entire education system and its focus on the problems of the future post-industrial civilization;

— ensuring greater accessibility of education to the people of the planet by means of the extensive use of the opportunities of open studies and self-education with the use of information and telecommunication technologies;

— improving the creative origins (creativity) in education, in order to prepare people for life in different social environments (providing a «developing education»).

The problem of the socialization of the latest world trends in the development of the substance and forms of education had already emerged in the early 1970s. Institutionalization in education, or implementation of new public institutions and legal and organizational binding of various types of public relations, manifested themselves in quite a tangible diversity of forms. Open education is one such form.

Historically, one of the first open education institutions was the Open University in the United Kingdom, established by Royal Charter in 1969 as an independent university, which is on a par with other universities. The purpose for its creation is to offer the opportunity of gaining education to people who wish to study in a place, and at a time that is convenient to them. The Open University in the UK applies a wide range of methods for distance learning, such as written work, video and audio materials and Internet conferences, which are accompanied by the support of a tutor and regular group seminars and two-day visiting schools that are attended in person.

In the more than 40 years of its existence, the Open University has become a world leader of distance learning and strives to play a leading role in the expansion of higher and postgraduate education in the future, both in Great Britain and in other countries of the world. More than 150,000 people are currently studying at 400 learning centres, which teach according to the Open University's programme.

But historically, similar open universities did not play a significant role in the world education space, since they have adapted badly because of the significant share of the organizational component (an increase in the number of tutors was required for their expansion). Only today, thanks to social networks and the large-scale expansion of broadband access to the Internet, has the opportunity for the easy scaling of open courses emerged, when a well-prepared course can be attended by hundreds of thousands of people at the same time.

Deserving of particular attention is the Massachusetts Institute of Technology's OpenCourseWare (MIT OCW) project, regarding the publication of the materials of all of the Institute's courses to which there is free access. It emerged as a result of a range of initiatives, implemented by the Council on Educational Technology MIT. This initiative was distinguished with a number of awards and served as an example that was copied by other

universities. The project drew the attention of users from the whole world. More than 50 courses were translated into Chinese, Spanish, Portuguese and Persian. The countries where most visitors to the site live, with the exception of the USA, are China and India. More than 200 «mirrors» of the MIT OCW site have been created in the regions of Africa and Asia, where Internet access is difficult. The Massachusetts Institute of Technology's OpenCourseWare project gained great success as a means of scientific-technical education through the high quality of its materials and the large number of subjects that it covers.

Another interesting fact is that the program for the publication of MIT's open education resources is the most expensive one. The publication of one course requires USD 10,000—15,000. Such expenses are caused by the need to reduce the burden on the teaching staff. The team for the preparation of courses, in cooperation with the teachers, tries to ensure that the publication of one course takes no more than five hours of the teacher's time. The team's tasks include the digitization of handwritten texts, checking that superfluous materials are not included, such as illustrations and graphics from textbooks and obtaining permission for their use, as well as the creation of images, for which it was unable to get permission.

The Institute concludes license agreements, allowing it to circulate the materials, with the teachers participating in the project. According to the Institute's policy, the teachers keep the copyright. Similarly, students keep the rights to the published materials they have prepared. Courses that are taught at the Institute can also include materials, the rights to which belong to third parties. Such materials can be used for educational purposes, but access to them cannot be given to an unlimited number of people, and the coordination of the rights to their inclusion in OCW is a significant reason for delays in publication.

The publication of the materials of MIT courses was conducted with the expectation that the OpenCourseWare concept would be used by other education institutions. The first OpenCourseWare publication was the Fulbright Program on the teaching of economics in Vietnam in 2003. In 2004, OCW publication was begun at universities in Japan, China and France, as well as at several universities in the USA[1].

In 2005, MIT, together with other universities which publish open education resources, founded the OpenCourseWare Consortium. The tasks of this organization include the introduction and adaptation of open education materials for use throughout the world. The most famous universities that are the parts of the Consortium, include the University of California at Berkeley, Tokyo University, Michigan University, University of California, Osaka University, Arizona State University, Utah University, Nottingham University and Michigan State University.

The main sponsor of OpenCourseWare and, in the broader sense, open education resources, is the Hewlett Foundation, which in the 2000s, has invested more than USD 110mn. It should be noted that the expenses from all sources is estimated at USD 150mn[2]. The general problem of OpenCourseWare is the search for sources of long-term financing, since these projects don't actually provide any income[3].

A vivid example of the process of forming an open education space is the Khan Academy — a non-commercial education organization, established in 2006 by Harvard graduate, Salman Khan. The purpose of the Academy is «providing high quality education to anyone, anywhere». The Academy's site provides access to a collection of more than 3,000 free educational video materials on mathematics, history, finance, physics, chemistry, biology, astronomy, economics and computer sciences. The materials provided are in the English language, but there is a project on their translation into other languages.

The main trend of online education in 2011 — early 2012 is the emergence of education platforms, offering free on-line courses by professors from leading universities of the world. These courses allow hundreds of thousands of students to gain an education that is on a par with a university education. A characteristic indicator of the high quality of open courses is the situation that emerged with Stanford University's course CS221 «Introduction to Artificial Intelligence», on the basis of which the on-line ai-class.org course was established. After its launch, out of 200 students, 170 considered it better to learn the on-line course lessons, than attend lectures at the university.

The largest on-line catalogue of free learning materials, comprising more than 500,000 lessons, video files and e-books (iTunesU), was recently established. The hundreds of colleges, secondary and higher education institutions that use this catalogue, include world class universities. Thus, open education is gradually becoming an alternative to classic higher education and has equal rights.

[1] Steve Carson. The Unwalled Garden: growth of the OpenCourseWare Consortium, 2001—2008 // Open Learning. — 2009. — № 1.— http://www.tandfonline.com/doi/abs/10.1080/02680510802627787.

[2] Katie Hafner. An Open Mind. The New York Times (16 April 2010) http://www.nytimes.com/2010/04/18/educa-tion/edlife/18open-t.html?_r=1&pagewanted=all

[3] *Brendan F. D. Barrett, Velma I. Grover, Tomasz Janowski, Hanneke van Lavieren, AdegboyegaOjo, Philipp Schmidt.* Challenges in the adoption and use of OpenCourseWare: experience of the United Nations University // Open Learning. — 2009. — № 1. —http://www.tandfonline.com/doi/abs/10.1080/02680510802627803.

Online Learning in the Philippines:
DEVELOPMENTS AND FUTURE TRENDS

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Annotation

The article examines the evolution of the establishment of online studies in the Philippines, as well as obstacles on the course towards expansion and modern trends for their development. The fundamental traits of state policy in the sphere of on-line studies have been researched, as the key challenges for its development in the future.

Key words: on-line studies, state policy in the sphere of on-line studies, educational Internet technologies.

Today's education faces a lot of challenges. The swirling changes and developments in teaching and learning all seem promising and yet are still at their infant stages. Integrating technology in the Philippine education has taken a lot of turns. There was the initial call for 'literacy', which only meant use of office tools like word processors, and presentation tools. In the present stage, since technology is here to stay, some educators took a second look at how technology is being used.

Online learning courses in the Philippines are mostly being offered in undergraduate and graduate levels (Madarang, 2004)[1], but the Philippine government strives to create a curriculum that would integrate online learning in the elementary and secondary levels as well (DepEd memo, 21 June 2007).[2] This is because the students are mostly those who cannot be able to go to a traditional school course, those who are working, married or even ill (Madarang, 2004). Through this, a student is able to pursue his education without pausing on his daily activities. Because of this, it is mostly the established universities and colleges that have the infrastructure and foundation of quality education, would offer them.

This article will discuss the history of online learning, the challenges and the current trends of online education in the Philippines.

Development of Online Learning

Online learning is another method in which education may be conveyed. This is actually a type under distance education, a non-formal type of education that uses different media in transferring lectures, notes, discussions to students and the teacher. In February 23, 1995, the University of the Philippines started the Open University as its fifth constituent university, headed then by Chancellor Felix Librero, and currently by Dr. Grace Alfonso. It is the first school to give a formal education (i.e. undergraduate and graduate courses) in a non-traditional format to qualifying students. It was the first university to offer

[1] Madarang, R. C. E. (April 2004). The Borderless Classroom. *MIND, 2 (3)*, 26.

[2] DepEd memo 21 June 2007. Cyber Ed to boos quality education for all. Retrieved 23 July 2007 from http://www.deped.gov.ph/updates/updateslinks.asp?id=182.

education in such a format. Courses that are fully online started in February of 2008.

De La Salle University has also started implementing online learning in its curriculum. Last September 2000, it was granted the installation and use of the Integrated Virtual Learning Environment (IVLE), the second university to be granted the license. The IVLE allowed teachers and students to interact online and provided tools and resources to supplement their learning via virtual discussions, lectures, and even testing. This was implemented through the efforts of the Center for Educational Multimedia. The use of IVLE also supplements the university's strive to develop transformative learning among the students and teachers.

Learning centers are also starting to offer online learning as well, especially for those in the middle-income level who are looking for means to supplement their formal education and buff up their resumes to be able to go abroad. One of these learning centers is Informatics Philippines, where they claim to provide quality diploma courses in Information Technology (IT). In 2000, they collaborated with an e-learning portal that tenders degree programs via the Internet called PurpleTrain.com. Students can access either the website of Informatics or of PurpleTrain for their class requirements and lessons. They would even have classmates from outside the country, as the portal also has collaborations in the United States, the United Kingdom, and Australia. Although, student support services like enrollment, tuition payment and documents submission are facilitated via the different branches of Informatics.

Of course, programs and further growth of online learning cannot move on their own; several people are involved in bringing online learning in the country and nurture it in its current state. Two of these facilitators would be Dr. Benito Teehankee and Dr. Rufino Mananghaya.

Dr. Teehankee has been touted as «the» expert in online learning in the country. He is a proficient educator for several years, teaching before in De La Salle University. His avid passion for learning about new technologies encouraged him to found the Philippine eLearning Society (PeLS) with colleagues. PeLS is an organization that facilitates the discussion and development of online learning in the country for more than five years already.

Dr. Mananghaya meanwhile is the current president in PeLS, and he is also a professor in the University of the Philippines teaching management courses. With an agricultural and business management background, he is active in employing policies and methods in bringing ICT in the rural communities. His involvement in the grassroots community is slowly making ICT, specifically online learning, available to the common man.

The Philippine Government Policy

The year 2000 saw the development of the Internet and the World Wide Web. In June 14, 2000, former President Ejercito Estrada passed RA 8792, or the Electronic Commerce Act. This Act recognizes that information and communications technology (ICT) is vital to the development of the country and legalizes and protects the use of it in businesses, government transactions and even education. It provides the legal structure for the country's involvement in e-commerce as well.

From this, the creation of the Information Technology and E-Commerce Council (ITECC) came about from Executive Order 18, which former President Gloria Macapagal-Arroyo signed last May 25, 2001. This council aimed to create what they touted as e-Philippines, that is, a country that is globally competitive through the use of ICT. Several projects were undertaken, specifically the development of business opportunities and information infrastructure. They also created policies that would develop online learning and supplement the needs in basic education, creating programs that would also develop IT skills on a vocational level.

In January 12, 2004, a new organization, the Commission on Information and Communications Technology (CICT), was created through Executive Order 269 in January 12, 2004 to redefine the vision and policies of the ITECC, which was then abolished in July 20 in the same year through Executive Order 334. Policies and programs of ITECC were also transferred to CICT to continue and develop them further. One of these programs is the Philippine Research, Education and Government Information Network (PREGINET), which aim to create a virtual library network among universities, the government and the private-sector in the research and development of Internet applications, services and technologies.

Another program that the Department of Education is currently applying online learning is through the Cyber Ed project. Launched in June 2009, it is planned that around 90% of public schools across the nation in the next three years will be hooked up via satellite technology in delivering educational services to elementary and secondary students. It is hoped that students' performance will significantly improve as it supplements the teacher's style of teaching, making the lessons reach more students.

Challenges of Online Learning in the Philippines

Online learning cannot be utilized fully if the students themselves are not ready for it. For one, students must have a working knowledge of how

to use the technology (Teehankee, 1999)[1], even in the basic level of accessing the Internet and using it. Also, as most websites are written in English, students must be able to understand the content and think critically in English as well, else the whole course will be of no use to them and learning is minimal or not occurring at all (Bandalaria, 2000)[2]. They must also be able to express themselves competently, especially in the written word (Teehankee, 1999), in order to contribute to the discussions online.

Another major drawback to online learning is that students may not develop the necessary social skills that are usually seen in the traditional setting (Madarang, 2004)[3]. Students used to this kind of «socializing» in the net may not be fully comfortable meeting classmates in the flesh. Some teachers, who have yet to be properly trained and exposed to this kind of learning and teaching, are also tentative in using this alternative style of learning. Although currently, they are already being addressed with new programs and software, teachers are concerned with how efficient they can monitor their students' progress online (Madarang, 2004), especially with the possibility that their work may not be actually of their own (Maeroff, 2003)[4]. They may be concerned, too, when the students are not able to ask questions or clarifications during the course — that interaction is severely limited.

There is also a concern of how people might view online learning as well. Narrow-mindedness can be a factor, already dismissing online learning as an inferior way to get education. This is due mostly from a lack of exposure and training, and moreover, a lack of information on how online learning can benefit rather than take away the quality of learning and knowledge (Maeroff, 2005). It would take an efficient dissemination system in order to make people know the benefits of online learning to the masses.

Nevertheless, concerns and issues are slowly but surely being addressed. Already the government has created policies and guidelines in bringing this alternative style of learning to those who would need it the most, as with their current launching of the Cyber Ed program for basic education this year. It has realized that we do have a need to integrate online learning, despite the current challenges in the quality of our education today.

In a paper of Hedberg[5] and Lim (2004), they have cited a UNESCO report written in 2003 that the Philippines is part of a group of countries with newly created policies regarding information and communication technologies, or ICTs, and they are just starting to apply various strategies to integrate online learning in schools. We have come a long way after that report in 2003, but we are still shall we say, toddler stage in having online learning in the country. It has been said in Bandalaria's paper as well (2007) that using ICTs such as the internet and supporting hardware and software puts us in a fourth generation of distance education, loosely categorizing it from the most prominent technology used for delivering educational content and its support systems. This shows us that we are already starting to institutionalize online learning, but there are still areas in great need of improvement, especially with the support systems in bringing online learning to more students and people who would want to experience online learning.

Right now, papers and studies that look into online learning is mostly on how the foundations for it can support the system, and if Filipinos are prepared for it in the first place. There is concern to improve infrastructure if online learning is to be available to a large number of people. Currently, a lot of Filipinos still do not have their own phone lines, and even a computer in their own homes. Consider the statistics: there is only seven percent of more than 16 million Filipino households that own personal computers, and only three out of 50 public high school students have access to the Internet as of 2005 (Sunday Inquirer, 2007). With the majority of the population still in poverty and even under the poverty line, they would be more concerned with fulfilling the basic needs rather than something they view as a luxury item (Bandalaria, 2002). There are also plans to include the technology of the cellular mobile technology; specifically the smart messaging services (SMS) to facilitate online learning as well (Bandalaria, 2007). This is because of the phenomenal increase of ownership of cell phones and their services (Bandalaria, 2002)[6]. Although,

[1] Teehankee, B. (13 July 2002). The Philippine Education Scene: Problems and Challenges. *Philippine Free Press 93(28)* pp. 57-58.

[2] Bandalaria, Melinda P. (March 2007). Impact of ICTs on Open and Distance Learning in a Developing Country Setting: The Philippine experience. *The International Review of Research in Open and Distance Learning, 8 (1)*. Retrieved July 26, 2007 from http://www.irrodl.org/index.php/irrodl/article/view/334/792.

[3] Madarang, R. C. E. (April 2004). The Borderless Classroom. *MIND, 2 (3)*, 26.

[4] Maeroff, Gene I. (2003). A classroom of one: How online learning is changing our schools and colleges. New York: Palgrave Macmillan.

[5] Hedberg, J. G. & Ping, L. C. (2004). Charting Trends for E-Learning in Asian Schools. Distance Education, 25(2), 199-213. Retrieved July 12, 2007 from World Wide Web: http://proquest.umi.com (Academic Research Library database).

[6] Bandalaria, Melinda P. (March 2007). Impact of ICTs on Open and Distance Learning in a Developing Country Setting: The Philippine experience. *The International Review of Research in Open and Distance Learning, 8 (1)*. Retrieved July 26, 2007 from http://www.irrodl.org/index.php/irrodl/article/view/334/792.

the current use of cellular mobile technology is mostly for entertainment and business purposes.

And of course, there is still that urgent need to improve the quality of education. The social and economic divide is still a major hindrance in getting good education, and that education itself seems to have its part in widening that divide as well (Meinardus, 2003)[1]. Contributing to this there's the «brain drain» of good teachers who emigrate to other countries to create a better quality of life for their own families, making the public education system suffer even more (Meinardus, 2003). There is also the significant lack of resources and infrastructure, where books, classrooms and other school supplies are still not available to every public school student. Aside from the physical lack, there is also the curriculum where it lacks the functional literacy need for the students to use what they've learned in the outside world (Orata, 1972).

Despite these challenges, online learning has started to make its presence known in the Philippines. This did not happen in a vacuum, though. The government is striving to make this alternative distribution of learning available to people, with the help of private educational institutions and the private sector as well. How did this happen then? What were the policies that paved the way to develop new programs and courses that cater to online learning? Who has heard the call to bring this integrative educational tool in our country and how did they do it? In what educational institutions did online learning first appear?

Current and Future Trends

Seeing the development of online learning in the country shows us that the government does strive to improve the quality of education, online learning is just one of the ways to do it. This shows that despite the physical challenges and current quality of education, we have already the means to support online learning. Even with more or less than a decade of growth, though, we are still learning to walk, so to speak, with using online learning. The challenge right now is how to further improve it and make it more accessible to the masses. With this, we still have a long way to see if online learning would truly answer some of our issues in education. It would be unfair to place judgement on it when it is still in its early stages. It is recommended if a more comprehensive study of the development of online learning can be done. It is also recommended if a longitudinal study in the effects of learning output from students can be looked into, to give basis to the claim that students using via online learning study better than their traditional peers.

It can be said that online learning in the country is up to a good start, though there are still a lot of things that can be improved. It is still too early to tell if online learning can be able to address some of the problems in our education system today, but it is believed that with a good foundation already in place, it is only a matter of time when online learning can be as common and perhaps, even better than that of the traditional system of education.

The latest developments in the area of information and technology have made the use of these advancements, for dispensing education possible beyond the stereotype system of classrooms. Since it's a means to the end, this not only educates the students but also makes them current on what is latest in IT. Top accredited online universities and top accredited online colleges are doing a great service which is resulting in an economically sound society with better educated and skilled people.

These accredited online universities are using the potential of IT positively to contribute to the educational development as well as socio-economic benefit. They are offering various kinds of online degrees, diploma and certificate programs to a multitude of learners which include a growing number of teens, adults and advance education students.

Vocation education online degree programs, being offered at these top accredited online universities and top accredited online colleges, are facilitating and encouraging students to acquire a professional set of skills which will in the long run increase both technical and professional opportunities.

By opting for these online degree programs of top accredited online universities and colleges, the otherwise disadvantaged masses that can not attend regular colleges and universities, are becoming self-sufficient. Thus these online degree programs of various universities and colleges are producing a huge number of well-instructed and skilled hands that will play a vital role in competent management of both private and public sectors at all levels.

[1] Meinardus, R. (30 June 2003). The Crisis of Public Education in the Philippines. Retrieved July 30, 2007 from http://www.fnf.org/liberalopinions/crisis-public-education-philippines.htm.

The tongue of the wise adorns knowledge.

The Bible. Proverbs 15:2

Study not to know more, but to know better.

Seneca

Time not used on studies, is time lost.

Hryhoriy Skovoroda

The eternal revolutionary —
Spirit, science, thought, will —
Shall not yield to the darkness of the field,
Shall not submit to being hobbled now.

Ivan Franko "Hymn"

INTERNATIONAL RECOGNITION OF KNEU

KNEU — a member of the European Universities Charter

KNEU — "an excellent business school" in the international Eduniversal ranking

KNEU's masters programmes — the best in the EDUNIVERSAL Best Masters ranking of East European countries

KNEU — a participant in SEARCH, the European Commission's international research project

KNEU — a partner of Global Entrepreneurship Monitor, GEM

KNEU has been included in the European Doctoral Programmes Association in Management and Business Administration, EDAMBA

KNEU — a participant of the global network of the European Foundation for Management Development