EURASIAN HIGHER EDUCATION LEADERS FORUM

20-21 August 2012, Astana, Kazakhstan

CONFERENCE PROCEEDINGS

EURASIAN HIGHER EDUCATION LEADERS FORUM,

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Kazakhstan is an increasingly important and visible player on the world stage. Its economic and political successes are recognised, and its international stature continues to grow. We can see this in a variety of ways: as an international political leader, Kazakhstan was chosen to serve as the Chair at both the OSCE and the Organisation of Islamic Cooperation; in sports, the country was extremely successful in hosting the Asian Winter Games in 2011, and more recently, the performance of our athletes in the 2012 Olympic Games in London was a breathtaking source of pride for all of us.

Such things do not, of course, simply happen. They are the result of specific actions and ideas. In the years since independence, under the visionary leadership of Nursultan A. Nazarbayev, the First President of Kazakhstan, we have sought to carry out fundamental reforms of virtually every sphere of life in our country. A strong and open economy has been built; a new political system has been created. The country has moved forward into the 21st century with a strong commitment to modern science and education, to the on-going improvement of our society, to the integration of traditional values with the needs of the modern age, and to the idea of the mutually beneficial outcomes of cultural enrichment of all peoples.

As early as 1994, speaking at Moscow State University, President Nursultan Nazarbayev proposed the idea of Eurasian integration. This profound and far-seeing proposal was met with caution; for many, it seemed an unlikely possibility. And yet, the President of the Republic of Kazakhstan was correct: today this ideal is embodied in a Single Economic Space with a population of over 170 million people, and a total GDP of over $3 trillion US dollars. There are ever-greater opportunities for the free movement of goods, services, resources and personnel throughout this Single Economic Space, increasing its economic efficiency as well as the social development of the peoples living in it.

Eurasian integration, our President recognised, meant far more than merely economic integration, as important as that was. In 2009, at the 2009 Eurasian Association of Universities Congress, President Nazarbayev identified the need for a comparable single Eurasian Educational Space. This ideal has already been implemented, and is manifested in the CIS Network University and the University of the SCO countries. These institutions have been established, and are successfully operating, providing invaluable academic opportunities and mobility throughout Eurasia. Finally, in October, 2011, the Eurasian Forum on Academic Mobility of Students and Teachers of the CIS countries was held in Astana, an important event which involved the participation of the Ministers of Education. We also initiated the creation of the Bureau of the Bologna process in the Central Asian region. In short, the vision of President Nursultan Nazarbayev with respect to the present and future of Eurasian integration has been both invaluable and incomparable.

The capacity of Kazakhstan – politically, economically, and certainly educationally – ensure, I believe, that it will serve as an integrating link throughout the region, and between the educational systems of Europe and Asia. The presence of this Forum here in Astana is

no random event; it is visible proof of the strategic goals of Kazakhstan and of its leader, President Nursultan A. Nazarbayev.

The rapid development and reform of higher education and science in Kazakhstan are fully in keeping with global and international trends, which of course is precisely what our goals in the government with respect to these matters need to be. The development of science and higher education in Kazakhstan is tied closely to the need for further integration globally in these areas. The higher educational system of Kazakhstan has already become an important part of both the European and CIS higher education arenas, and today we are working to develop an additional, overlapping but nevertheless distinctive, Central Asian Higher Education Area. Toward this end, Kazakhstan has already successfully put into place 124 bilateral intergovernmental agreements and memoranda.

I would be remiss if I did not explicitly mention that some of Kazakhstan's most valuable and productive scientific and educational ties are with countries whose representatives are gathered here for this Forum. Let me provide you with just a few illustrative examples.

In 1994, nearly twenty years ago, the governments of Kazakhstan and the United Kingdom signed an Agreement on Cultural, Scientific and Educational Cooperation, and since 2001, the Kazakh-British Technical University has been successfully operating here in Kazakhstan. Nor are the linkages between our two countries merely institutional ones; they are also personal ones. A bright example of the role of interpersonal cooperation and collaboration between Kazakhstan and Britain was the meeting of the President of the Republic of Kazakhstan with faculty members at Cambridge University, at which many of the problems and challenges of the modern world were explored and discussed.

Perhaps one of the most effective ways in which we have sought to integrate Kazakhstan into the global academic, scholarly and scientific community has been the 'Bolashak' programme. The Bolashak programme, which was begun in 1994 under the direct initiation of President Nazarbayev, was and remains a unique programme that allows thousands of the most talented young people of Kazakhstan to study at top, world-class universities around the world. This programme has resulted in a synergistic effect to increase the number of Kazakhstani self-funded students studying abroad. Since 1994, more than 50,000 young people have received their higher education abroad.

Many Bolashak students have studied in the United States, of course, but an even more significant example of our work to collaborate with the US educational system can be seen right around us, here at Nazarbayev University. Nazarbayev University is a unique university, and has been designed to serve as a guide for the future development of the entire higher education sector of the country. It was created by an initiative of our President and from the beginning was grounded in a commitment to the highest standards of academic and scientific performance. It seeks to create a systematic synthesis of education, science and innovation.

In order to accomplish its mission, Nazarbayev University, from its founding, has been assisted by international partners from a variety of countries – the UK (Cambridge University and University College, London), Singapore (National University of Singapore), and the US. From the United States, the partner institutions include Carnegie Mellon University, Duke University, the University of Pennsylvania, the University of Pittsburg Medical Center, and the University of Wisconsin–Madison. Nazarbayev University is by no means an American

university, though, any more than it is a British university – it is a distinctly, and deliberately, Kazakhstani institution, designed to learn from the world's best universities to create a uniquely outstanding institution for the 21st century.

The national educational priority of integration with the global scholarly community is manifested quite clearly in Kazakhstan's official acceptance of the Bologna Process. The Bologna Process is intended to facilitate the evaluation and transfer of university credits and programmes across national borders, to ensure that there are common understandings from one country to another of specific educational degrees, diplomas, credits, grades, and so on. By accepting and implementing the Bologna Process, Kazakhstan ensures that its specialists have recognised credentials that are understood throughout the world. In addition, Kazakhstan has implemented a full transition to the three-tier system of education (Bachelor's – Master's – Doctorate) commonly used elsewhere. We have sought to replace older approaches to scientific training through graduate school. This allowed us to collaborate with leading universities of the world in the creation of doctoral programs, which will become a key pillar of our integration into the global scientific world. We are also working on the formulation of a National Qualifications Framework, a necessary condition for the implementation of the European Credit Transfer System (ECTS).

With respect to university governance, Kazakhstan is now moving toward a more internationally-recognised model. We have commenced the transition of to the provision of autonomy to universities, and to changes in their governance systems. Our leading university, Nazarbayev University, is already completely autonomous – which shall ultimately become the basic norm for all university's in Kazakhstan.

In four of our national universities, Supervisory Boards have already been established and given legally-binding substantial power to operate the universities that they represent. We are reviewing the powers of Boards of Trustees that function already in 64 sixty-four universities in Kazakhstan, and expect to make changes in their powers and authority in the future. In accordance with global practice, we are forming a system of independent accreditation.

For the first time we have established the National Register of Accreditation Agencies, which includes two Kazakh and four foreign agencies from the United States, Germany and Austria. What all of this demonstrates, I believe, is that the role, the place, and the nature of universities in Kazakhstan is all undergoing serious review and revision at the present time, as higher education in the country becomes increasing like that in other parts of the world.

The quality of universities is not easy to measure, but an important element of determining the overall quality of any institution of higher education are the world rankings. Although they are not perfect, such rankings play an immensely important role in helping us to improve to competitiveness of universities, their quality, and how their programmes, facilities, faculty and students compare to those of other universities. In the case of Kazakhstan, according to the QS World University Rankings (2011), Al-Farabi Kazakh National University and L.N. Gumilyov Eurasian National University were among the 450 best universities of the world.

Three additional universities (Kazakh National Technical University, Kazakh National Pedagogical University and South Kazakhstan National University) are in the top 601-700. This year, a total of twenty Kazakh universities have taken part in the international rankings. These are important steps to a new level of competitiveness in higher education.

We are also concerned with the issue of the mobility of students, teachers, knowledge and innovation. Kazakhstan has taken a series of measures to the effective stimulation of this process; the State provides financial support for mobility. Since last year, students and undergraduates have an opportunity to study for one semester at top, world-class universities. This approach is quite unusual, as in most countries, academic mobility is carried out by students themselves. The international mobility of our students is organised similar to the way, how students from other countries move. They are oriented to the countries that established themselves in the educational market long ago: the USA, UK, France, Germany and other countries of the European space, as well as the new leaders of attracting foreign students - Malaysia, Indonesia, China, and South Korea.

Kazakhstan supports different types of mobility: credit mobility for the academic period, degree mobility, the mobility of researchers, and the long-term academic mobility. An additional impulse to this process is given by international programmes as Erasmus Mundus, TEMPUS, DAAD.

Rectors and universities throughout Kazakhstan are dedicated to of the country focus on improving the quality of educational services provided to all of our students, and to the promotion of research of the highest quality. This will be one of the main factors of increasing the attractiveness of Kazakhstan for international students. I think that achievement of this goal is realistic within our region and the Eurasian Area, and we will continue to work in this direction.

Another factor that has important impacts on higher education in Kazakhstan, as well as on other educational systems around the world, is the international mobility of professorial corps. I can see here many international experts who are among the most active builders of the modern system of world education. Today we have the opportunity to invite to our country more than 1,000 world-class professors a year, and we are anxious to benefit from their expertise, experience, and willingness to assist us. At the same time, we are developing a system of international internships for our teachers and scholars, including the Bolashak program, to ensure that we will soon have even more world-class Kazakh scholars and professors in our own institutions.

Underlying the reform of higher education in Kazakhstan, and indeed in much of the world, is the phenomenon of the synthesis of science, education, and innovation. I remember the words of a great science devotee, Professor Sergey Kapitsa: «Today the economy of knowledge defines the development of a society... and challenges the habitual concept of the market. Knowledge has the ability to be multiplied and extend uncontrollably - as an exchange of ideas leads to knowledge augmentation of each individual. Finally the education system also forms the economy of knowledge». It is at institutions such as Nazarbayev University that we see all of these elements coming together; indeed, Nazarbayev University sets the benchmark for such synergy. In order to disseminate this experience to higher education institutions, the creation of research universities has been legislatively established. We turned to target the promotion of science and innovations to HEI which should become the base generators of new knowledge and new technologies in economy and education. We already have ten innovative higher education institutions. The State supports these higher education institutions in development of science and innovations, commercialization of researches, attraction of talented young people. This synergy and its potential is something that I would suggest should be a topic of consideration at this Forum.

The twenty-first century has already begun seeing massive changes in the ways in which we think about education. The phrase 'lifelong learning' is a reflection of many of the changes that are taking place around us. It used to be the case that doing well at University pretty much guaranteed a good life and secure retirement. Now, the knowledge that one acquires at University is quickly out-of-date, and one must constantly upgrade both skills and knowledge. One of the areas in which we can see a radical change from the past is in the spread of IT in education. The spread of IT-technology has led to the fact that today it is difficult to estimate the number of students participating in distance and on-line learning. In Kazakhstan we have already launched a pilot e-learning project, and by 2020 it will capture 90 % of our educational organisations. But university authorities must understand that they should not stop there. The goal of universities is to pick up and expand the given methodology, to become the main base of development of the LLL system. There is a big integration potential, the discussion of which can be rather useful at our Forum.

We all know that the world is becoming increasingly global and international in nature, and that there is a dramatically increasing trend toward the globalisation of education. In my comments here, I would like to go beyond this, though, and emphasise that this process of globalisation and internationalization also means that we must address the issue of multilingualism and multilingual staff training. This is extremely important for Kazakhstan, which is rapidly expanding its open economy and social sphere. As world experience shows, those countries whose citizens speak several languages achieve success more quickly. In this regard, the President has set a clear goal. He has stressed that Kazakhstan must be perceived in the world as a highly educated country, whose population speaks three languages: Kazakh as the state language, Russian and English as the languages of successful integration into the global economy. So we put language training on very important place at all levels of education. We have already made definite steps for multilingual professional training. Today, all universities have introduced the level model of foreign language learning, following the example of European universities. Starting from next year, the realization of Study Programs designed in three languages will be launched in 32 higher education institutions. More than 5,5 thousand students in teacher training, natural-scientific, technical specialties will be trained according to them. It becomes a good basis for mobility and competitiveness of specialists.

The world is changing rapidly; the 21st century offers us many new challenges. Not only do we have time to react to them, but to be proactive. These trends are in many ways a kind of academic revolution, as they are unprecedented in their scale, diversity and dynamics. I strongly believe that the answers to these key challenges will be found at such international and inter-state discussion venues like this Forum. I wish you fruitful work, success, good progress in the development of the relationship of our scientific and educational systems!

EDUCATION REFORMS IN KAZAKHSTAN

Yerbol Orynbayev
Deputy Prime Minister of the Republic of Kazakhstan

For Kazakhstan, creating world class human resources through our education and training systems is, if anything, even more fundamental to our future than for many other countries. We are small country, at least in terms of population, sitting literally between giants. If we are going to compete, if we are going to grow and diversify our economy, our scientists, our engineers, our entrepreneurs and our financiers, our public servants, our farmers must all be able to compete with the best. Our workers must be able to adopt ever changing technologies and adapt to rapidly shifting global demands.

President Nazarbayev is committed to ensuring that Kazakhstan citizens have world class skills, training, imagination, and the capacity for critical thinking needed to compete and prosper in the new world order. In the past decade and a half our President has initiated a package of far- reaching and fundamental reforms designed to deliver on this commitment. Taking together these reforms represents nothing less than a re-structuring and modernizing of every aspect of Kazahstan's education, training and research system, from the bottom up. To achieve Kazakhstan's resource needs, we are modernizing. We are developing a pre-school that insures that children between the ages of 3 to 6 have access to kindergartens that provide organized learning environments using modern pedagogical skills, as well as a primary and secondary school system that prepares Kazakhstan's youth for entry into the world's best universities, so that they can acquire the technical skills needed to meet the needs of Kazakhstan's economy, a vocational and training education system that gives Kazakhstan workers the technical skills they need to compete and succeed, and a university system that produces the leadership and expertise needed to drive Kazakhstan's social and economic development.

The country is also committed to a national researching and development program that puts Kazakhstan's researchers at forefront of efforts to solve the country's and world's most critical programs. This is a daunting reform agenda, and President has wisely approached it through what might be called 'reform by example'. For primary and secondary school reform, he has established the Nazarbayev Intellectual School program that is building trilingual centers of excellence that will attract Kazakhstan's best and brightest students from all parts of the country and all ethnic groups.

To ensure that Kazakhstan workers have skills, employers need, the government has launched the Kasipkhor Program to redesign and rebuild Kazakhstan's vocational and technical education delivery system. To produce the knowledge needed to drive the country's growth and diversification, Kazakhstan is substantially increasing its research and development expenditures and reforming its research funding mechanisms. These changes will give Kazakhstani researchers the systemmatic support needed to tackle the most pressing, scientific, engineering, economic and social challenges the country faces, and to collaborate with the world's best researchers and research institutes.

But generating knowledge is not enough. Entrepreneurs, business leaders, financiers and Kazakhstan's workers must be able to take this knowledge and transform it into economic growth and prosperity for all. And so Astana is being developed as an innovation and intellectual cluster that will provide innovators and entrepreneurs the support needed to turn ideas into products. At the center of these reform efforts are Kazakhstan's universities.

Kazakhstan has ambitious plans for its future. It is our universities that must produce the graduates who will create that future. Kazakhstan universities graduates must not only demonstrate the best technical skills and capacity to use those skills creatively in ever changing economic times, but also personify the values of our country.

Why did we create Nazarbayev University some two years ago? As a national project reflecting president's Nazarbayev legacy, Nazarbayev University is in the vanguard of the country's efforts to put university system on a global footing. Nazarbayev University, with its integrated teaching and researching and design activities and unique partnership model will become a template for the development of other Kazakhstani universities. The law that established NU is fundamental to its success. This law gives NU autonomy and academic freedom, a clear system of accountability and control, and perhaps most important, an independent governance system based on the Board of Trustees that makes key decisions on all important university issues. This is standard fare for most established university systems, but new to ours. A second element of the NU success is its unique partnership model. NU is now working with nearly a dozen of the world's leading universities and research institutions to establish and grow its schools and research centers. Together NU and its partners are creating an institution of higher education that is global in quality and rich in character, like Kazakhstan itself.

NU as we can all see is up and running. In its third academic year it will have close to 1500 students selected trough a tough merit based transparent competition. It has three schools now entering their second year of operation and more than 160 highly qualified international faculty. Close to 150 alumni of our Bolashak program are working at NU. In the coming year the first three graduate schools will be launched, offering programs in education, business and public policy.

NU will also develop the first academic healthcare system in Kazakhstan, which integrates clinical services, research and teaching. The first two components already exist in the form of the hospitals under national medical holding and NU Center for Life Sciences, and a medical school to be established in the near future will compliment this system. NU's medical program will do for Kazakhstan's health system what NU is doing for its educational system; provide a model for reforms for the rest of the country.

To support the country's innovation needs, President Nazarbayev has tasked NU with the creating the Astana innovation and intellectual cluster, as I mentioned earlier. It will serve to translate knowledge into concepts and commodities that will generate production and growth that will diversify our economic base, create jobs and improve lives. The Astana Innovation and Intellectual Cluster is a bold and ambitious idea that will play an important role in establishing NU as a global research university. For higher education NU is the laboratory that will give the government input into the reform of existing universities and into future efforts to create new institutions of higher learning. This role puts a special obligation and burden on NU. As the university establishes itself as highly quality teaching and research institution it must ensure that the lessons gained from its development are available throughout Kazakhstan's higher education system. Even in this early days lessons are emerging that will change the way are the Kazakhstan universities operate. NU is amplifying and enhancing its dissemination role through aggressive programs of workshops, task forces and conferences. This forum is an example of these efforts. Through the Forum, NU and the Nazarbayev Intellectual Schools will share their experiences with others in Kazakhstan and from around the world. The forum gives NU an opportunity both to teach and to learn, an essential two way street for any educational institution. On behalf of my country and my President, I thank you if you joining us today and wish you very success in the days to come.

THE UNIVERSITY: A CENTER OF LEARNING?

David Bridges
Cambridge University, UK

The contribution of universities to economic development

I want to begin with the significance that both the Minister and Deputy Prime-minister have attached to the university's contribution to economic development. This is clearly a theme on which one could expand very extensively, but the contribution includes a number of different dimensions, and I think it worth distinguishing some of these. Part of it is certainly about equipping an economy with higher level understanding and skills, and at the moment many international companies coming into Kazakhstan have to bring these with them or seek in the international market place, higher level skills, which in future, one hopes, Kazakhstan will be able to supply through its own higher education system.

University scholarship and research can make a major contribution, as both the Minister and Deputy Prime-minister indicated, as a resource for business innovation, but I would make a plea that you don't just think in terms of the contributions of science and technology. Some of the leading international companies gain their competitive edge not just from their technology, but their design: there is an aesthetic to architecture, engineering and all kinds of manufactured products that one neglects at some peril. The technologies used by companies in car production, household items and computers are very commonly the same. But it is that extra edge of design which takes the products and makes more competitive internationally. When the multi-facted British company, Virgin (which includes the production and sale of popular music, an airline and financial services) approached my previous university for assistance in helping its senior management to think 'out of the box', as they put it, it wasn't the science department we took them to; we joined them with the philosophy department and with the creative writing department. These were the departments, which they saw as having the capacity to help them think imaginatively and critically and differently. So, please, let's not get entirely locked into this assumption that it is just science and technology that are going to contribute to national development.

Universities are, in addition, a magnet too for international business investment. If our Department of Trade and Industry identifies international companies interested in locating in the UK, one of the first places it brings them to is the nearest university, not least, because in the universities they will meet people from their own country, because our universities are cosmopolitan, they're international universities. Business people find reassurance in the fact that if they bring their company to our location, people in the company will find compatriots whom they can talk to and engage with, people with high level skills, as well as other resources that universities can supply. (One company was delighted to find that our Engineering department could offer the use of a wind tunnel.)

It is, I think, right, too, that Nazarbayev University and other universities in Kazakhstan are looking to provide not just for students from Kazakhstan itself, but to attract students internationally. There is an international trade in higher education from which the United Kingdom, for example, profits enormously, and one of things that Kazakhstan can do, and other universities in this region too, is to correct that imbalance of trade by making themselves attractive to people from the international community.

Making the contribution of universities to business innovation and to public service more effective

So there are all sorts of things which universities can contribute to economic development, and if I may quote the deputy prime-minister (or at least what the International Herald Tribune says, the deputy prime-minister said) he certainly draws attention to the importance of universities in providing the knowledge base for innovation.

"…Given our small population (and our landlocked location), we will succeed in our diversification efforts only if we invest in knowledge: education, science and innovation. If we can improve our education we can improve our science; if we can improve our science we can foster innovation; if we can foster innovation we can create a productive base for a modern, competitive economy"
Deputy Prime Minister, Y. Orynbayev, International Herald Tribune, p. S8, June, 15, 2012.

I have highlighted in this quotation a phrase which I think needs examination. The deputy prime-minister said "If we can improve our science, we can foster innovation". My caution is it doesn't happen so easily and it certainly doesn't happen automatically. What we found in our attempts to join university research with business innovation in the East of England is that there are all sorts of problems: they have different goals, they speak different languages, they have different cultures, they work to different time scales. And so you cannot afford simply to leave it to happen for the research in universities to be turned into business innovation.

Among the tactics we found helpful in our attempts to bridge this gap were the following:

(i) the universities need to create a single point of access. So the businessperson, who thinks the university, might be able to help him or her, doesn't have to go searching around the corridors of the university to see if there is anyone, who perhaps has something interesting to offer. Colleagues from universities will know that it is difficult enough even for people working within the universities to know what else is happening in the university; for a business person from outside without much time to spend, it is almost impossible. They need to be able to go to a single information point (on-line as well as in an accessible place in the University,) where they can find out what is happening in that university. Even better, and this is something we did in the East of England across a network of 12 universities, if you can create single point of contact which gives you access to what is happening in research in the whole university system, so much the better. The business people do not then have to go from one university to another trying to find out who might have some research which is relevant to them.

(ii) You need interpreters, translators, people who know both the world and language of business and those of the academy, and who can move between them.

(iii) You need the sort of collaboration, which is represented in business parks and science parks adjacent to universities, which can create kind of proximity between researchers and business.

(iv) We even organized 'speed dating' events, when business people and researchers within a particular sector such as sustainable energy sources, were brought together to see as efficiently as possible if they had interests in common. We gave them, initially, just five minutes in pairs to find out a little bit about each other, and then they moved on to talk to somebody else, and then they moved on to talk to somebody else and then they said "These are the people I want to have longer conversations with". So remember that speed dating is one model for technology transfer!

All of this I suggest to my colleagues and universities is really a pedagogic challenge. It is about teaching and learning. How do you teach into the business community from the research which is happening in the universities? There are parallel issues too about knowledge transfer into government or into public service. One of the popular slogans in politics in UK and I think elsewhere is that of "evidence-based public policy and practice" - the idea that policy should be informed by research. But again you a have parallel set of problems. You have different languages. The academic language is full of qualifications, reservations, technical terms; academics tend to write very long papers, books, and they write in technical and critical terms. Politicians, (perhaps our colleagues here are an exception), don't have time to read all that stuff. They don't have time to listen to long diatribes and lectures. They need a different form of encapsulation of what our research evidence might have to say to them. Similarly, I think, academics have to understand, and they don't always, that politicians work in a different world where evidence is not the only consideration they have to take into account. Politicians have to survive the ballot box, they have to work with interest groups, they have to work with lobbyists, and they have to take into account public opinion, press coverage and vested interest. These are the legitimate reference points for politicians, along with any evidence that we in the academy might provide. So again there are issues to do with the need for different kinds of reporting of scientific research, than what appears in academic journals. We need interpreters, people who can make sense of the very technical work that scientists and others do and translate it into a language that the public, as well as politicians can understand.

We often talk about best transfer being on two legs. It is about people moving between the domains of politics or business and the academy, of actually taking up posts. The UK civil service provided a scheme recently by which academics could be seconded to the civil (ie government) service for a period of time, so that they could bring their knowledge and experience to the department and then also take their experience of the department back into the academy, so they would understand the way in which government departments work and the sort of knowledge they need. Again, I see this as a pedagogic challenge, it is about how you transfer learning from the academy into public institutions.

But what are universities for?

That has been so far a quick gesture in the direction of the kinds of contribution the universities can make both to economic development and to the development of policy. There is a lot more that could be said, of course, about the contribution to culture, the contribution to citizenship. Indeed, part of the problem for universities is that there so many things that they can do to be enterprising, to go out and provide service to the community etc, and as a result they get pulled in very many different directions. There all sorts of things universities can do

- Traditional academic programmes for undergraduates and graduates
- Short and long term professional education and training for nurses, midwives, social workers, teachers, police officers, business leaders
- Short courses tailored to the requirements of local businesses
- 'Outreach' or extension courses for local communities
- 'Access programmes' for non-traditional students
- Programmes (including language programmes) for international students Validation and accreditation of programmes offered by other institutions

- Fundamental and curiosity driven research
- Research purchased by government , business or voluntary sector
- Publicly accessible cultural and sporting events, facilities and activities
- Conference facilities and accommodation
- 'Experts' to contribute to local and national radio and television

…. but they really cannot do them all. I have listed some of these, and I could provide three times that list very easily; I'm sure colleagues could introduce other possibilities as well. So one of the things that any university has to do is to develop some principle of selection from all it does. Otherwise we get thrown into, what it is sometimes called the *malaise of 'the postmodern university',* where the university is not a coherent academic community, but a network of diverse centers of learning and teaching

"different academics pursuing different knowledges, different teams of researchers combining and recombining to investigate shifting topics, different sorts of students following different courses, with different modes of study and different concerns among themselves, different employment arrangements for different types of staff – difference everywhere in this postmodern, flexible, accommodating university."

Smith and Webster (1997 p 104)

This is what Smith and Webster refer to as the postmodern flexible accommodating university, but also it also risks becoming a confusing and directionless institution. One of the drivers to this confused situation is the rhetoric' of '*the service university'*. As long it goes 1967 in the United States Theodore Roszack was writing about the problems created, when university becomes effectively an institution, which will do anything that people are willing to pay for. but there are many universities I think in the modern economic conditions that get driven to that point. Theodore Roszack observed that:

'service' by becoming a blanket willingness to do whatever society will pay for, has led the university to surrender the indispensable characteristic of wisdom, moral discrimination'

Theodore Roszak (1967) The dissenting academy (p12)

So this is my caution: there are many things the university can do, but how or by reference to what principles does it determine what it should and will do.

The university as a center of learning

I want briefly to reaffirm what I see as a core values and purposes of the university. I want to describe those in terms of the university as a *center of learning and of the learned*.

Learning is not just something that students do; it is something that all members of university community do. Research is itself, after all, a particular form of learning, in which we seek to learn in new territory, to come to original ideas and original thoughts and collect new information. But the principle is still the same: it is a process of learning. But the learning that takes place at university is not just any kind of learning, it is rooted in *sustained and systematic* inquiry and study.

I had considerable debates with some of my colleagues at one stage, when they wanted to construct what they described (echoing the language of Kentucky fried kitchen restaurants!)

as "bite-size of chunks of learning". My argument was that is not what universities do. Training organizations would give you 24 hour course. Universities are committed to something which is more sustained, more systematic, more care-ful study. It is thorough, it is systematic, it takes care to do things properly, it is rooted in scholarship, in breadth and depth. The learning of universities is rigorous, is demanding, it's not easy and you have to work at it. Moreover the learning of universities is critically reviewed. It is reviewed by your teachers in the university and by examiners if you are a student, but the same principle applies if you are a lecturer or professor: your work, the visible evidence of your learning, is constantly critiqued and reviewed by your academic peers. In one of the parallel groups we shall be looking at quality assessment of research, and I suggest that here you have the hallmarks of quality.

I am conscious that I have very little time, but let's look at those qualities a little closer, because I want to suggest to you that, if those are the qualities of the learning and kind of knowledge understanding that you want to cultivate in a university, then these are not just technical abilities; there is a sense in which they express certain academic virtues.

Here I refer to no less a person great Kazakhstani philosopher and poet Abai, in a "Book of Words" where he writes:

'*To attain your goal (of wisdom) and be faithful to your duty, you should foster constancy of purpose, determination and strong will, for these help to preserve the sobriety of your reason and the purity of your conscience*'

Abai Book of Words Word 32

There is a classical literature in the West (one which Abai himself drew from), an ancient literature that goes back to Aristotle, which writes about intellectual virtue. And of course in the Confucian tradition in the Chinese sphere of influence that connection between knowledge and wisdom and the importance of the moral qualities of the educated person is a very strong one. The motto of Hong Kong University today is '*Sapientia et virtute*' (wisdom and virtue). That is very much what Confucius writes about; it is also very much what Abai writes about in Kazakhstan; and there is a strong tradition in Western philosophy that focuses on such intellectual virtuesas:

- wisdom, a capacious memory, keenness of insight, eloquence, prudence, penetration, discernment and discretion (Hume 1751)

- open-mindedness, whole-heartedness and responsibility (Dewey 1916)

- intellectual impartiality, or openness to the ideas of others (Montmarquet 1986, 1993)

- intellectual sobriety i.e. the virtues of the careful enquirer who accepts only what is warranted by relevant reasons evidence and argument (Montmarquet 1986, 1993)

- intellectual courage,.. perseverance and determination (Montmarquet 1986, 1993) or Mukhafaza or 'firmness in defence of one's own views '(Abai Book of Words)

- honesty when the consequences of telling the truth are uncomfortable (Pring 2000)

- modesty about the merits of the research and its conclusions; humility in the face of justified criticism and readiness to take such criticisms seriously' (Pring 2000)

I won't run through all these qualities, but these are illustrations of what I mean by intellectual virtue, These are the qualities which we need to encourage and cultivate in our students.

My next step then is to say if those are qualities you want to cultivate in the academy, then you need a certain culture in that academy which supports those qualities. You need care for those qualities. You need them to be embedded in the social practices of the university. You need to cultivate them by the example of the faculty, as well as by precept. You need responsibility and trust -- and I think when in Kazakhstan the minister talks about the movement towards more autonomous higher education institutions, that notion of autonomy carries with it these dimensions of responsibility. It's not just financial responsibility, it's responsibility for the very culture which is developed in the university – and that also requires a level of trust. It also requires collegiality, because these values require cultivation by community of people who share in these values and help to sustain them. It requires creativity and imagination and space for creativity and imagination. And it requires energy for learning and enquiry.

A test for the functionality of structures of governance and administration?

I want to emphasize those last things, space for creativity and imagination and energy. Because, when we start to look at many contemporary developments in the governance of universities and the administration of universities more particularly, you have to ask questions about whether universities are continuing to provide that space for creativity and imagination and whether thery are leaving their staff and students with time and energy for learning and enquiry. Because as I shall try to indicate all sorts of things start to fill that space. I suggest when we looking at questions of governance one test for whether the structure of governance that you developing is the right structure of governance, is to ask does it support and contribute to the development of this sort of culture of the university. If it does, then it seems to me it is appropriate form of the governance. If it doesn't and it is getting in the way of the development of this culture, then it seems me you need to think again.

If I reflect on many of the features of what is happening in the UK, and I think colleagues in USA and other parts pof Europe will recognize many of this as well, you have to ask questions about whether the direction of movement in certain aspects of the governance and administration of universities really supports that kind of culture. We see increasingly the regulation and bureaucratization of ethical conduct. Ethical codes and ethics committees governing research in a sense substitute for the personal responsibility of the researcher and the failure of the university to socialize its community in proper conduct. Ethical codes come to exist not so much to protect those who participate in the research (perhaps as 'subjects'), but to protect the university from being sued, and then that becomes a whole big issue. The regulation and bureaucratization of quality is something we shall be looking at in one of parallel sessions. But external quality assessment in UK now requires huge volumes of evidence. You fill a room with box files full of records, and minutes of meetings, systems and so on. It takes months for people to prepare it. But remember what we require of the institution,: we require space and energy for imagination, reflection and learning -- not for filling in forms and completing loads and loads of box files of evidence.

Michel Power in, what seems to me, a brilliant book called "The Audit Society" writes about what he calls "pathologically of checking". My colleagues who speak Russian have failed entirely to find satisfactory translation for this word,ut it means almost a morbid

preoccupation with checking; and then checking the checkers; and then checking the checkers of the checkers We find ourselves devoting huge energy to audit rather than quality improvement, and what happens is you get expansion of the university bureaucracy to meet these demands and to show that the university is safeguarded. The bureaucracy becomes so great that academics who are called on to spend three years as Dean of a school or faculty find it totally incomprehensible, so they have to rely entirely on the administrative staff to help them to find a way through this bureaucracy. You get the surrender of academic control to those who can manage these bureaucratic demands and the diversion of academic energy to meet the insatiable demands of these bureaucracies and regulatory systems.

And finally then Organisations are .. colonized by an audit process which disseminates and implants the values which underlie and support its information demands.' (Power 1997: 95).

You may not all agree with this critique of many contemporary developments. I make it in part to warn you that referring to 'international practice in a higher education' is something you need to do very cautiously. I certainly would not claim that many of the practices in the recent developments in the higher education in UK or ones I would recommend to anybody. I want to say: treat them with great caution.

Remember though that what all this is about is cultivating the kind of university that I described in terms of systematic and sustained attention to learning, intellectual virtue and the development of a moral culture, of collegiality, of responsibility, of courage in defending ones ideas, of modesty with respect to their authority, but also of creativity, imagination and energy in the pursuit of that learning and enquiry. Those I think are the hallmarks of quality of the university and those are the test of whether the structure of university administration and governance is really serving its proper purposes.

Thank you very much indeed for your kind attention.

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LESSONS FROM AN AMERICAN QUANDARY STRENTHENING SHARED GOVERNANCE IN TURBULENT TIMES

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I have three of my doctoral students in the audience and they will tell you that I am forever a storyteller. So with your forgiveness today I would like to tell you three stories that are really cautionary tales about what happens when we go wrong.

I'm going to start by reminding you that this year the United States celebrates the 150th anniversary of the Morrill Land Grant College Act by which our federal government, though in the midst of a tragic civil war, made large tracts of public land available for the creation of state agricultural colleges, which subsequently became the public research universities that today are the flagships of the American system of higher education. Indeed, by the middle of last century, these land grant institutions had become emblematic of what it meant to be an American university devoted to research, to undergraduate life including intercollegiate athletics, fraternities and sororities, to public missions, and, certainly not least, to strong traditions of shared governance. Their locations are an inherent part of their brand: Berkeley, Ann Arbor, Madison, Chapel Hill, even the football power, Alabama is often referred to as simply Tuscaloosa.

Now, these great universities are being challenged at every turn, leading the then President of the Association of American Universities and former Berkeley Chancellor, Robert Berdahl, to somewhat peevishly ask whether any of the fifty American states could still afford a truly world-class public university. The most visible signs of the crisis these universities face is a pronounced decline in public funding that has led to a shift from public to private finance, which, in turn, has occasioned a necessary shift from public to private purposes.

As a result, these great public universities are no longer the engines of opportunity they once were or, as an angry report authored by Danette Gerald and Kati Haycock of the Education Trust recently charged, the nation's flagship universities had "broken" the compact that historically had placed "[them] atop . . . [the nation's] pyramid of opportunity, offering the hope that students from humble origins can learn alongside talented students from all backgrounds." That promise had been replaced by a "relentless pursuit not of expanded opportunity, but of increased selectivity." Public flagships, like their private research counterparts, now seek to be "rated less for what they accomplish with the students they let in than by how many students they keep out," making these institutions "more and more enclaves for the most privileged of their state's young people."

There is, however, an even more disruptive crisis looming, one that asks whether these large, complex institutions—often with revenues exceeding a billion dollars, with upwards of 40,000 students, thousands of faculty, and even more staff—are either governable or manageable. Three major crises over the last two years, involving three of the United States most iconic public research universities, have suggested just how disruptive a future pubic research universities may face. To help link the analysis that follows with the tasks we face here during the balance of the Forum, you may want to keep in mind the three basic questions that underlie almost all discussions of university governance.

- Who's in charge?

- To whom are they accountable?

- How can an institution know whether its system of shared governance is working—or not?

The University of Wisconsin-Madison

The first of these crises convulsed the University of Wisconsin-Madison two years ago. The Madison campus is actually part of a statewide system consisting of thirteen four-year and thirteen two-year institutions, with Madison serving as the System's jewel in the crown. Donna Shalala was Chancellor in the 1980s before leaving to join the Clinton cabinet as Secretary of Health and Human Services. Her successor, David Ward, later became President of the American Council of Education and a key member of the Spellings Commission that was charged with rethinking the future of American higher education. In 2008, the trustees of the University of Wisconsin System recruited Elizabeth (Biddy) Martin, the tough talking, no-nonsense Provost of Cornell University to be Madison's new chancellor. Martin lasted less than three years, departing in 2011 to take the presidency of Amherst, a prestigious liberal arts college, though decidedly not a flagship research university.

Martin's time in Madison was marked by a host of conflicts, for the most part brought on by a continuing shortage of state funds to support the University's mission, and Martin's decision that only by making the campus at Madison truly independent of the University System could she put in place the alternate business model she was convinced the Madison campus required. To that end she began a series of private negotiations with the state's controversial governor, who most Madison faculty saw as being both anti-union and anti-faculty. When the Governor couldn't deliver his side of the bargain, Martin's support within and without the campus eroded. Among those most unhappy with her performance were her nominal bosses—the President of the University of Wisconsin System and the System's Board of Trustees. As Wisconsin's major daily newspaper not-so-gently put it, too many important people "had soured over a battle for campus autonomy, hatched behind her bosses' backs."

The Pennsylvania State University

The nastiest of the three governance crises now impacting a major public research university in the United States is that facing the Pennsylvania State University over the institution's failure to respond appropriately to the discovery that one of its football coaches was in fact a serial pedophile. It was corruption plain and simple, involving neither money nor special political favors, but rather the granting of unprecedented autonomy to a key segment of the University—in this case the Penn State intercollegiate football program.

Penn State is a rural campus, out-of-sight for most Pennsylvanians but never out-of-mind. Its football program was celebrated everywhere—for the quality of its student athletes, for its victories, and, not least, for the character and strength of its longtime coach, Joe Paterno. Only after the revelations of the crimes the assistant coach regularly committed, often on University property, and the scathing investigative report of a former Director of the Federal Bureau of Investigation (FBI), did most people learn just how much they didn't know—about the governance of the program, about the ability of Paterno to declare his program off-limits to even University scrutiny, about the degree to which the University's most senior

administrators were subservient to Paterno's football program, and about just how wondrously uninformed both the University's trustees and faculty proved to be.

The cost to the University is proving draconian: a $60 million dollar fine, a marque athletic program in tatters, a loss of confidence on the part of faculty and staff, a diminished sense of purpose and value on the part of a student body known for its spirit, and a Board of Trustees left wondering whether it should have resigned, self-convicted with dereliction of duty.

Ultimately the toughest questions Penn State faces center on the organizational, management, and governance changes the University will be expected to introduce. What does the University have to do so it can convincingly declare, "Never Again!"? Everyone will want to make sure their own power is not diminished, on the one hand, and, on the other, their access to critical information is as unfettered in the future as it proved to be constrained in the past. An understandably dazed new Penn State President, Rodney Erickson, spoke for most on his campus when he said after the announcement of the penalties assessed against his university, "It is important to know we are entering a new chapter at Penn State and making necessary changes. . . .We must create a culture in which people are not afraid to speak up, management is not compartmentalized, all are expected to demonstrate the highest ethical standards, and the operating philosophy is open, collegial, and collaborative."

The University of Virginia

The University of Virginia is best known as Thomas Jefferson's university: iconic in much the same way Berkeley is iconic, stately, almost languid in its approach to tough problems, but always purposeful in its pursuit of excellence. The campus is an architectural wonder whose core has remained true to Jefferson's original designs and concepts. But it is also a public university that has pushed the boundaries as to what it means to be public, creating along the way a School of Business that is, in fact, an independent institution wholly responsible for its own funding and largely immune to the dictates of public policy.

Hence the surprise last May when the University's Regents, its board of trustees, announced the sudden and unexpected departure of Theresa Sullivan, the University's president who had been in office less than two years. What quickly became clear was that the Regents had fired Sullivan for what they saw as her failure to move the University forward. The Regents wanted a new business model that stressed new modes of delivery, greater management flexibility, and a willingness to make decisions quickly. Sullivan had answered with a full-throated defense of incrementalism and the virtues of doing business in the future pretty much as the University had done its business in the past, with most decisions about how the University accomplished its tasks the product of a faculty dominated deliberative process.

The campus' reaction to Sullivan's dismissal was equally dramatic. The faculty Senate made clear it wanted nothing less than Sullivan's immediate reinstatement and major changes in the personnel and operating procedures of the Board of Regents. The students rallied. Higher education experts from across the country added their voices to an increasingly messy confrontation that threatened both the stability and standing of the University. Sullivan herself allowed that she would be willing to be reinstated provided the Chair of the Board of Regents, who had engineered her departure, left the Board when her term was up in July. Eventually, Virginia's Governor weighed-in calling on both sides to find an acceptable compromise, which they quickly did. Sullivan was reinstated. The Chair of the Board of

Regents was appointed for another term and the campus community fervently hoped they and the rest of higher education would quickly forget what had transpired.

Like the crises at the University of Wisconsin-Madison and at Penn State, the events that convulsed U.Va. this past spring raised fundamental questions as to the governability of the nation's large, public research universities. At U.Va., the paramount question became "Who in the University would play the 'first-mover' role? Who would get to set the agenda?" Historically it had been the members of the faculty, working both separately and independently, who had made the University's business the sum of their separate endeavors.

Starting in the 1990s, the Pew Higher Education Roundtable had taken up this issue of faculty separateness as part of a larger exploration of why universities were becoming ever more expensive institutions to operate. In Policy Perspectives the Roundtable put forth two explanations for what had happened. The first was the emergence of an administrative lattice that, much like a mathematical lattice, had grown to incorporate ever more elaborate and intricate linkages within it. Operating simultaneously was an academic ratchet, which over the course of time had drawn the norm of faculty activity away from institutionally defined goals and toward the more specialized concerns of faculty research, publication, professional service, and personal pursuits.

One of the consequences of this fracturing of faculty activity is that professional norms have become more important than institutional customs or traditions. There has been a parallel withering of the institutional role of the faculty as well. The mantra of shared governance is more familiar to scholars of higher education and the denizens of faculty executive committees or their equivalents than to faculty members who spend most of their time teaching, meeting with students, and engaging in the variety of outside activities that has trumped too many of the professoriate's commitment to a professor's traditional calling.

It was this diffusion of authority that brought on the crisis at the University of Virginia. What the Regent's saw was a university ill-equipped to compete in the twenty-first century. What President Sullivan championed as a necessary "incrementalism," the Regents took to be an unwillingness to do the different things a modern, electronically connected, globally aware university needed to do. Shared governance notwithstanding, it was time "to take charge" by making the Board of Regents the University's first mover. It would set the agenda, pick a President capable of ensuring that the faculty provided the specific programs that agenda called for, and become the arbiter as to whether the University was achieving the goals it sought.

Not surprisingly, the faculty's leaders had a fundamentally different explanation. What the Regents had attempted was nothing less than a political coup, a seizure of power and initiative that was inappropriate and one that could only weaken the university as it competed for faculty, students, and key research grants. In due course, they said, the university could consider the appropriateness of new business ventures and new ways of organizing itself—but those considerations would necessarily require continued allegiance to the faculty's definitions of shared governance.

Lessons to be Learned

Collectively these crises teach two basic lessons about the governance of American universities. The first is simply that the United States needs to understand that its universities have entered a different era. As institutions, our great universities are neither as innocent nor as virtuous as we would have the rest of the world believe. Today the notion of shared governance rings somewhat hollow given the horrific misconduct that, for more than a decade, was swept under the rug at Penn State. The crisis at the University of Wisconsin-Madison stemmed from a President's largely unilateral decision to abandon shared governance in favor of a badly timed misadventure involving a polarizing Governor and a political system that subsequently proved incapable of making a principled decision. At U.Va. the Regents had similarly decided that shared governance was not working and as a result their University's sustainability was put at risk. While the reinstatement of Theresa Sullivan to the Presidency reaffirmed the importance of faculty sensibilities, the larger question of how best to both lead and govern a large, complex, often conflicted institution in turbulent times was left unanswered.

The second lesson these three crises teach is that it is now time to answer that question, taking into consideration just how much has changed in the governance of publicly funded research universities over the last half century. I want to conclude these remarks by offering a set of concepts and definitions that I hope will prove helpful, not just to the pubic flagship universities in my country, but to publicly funded research universities across the globe.

Let me start by broadening the subject to include three parallel concepts that have become an integral part of the discussion of how best to organize our universities. The first, as before, is the concept of shared governance, which focuses on questions of authority and responsibility. Effective shared governance requires a practical as well nuanced sharing of responsibility by the institution's governing board, its faculty, its principal officers or executives, and its administrative agencies. In this sense, shared governance is not a system of checks and balances, but rather a commitment to collaborative action and sufficient transparency, allowing each constituency to know what its partners have done and are about to do.

The second set of parallel concepts involves the actual management of the university. Effective management entails making timely decisions about the setting of priorities, the allocation of resources, and the assigning of executive responsibility to individuals. In the modern era, good management requires nimbleness as well as a willingness to do things differently.

The third set of parallel concepts focuses on the bureaucracy that is necessary to make sure the university, on a daily basis, operates on time—the physical plant is maintained, the staff are hired and paid, student transcripts are kept current, monies are dispensed, and the university complies with the myriad regulations to which it has become subject. Bureaucracies are inhabited by bureaucrats—the men and women who comprise the administrative lattice and who, understandably, prefer to be called administrators rather than bureaucrats.

The absence of balance within and between these three parallel concepts results first in confusion and, ultimately, in crisis. Increasingly faculty, for example, have become less interested in, and thereafter less willing to invest their time and energy in, the processes and agencies on which shared governance depends. Trustees, though admittedly for different reasons, have proven equally uncertain partners. Trustees in the American system are

essentially part-time amateurs—unpaid, too often uninformed, and almost always unaffected by the decisions they make on behalf of the institutions for which they exercise fiduciary responsibility. Their interest waxes and wanes, at times threatening to micromanage the institution, at other times blissfully unaware of how and what their university is doing. Caught between these two forces are the university's executives, seeking to make decisions that neither wake a sleeping faculty nor push their boards to take inappropriate action. Finally, it is the university administrative staff who most often fill this void—making small decisions, designing complex processes which they administer, avoiding conflict as much of possible.

Each of the three crises I have identified, in one way or another, involved an exaggerated case of the imbalances that result when one or more of shared governance's constituent partners fail to perform responsibly. At the University of Wisconsin-Madison it was a President. The Penn State crises involved each of the imbalances I have described. The faculty had long since given up a primary role in the oversight of non-academic functions at the University. The Trustees simply refused to be bothered learning the details of what might be happening in an increasingly independent athletic department. The President and his executive colleagues had ceded control to an administrative staff that sought to protect itself and, in the process, managed to cover-up what should never have been allowed in the first place.

Finally, at the University of Virginia, a suddenly aggrandizing Board of Regents sought to fill the void that resulted when it perceived the absence of a strong faculty voice willing to reposition the University to better compete in a globally, electronically interactive marketplace. When the President sought to restrain the Board and defend the incremental response of her faculty, the Board forced her out, not knowing that in the end it lacked the political muscle to make its decision stick.

I don't want to suggest that shared governance will not work in the modern era. On the other hand, I do mean to suggest that what we mean by shared governance and the conditions that make it possible, need to be revisited. In the United States, at least,

I would start by having faculty relearn the importance of collective action, including the turning of academic departments into what might best be described as learning cooperatives—shared tasks, shared responsibilities, shared purposes and goals. Ultimately what a successful learning cooperative yields is the capacity to invest substantial energy in common projects both within the department and across the institution.

Second, boards of trustees need to be invested in—trained, schooled, practiced. It is not easy to be an effective trustee—success in one's business or political career probably teaches as many wrong lessons as right when the task is to provide good governance to a university. Good boards of trustees insist first on being fully informed and subsequently on learning the art of making policy as opposed to exercising management responsibilities. But mostly, effective boards of trustees stay tuned-in, reading about and listening to the daily workings of the institutions they are expected to help guide toward a constrained sense of the possible.

Third, university executives must better learn the art of keeping faculty and trustees informed in such a way that they support common purposes. Good executives are those who understand what an academic institution is expected to accomplish, how those accomplishments are to be achieved, and finally how their institutions' resources—financial, physical, human—are best deployed in pursuit of common purposes. Good executives must

learn how to change the business of the business, blending tradition and incremental change with more than a dash of innovation and entrepreneurship.

Fourth, administrators must relearn the discipline of service–must understand that they remain subordinate to faculty agencies, boards of trustees, and duly constituted deans, provosts, presidents, and rectors.

The ultimate change I have already hinted at–a simple willingness on the part of all four constituencies to establish a culture of shared responsibility that worries more about sustaining the institution, rather than focusing on the specific privileges and rights of individual constituencies.

WHAT ARE UNIVERSITIES FOR IN 21ST CENTURY

Michael Worton
University College London, UK

Wozu Dichter in dürftiger Zeit?
(What are poets for in a time of difficulty?)
Friedrich Hölderlin

It is very good to be back here at Nazarbayev University in this fabulous tropical space. I love the palm trees here: they make me feel that this is a new model of a university, one which is full of surprises, one which proclaims its international ambitions through its building as well as through its academic staff.

The epigraph to my article is a question posed by Friedrich Hölderlin, one of the greatest Romantic German poets of the 19th Century. The questions mean "what are poets for in difficult times?" This question is posed in his beautiful elegy, "Bread and Wine". Basically, the poem asks what the purpose and the function of poets are – to which the answer is given that they sing their songs in order to be present in the world and that truth has often been lost and will often again be lost, but can ultimately be traced through the witness of poetry.

This question led on to a meditation by one of the world's greatest philosophers of the 20th Century, Martin Heidegger, in his essay precisely entitled "What are poets for?". In this essay, which is highly spiritual as well as philosophical, Heidegger considers the place of truth and truth-seeking in the world and how we can learn to be properly in the world. He concludes that only poetry itself can answer the question of what poets are for, as they are constantly seeking for truth. So why am I interested in and speaking about poets when this conference is devoted to universities? The reason is that universities are very ancient institutions and, in many ways, they are essentially a western concept – which poses certain issues about the origins and nature of universities about which we tend usually not to think or talk. Perhaps we could discuss this in later round-tables at this conference.

Before universities were created many centuries ago, issues of truth, knowledge and being in the world were thought-through via poetry. In the beginning of our cultures, it was poets who provided a moral compass for their countries and their fellow citizens, even at times when the world was being torn apart by war or poverty or uncertainty. For Heidegger, a key belief was that you must believe in the human spirit in order fully and properly to be in the world.

I open with these poetic and philosophic ideas, because it is vital to recognise that universities are not simply about economic drivers for the future development of individual nation states or individual regions. In this context, it is important for us to look back in history. We all know that universities are now considered by governments to be vital to national development. Indeed this position is now regularly articulated by virtually every government in the world. Yet the history of the university system shows us that what defines and characterizes it most of all is its flexibility. In the West, universities are the oldest organisational system apart from the Roman Catholic Church. And both the Roman Catholic Church and the university system have survived precisely because they have known how to change when necessary. Universities do not stay still: they respond to the expectations

and demands of the countries in which they function – whilst also contributing themselves in great part to the gradual change of these societies. People spend a great deal of time these days discussing the different types of universities and establishing various typologies to describe them. However, these discussions tend to describe the different kinds of universities there are without focusing on the need to understand what the primary purpose of universities is. My argument is that universities were, when first founded, a public good and that they can and should again become a public good; in other words, they should serve the needs of the whole of the nation rather than simply for those segments of the population who are privileged in that they benefit directly from outputs of research, from knowledge transfer, from that position of knowledge and skills, etc. If universities are to be (and to be perceived as) public good, they need to work together. We speak a lot about sharing and of partnerships in contemporary debates about universities, but we are also enormously committed to competition. This is quite right, since competition encourages innovation and facilitates the drive with each other towards ever greater excellence. However, competition needs always to be seen in terms of collaboration, whereby universities with different skills and expertise work in complementary ways. The competition that is unhelpful is the obsession with world league table of universities where at any one time there are frequently more than 20 universities claiming that they are in the world's top 10! All that this shows is that we in the universities are very creative with mathematics and understand how to manipulate them. The big issue for universities at present is how we can move into more strategic partnerships than we have at the moment: we have tended to work in ways which are opportunistic and short-termist and which are contractual in nature, rather than being truly strategic partnerships which seek to make a difference rather than to make a fast buck.

We also need to recognise that each of us needs, in different ways, to work locally and regionally also having an eye on the global context. Some of world's best, research-intensive universities will also continue to find solutions to the world's major global problems – but usually by working together. In other words, it seems to me that we should stop being obsessed with where each of our universities sits in the league tables, and that we should strive to be clear with ourselves, clear with each other and with everyone else, about what we do, what we are and what we are striving to do. In these debates, it is helpful to go back to the original meaning of 'university'. All too often, people assume that this has got something to do with universality, whereas the origin of the word "university" comes from universitas magistrorum and scholarium. The meaning of this is, broadly, "a community of teacher and scholars", where there is parity of esteem between the teachers and scholars and all live in the same community. This notion of community which was at the heart of the original universities and was reinforced later by such major thinkers about universities as Wilhelm von Humboldt and John Henry Newman – and this vital concept of community is what we are losing in universities around the world.

We need to remember that the first university was created as early as in the late 11th Century – and already then, academic freedom was at the core of what a university should be. Today, the term "academic freedom" is banded around all too easily, often being used as a veil for self-interest. We need again to go back to the origins in order to understand what exactly this meant at the beginning in order better to understand what it should mean today. In the late 11th Century and early 12th Century, when the concept of academic freedom was brought in, it meant quite literally the freedom to cross boundaries without passports in order to gain new knowledge and to share new knowledge. There was therefore a literal,

physical freedom to travel from one country to another and a metaphorical, intellectual freedom to travel from one idea to another. But that sense of being a travelling scholar or scientist is something which became lost for a while as we focused only on national systems of education. Today, however, we are getting close again to seeing mobility as fundamental to the research and teaching workings of a university, although we have some considerable work still to do in terms of making both student and staff mobility fully democratic and available to everyone, whatever their background and financial situation.

Internationalisation is one of the main focuses for universities across the world and one of the major agenda items for our conference here on how to help the universities in the Eurasian region to move forward - and how we, who are not in the Eurasian area, can ourselves learn to move forward in different ways through partnerships with universities in Kazakhstan and other countries in the region. The key thing is to preserve the life of the mind whilst also recognising that the life of mind is not something fanciful; rather, it is and must be rigorous, systemic and sustainable.

The research university emerged largely following the great explosion of knowledge of the Enlightenment period in the 18th century, followed by the Industrial Revolution in the 19th century. Today, the research-intensive university is seen as the most prestigious model of the university and one to which almost all universities aspire. However, is this appropriate or the best way forward? We certainly need to have research-intensive universities, especially ones which are also teaching-intensive, and every country needs some world-class universities which are committed to paradigm-shifting in fundamental, applied and translational research. However, not every university needs to operate at that level; rather, universities need to find their own level, identity, relevance and type of contribution. Again, I would stress that we need to challenge the apparent all-importance of league tables and institutional hierarchies.

Wilhelm von Humboldt, one of the two great founding theorists of the modern university, stated in Theory of Human Education (1793) that: 'The ultimate task of our existence is to give the fullest possible content to the concept of humanity in our person [...] through the impact of actions in our own lives". This view positions the university as vital in terms both of developing individuals and of giving them a sense of responsibility for their actions – which will and indeed must have an impact on those around them. Interestingly, the concept of impact has recently become a crucial criterion for the evaluation of research, especially in the UK, where academic departments are explicitly asked to show the impact of the research that they are doing. Of course, most university research is funded by governments and therefore by tax payers' money, and if we have a publicly-funded system, universities must understand that it is vital that they demonstrate to the world what the point of their research is and why it matters.

The other great theorist of the university in the modern period is John Henry Newman, a thinker and cardinal, who coined one of the very best definitions of a university: "a university must be assemblage of strangers from all parts in one spot" (The Idea of a University, 1854). Whatever a university strives to be, whether it is a research-intensive or teaching-intensive or vocational or whatever university, it must be a place where we can learn to talk with strangers. This does not mean simply that we must learn to talk with foreigners; rather, the notion of stranger applies to all engagements, so, for example, philosophers must learn to talk with theoretical physicists and engineers with linguists and the university must be a

place where we can learn to talk with people from different socio-economic backgrounds, from different faiths, from different pre-suppositions, from different academic methodologies. And through this talking with strangers, we will learn ever better to view knowledge from a variety of perspectives rather than from any single monovalent one. Interestingly, Newman himself from within the Church also insisted that "a university must first of all be free from censorship" (The Idea of a University, 1854), asserting the need for full academic freedom.

According to these theories, universities need to be places which seek simultaneously after both wisdom and innovation. These are two very different aims, but both are necessary if universities are fully to play their part in society as a public good.

In this context, it is important to be aware of the dangers inherent in our governments' drive towards more and more entrepreneurial or enterprise universities, where economic drivers are seen as the prime engine for change. To focus only on the instrumental and/or commercial aspects of the university is to deny its essence – and its importance. For this reason, we need to be wary about the creation of such organisations such as the Hamburg University, created in 1961 by McDonald's – which is proud of the fact that it was the first restaurant company to develop a global training centre and one of the very few fast food companies to receive college credit recommendations from the American Council on Education (ACE). It is undoubtedly admirable that that MacDonald's wishes to train its staff as well as possible to manage restaurants and deliver their products. However, if a university is merely a brand and a training centre, it has lost touch with how it can genuinely be a public good.

One of the most positive advances over the past decade or so has been the development of the international(ised) university, whereby we have come to understand that we learn more effectively by learning with people who come from different cultures, from different methodologies, from different learning traditions. In the UK, we have certainly learned enormously over the past 10 years of having many students from Kazakhstan, notably through the Bolashak programme, students who have been trained very well but in somewhat different ways than Western students have been trained. What has been important for us has been to recognise the importance of difference in education and training, and this notion of difference or 'strangerliness', which is at the heart of the origin of the university is something which we need to articulate much more and with greater refinement in the contemporary university and in the university of the future.

Within all universities these days, there is also the phenomenon of faculty members feeling overburdened and constantly driven by pressures from outside without enough time for research or the fundamental issues of the life of the mind. Furthermore, the last decade has seen more changes than any other period in our history, as universities have moved towards systems of mass education - and over the next decade we shall see even more change, given that governments are regarding universities with an ever more determined eye, expecting them to deliver on governmental priorities. Our students are themselves changing in what they want and what they expect, and universities themselves are struggling to define themselves in long-term sustainable ways within their own local environments. Private universities are entering more and more countries, and we should welcome this, since the competition will be a useful driver. However, we need always to be very clear on our mission and on the importance of the governance.

Crucially, we need to recognise that the world economy is shifting away from the dominance of the West. Economic and financial power is moving to Eurasia, the Middle East, and South Asia and the Far East. Military power still remains in the West, but even that is likely to shift eastwards soon. We in the universities need to examine carefully what the implications of these shifts are in terms of the balance of power. We need also to deal with the often unspoken dimension of balances of power, such as what do we do about the balance of poverty or the lack of equality in terms of access to health care? Or the digital divide, whereby communication is withheld from many billions of people? We need to look as much, if not more, at all the under-privileged as we have traditionally focused those who already have achieved privileges. We need also to recognise that while cultural differences are becoming much more defined today in our globalised world; we need to work much harder at understanding them. Again, we need to ponder the importance of the university as an "assemblage of strangers", which recognises a world beyond the university, one which needs our expertise, and our engagement. If a university has a moral vision, as it should, it should not select only easy, experienced and well-resourced partners, but choose partnerships that will bring new learning as well as maximum benefit to all involved and concerned .

I would now like to consider some of the issues which in my view are driving the university world that we have at the moment. Our students are much more interested in securing jobs immediately after their studies, and we need to manage this expectation. Students also are much more eager to have physical mobility as well as intellectual and cultural mobility and this will inevitably lead to greater flows of migration throughout the world as students seek to study in two or more countries during their learning period. Employers are working much more closely with universities in terms of trying to persuade us to develop the kind of broad skill-sets that they want. And, of course, our governments more and more see universities as the repository of potential answers to major problems in healthcare, economic stability, the environment, the need to preserve and manage natural assets, and so on. Most encouragingly, all universities themselves now seek to grapple with the challenges as well as the opportunities of internationalisation and there is also increasing interest in the return of social and model values to the curriculum as part of what one could call 'academic globalisation'.

Perhaps the most frequent key word now found in university mission statements and strategies is 'partnerships'. We are all talking with enthusiasm about partnerships, but we must be realistic and recognise that partnerships are hard. This means that we need to find new ways of working – and working across cultural boundaries. One positive example is the new initiative between the UK and Japan, which is trying to get British and Japanese universities and businesses to talk and work together. This initiative, RENKEI (see http://www.britishcouncil.org/japan-about-us-press-room-press-releases-20120313.htm) is teaching us just how very different we are in terms of working practices and business assumptions. On the other hand, the Eurozone and many other developed countries are undergoing a time of austerity and challenge, while there is growing wealth is some countries such as Kazakhstan, the Middle East and China which are, in economic terms, much more dynamic at the moment than most other parts of the world. But for all of us, whether we are undergoing austerity or expansion, there is a need to recognise that this is a time of challenge – and we need to be bold in the ways in which we define the university for the future rather than relying on established, ready-made models. Technology often appears to be an answer and it certainly allows new solutions to be found to age-old problems, but it also heightens the digital divide.

The more and more sophisticated we become in our technology and in our research and teaching methods, the more we make it impossible for those in poorer and less developed countries actually to benefit from what we are doing. We therefore need to spend time in translating technology into systems which can be read and accessed in the developing world.

Universities are above all agents of change, and I would argue that without universities, societies would not move on rapidly enough. Universities can both develop highly skilled human capital and also create new knowledge. With both of these processes, we need to recognise the imperatives of our various governments and we need to work with them. However, we must also challenge our governments in our commitment to wisdom as well as to innovation; we must help business and industry to move forward, and we also must be integral to the growing flows of people across the world taking with them new knowledge, new information and new awareness of moral imperatives as well as economic drivers.

One of the major things that happened in the UK a few years ago was that the Higher Education Funding Council for England (HEFCE), the major funding body for teaching and research, decided that it wanted to find out what difference universities made to our students. We all know that studying at university brings an economic dividend to students, since they will earn more over their careers than people without degrees. Yet this is perhaps not the major difference between graduates and non-graduates, for HEFCE's analysis discovered that graduates are happier people, healthier people, have better attitudes to ethnic, religious, social and gender differences, and even believe more in the political process than non-graduates. So a university education actually makes your life better rather than simply giving you access to a better job! And it helps us to realise that we all live within a community of strangers...

In the universities, we quite rightly say that we are not just about preparing people for jobs. Rather, our function is to develop employability skills in our students - which is not the same as having a narrow focus on employment. The world itself is changing very rapidly, and we know from evidence from across the world that the notion of the career is shifting. In the UK for instance, we know that many of our students will have three careers in their life: not three jobs within a single profession, but three different careers, so that they may train initially as a psychologist, then become a teacher, then become an engineer or a lawyer or whatever. What is crucial is that they need to be able to change direction significantly during their working lives, and we as universities must help our students to understand this and to develop flexibility, adaptability, team-working and problem-solving skills.

We need to create a truly meritocratic society yet, as we look around the world, if we are honest, in many of our countries we still have a long way to go in terms of becoming truly open and meritocratic; connections and wealth still help a great deal, for instance, in my own country. I would ask you all to analyse your individual countries and recognise how much you may still have to do in order to make sure that the very best will always succeed, no matter what their backgrounds are.

As teachers, we need to learn that we are no longer authority figures or gurus; we are no longer patriarchal fathers of knowledge who generously give our knowledge and understanding to our students. We are no longer engaged in a process of teaching conceived as a direct transfer of knowledge from the wise to the ignorant. Rather, we are about facilitating our students to learn, and the big shift for all of us is to focus much more on learning processes than on teaching processes. As, indeed Minister Zhumagulov said earlier,

we need a commitment to lifelong learning, understanding that learning does not stop when you obtain your first degree. And the issue which for me personally is the biggest challenge for all of us is how we can insure that every single student and every single faculty member and every single administrator, technician or other worker in our universities understands what it means to be a global citizen, understands what our individual responsibilities are as people living in a very complex globalised world.

In terms of sharing our research, over the past 10-15 years, we have moved from an initial starting point of technology transfer, to a wider conception of how universities can share their research. First of all, we learned to speak not purely about technology but about knowledge in a much wider way in what we called knowledge transfer. This was an important step change in attitude and process, but at the heart of this notion was still the idea that universities know best, that we are places where people know things. Then about a decade ago, there was a further, significant shift to what we called knowledge exchange, where universities understood and recognised publicly that we learn from business and industry, from society, from NGOs, etc. And now we have undertaken what will, I think, be a seismic change: the move to public engagement. This process recognises explicitly that universities can and must learn from people who are not like us, from people who do not watch documentaries, who do not read learned articles, who do not even read newspapers or books but whose lives are deeply affected by the research work that we do in universities. We now realise that we do not need simply to help them to understand what we are doing, but we must bring them into our universities, so that they can help us to formulate the research questions that will underpin our future research activities. Public engagement therefore will lead to participatory research, whereby everyone in the country has the right to be involved in the drafting of research questions. They will not do the research, since they probably will not have the appropriate skills, but because they are thinking, living beings whose lives will be touched by research, they have the right to be part of formulating the questions that we need to be asking in our research.

This move towards public engagement leads universities further onwards towards a much more central role and position in society. And in order successfully to make this progress, we need to look backwards to the origins and founding principles of universities. As the number of universities grows rapidly across the world, it is vital that each of us is clear about our identity and mission. We need to move beyond our current obsession with the 'vertical' hierarchy of league tables towards recognition of the vitality of the 'horizontal' landscapes of universities, where each institution has a clear but different mission. Not every university can be a major global player. However, each university can and should help to develop our students as global citizens and can and should play an important part in the local community in which it is based. We universities need also to learn humility and to understand that everyone, no matter how highly or lowly educated they are, can bring fresh insights to problems. It is easy to say, but it is not easy to do. Nonetheless, as universities we need to do all we can to teach our students that we can all learn from everyone else and to help our students to become better global citizens. This is one of the things at which universities excel: we are good at developing leaders as well as being good at creating knowledge; we are good at disseminating knowledge and now we are getting much, much better in terms of our strategic thinking. As we move forward in our questioning of what universities should be for in the 21st Century, we need to ask ourselves a few questions. For instance, who should pay for universities? Should it be only governments? Should not

students themselves contribute, wherever possible, to the costs of their education which will give them enormous advantages in their future lives? And should not business and industry contribute significantly to the research work of universities as well as to the human resource development in which universities are engaged? The one caveat that I would make about this is that universities should never become the subservient hand-maidens of business and industry, but should keep their own intellectual and scientific independence, no matter who is funding them.

We need also to ask who benefits most from higher education, apart from those who work in it and study within it. I would argue that we all benefit enormously, albeit often in complex and hidden ways. Ideally, universities should function both as a public good and a private good, so that every individual benefits in one way or another from the university system. And this is where we need to create a continuum of education from primary to secondary to higher education and thence onwards to life-long learning. This is a significant challenge, one which is relevant in every country in the world – and no country so far has yet managed to create a truly joined-up system from primary through to higher and then life-long learning.

One of the best examples of a creative initiative is what is happening here in Kazakhstan in the relationship between Nazarbayev University and Nazarbayev Intellectual Schools, where a major reform in the school system is tied explicitly to its relationship with a university and reforms in the university system. This model is one which we could follow in our own countries and in our own ways, since it offers the prospect of continuity and cohesiveness to all nations as they try to reform their educational systems in order to make them appropriate for the 21st Century.

I would end with one question, again for discussion during the conference. Throughout the world, there are initiatives which are seeking to open up knowledge and the information need for learning to the wider community. These initiatives have such names as Open Source and Open Access initiatives, and they present a different model of knowledge-sharing whereby knowledge is shared in the very moments and processes of its creation. And this is a major opening- up of universities to their communities and into an interdependent relationship with the community, which is changing the way that universities work. If we genuinely do want to create new, appropriate universities for the future, universities which will change not only individuals and countries, but the whole world, we need to think about how we fund universities and, crucially, about how we manage and govern them. We all want to change to the world and make it better; we all want to see the major problems in our world solved. This can happen, of that I am sure. But I am equally certain that we can do it only if we work together, in new partnerships and with a new respect for otherness and for difference.

CHALLENGES FOR TERTIARY EDUCATION IN THE 21ST CENTURY

Jamil Salmi
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A few years back, in the middle of a December blizzard, I was driven from the airport to thia location where I saw cranes and hundreds of workers working in the cold and the snow and it was difficult then to imagine how the dream could become this beautiful reality. So it is a great honor and I am grateful to Nazarbayev University for inviting me back to participate in this conference.

Yesterday when we had our preparatory meeting about this session, I realized that I would have to speak after three distinguished scholars and I was the only non-academic in this group, so that made me a little bit nervous and I must confess that I felt the need for some help to gain inspiration for my speech today. So I walked around in the streets of Astana and I found help with this fortune teller starting sharing with me her predictions for 2012. As you know the Mayan calendar has very gloomy prospects: perhaps, a Black Hole could swallow the earth or aliens could invade our planet and wipe out human civilization, or the planet's magnetic poles could be reversed, causing general mayhem and certainly confusing the penguins. But I interrupted her and told her that this was too depressing, please tell me something nice about the future of tertiary education.

And this is what she told me.

In the future, it will be compulsory to go to university. Universities will recruit their new students on Myspace and Facebook, and in countries where it's difficult to attract engineering students to study Engineering, they will go straight to kindergarten to start motivating them. When they enter university, new students will get a free laptop, a Blackberry, an iPad and a Kindle with all their text books.

If you need financial aid, you will participate in an auction on eBay to get your scholarship. In the future students will commonly be enrolled in two or three universities at the same time studying towards a common degree.

No more emails in the future because it's too slow. We'll be commonly using only Myspace, Buzz, Twitter, Facebook, Hi-5, Blogger, Lifespace, etc. Students will take open internet exams and the validity of their degree will be only five years.

And bad news for those of you who are still lecturers – you will have to re-do your courses every three years. But don't worry, it will be much easier in the future because you'll be giving only five minute lectures. Most courses will be online and if a student needs some help, he or she will call an 0800 number to Bangalore for online tutoring.

In the future it will be cheaper to build universities because we will have no more physical libraries or labs; it will be all i-labs and e-libraries. Universities will not recruit any professor who has not studied overseas. And once your graduates leave university, if they don't find a proper job within six months, you will have to reimburse them the costs of their studies.

Bad news on the financial front, of course. Public universities will receive only 10% of their income from governments, but not to worry because you will be so successful in raising

money that you will be telling the philanthropists out there, "That's enough for this year; come back next year."

Vice Chancellors will be earning £1,000,000 a year. However, your salary will be indexed to your ranking, going up and down with your ranking result.

In countries where English is not a native language, parents will have surgery performed on their young children to cut the little skin that links the tongue to the mouth to improve their English language pronunciation. Obviously my parents forgot to do that to me!

And lastly, in the future, those of you who are proud graduates with an MBA, forget about it, because in the future the 'in' degree will be the MFA, the Master in Fine Arts, because creativity will be so important.

Now you think that I've been telling you science fiction stories. Believe me, each and every example that I gave you is something I came across throughout my travels all over the world and I believe that these examples are symptomatic of a revolution that tertiary education is going through. And so the question before us is to ask ourselves whether our tertiary education systems are ready to face this revolution. To start answering this question with you tonight, I have divided my lecture into two parts. First, I want to remind ourselves about the importance of knowledge; then I want to see what it means in terms of new education needs and practices, some of which have already been evoked by my colleagues here.

Importance of Knowledge for Economic and Social Development

So let me start with the importance of knowledge. A few years back, colleagues of mine at the World Bank looked at two countries that used to be at the same level of economic development in the early '60s – South Korea and Brazil. But look at the difference today. South Korea is doing so well and Brazil is so behind. They tried to do some adjustments to compensate for differences in investment in both physical and human capital and that makes it slightly better for Brazil. But still we have this huge gap which they attribute to the way South Korea, much more than Brazil, has harnessed knowledge for its development. And indeed some of you may be driving a Kia car or Hyundai, you maybe have a Samsung cellular phone or watch TV at home on an LG screen, but how many Brazilian products do you commonly have?

And it is interesting to look at the difference in human capital development as the following graph shows. This is the education attainment of the adult population. If you look, for example, at the bottom – 1960 – in red you have the proportion of adults who had completed only primary education, in blue we have those who had secondary education only, and in green those who had achieved tertiary education. I think it's interesting to see that, back in the '60s, the education structure of the labour force was pretty similar in both countries with the majority of people having only primary education. But if we fast forward to 2010, look at the change. Brazil has improved, but we still have a majority of adults with only primary, and then most of the others with only secondary education. But look at Korea, where you have now the majority of adults with secondary or tertiary education.

A few weeks back, the Prime Minister of Ontario travelled to the US and he gave a speech and, at the end of the speech he had the following words: "If you think about the world we live in today, it's a world where you can borrow your capital, copy your technology and buy

your natural resources. There is only one thing left on which to build your advantage, build a strong economy and society, and that is talent." That's the only competitive advantage nowadays.

A few years back there was a commission on the future of skills in the US and it looked at the very generous distribution of labour that they proposed. The US will focus on creative work, that's R&D, design, marketing and sales, managing the global supplies chain and, for the rest of the world, we will be confined to routine work, whether we do it ourselves or whether we use machines to do that. Do you like that vision of the world? I don't.

Let me share with you another story to illustrate the importance of knowledge. In Finland, 500 km north of Helsinki, there was a small city called Oulu in the middle of the forest. The main company there used to cut trees, making paper and cardboard. But, back in the '70s, the CEO had started to get worried about the future of his industry and so he challenged the Government – 'If you established a polytechnic university in Oulu, I commit to investing in modern labs and to bring more private sector investors.' You can imagine that professors in Helsinki were not so keen to move to this small city in the middle of nowhere, but the Government took up the challenge and established a university in Oulu and today, if you Google, you will see a giant website – the City of Oulu and the University of Oulu – because their development has been so closely interlinked. Now, which company had the CEO with a far-fetching vision? You may have heard about them – they are called Nokia. They moved from being a company producing paper and cardboard and cables to becoming a world leader in electronics, contributing 20% of Finland's balance of payments and two-thirds of the country's R&D funding.

I come from Morocco, at the crossroads of the Mediterranean Sea and the Atlantic Ocean, and we have lots of wind, and I remember these small windmills all over the countryside when I grew up there, but we haven't risen to the task of trying to use our wind as other countries have done, where you have wind factories or wind farms. Now it's interesting if you look at who are the leaders in producing windmills today. It's not the US, it's not the UK, it's Denmark with Vestas, the leading company. Actually they produce now 20% of their energy supply out of the wind. And who is coming up big time? India and China and Spain.

And it is not only about using knowledge for economic growth, but also for resolving daily problems, especially in developing countries. Look at this magic new invention called the LifeStraw which allows you to transform dangerous water into potable water immediately. Or the Q-Drum which transforms the traditional chore of taking water from the well to the village into almost a game. or look at this 20 dollar artificial knee which allows a person who is not lost to limb to walk just like a normal human being.

And the last point about knowledge is, as was mentioned by the Minister earlier today, the acceleration of speed of creation of new knowledge which makes it challenging for universities, because in many disciplines what the students may learn in first year, may have become obsolete by the time she or he graduates. To illustrate that point, can anyone guess what I am showing on this slide? This is the year 1956, and we see the first hard drive weighing 2,000 pounds and so powerful it can stock 8 megabytes of information. Surely you can appreciate your little usb drives. And so it challenges us to think how we prepare our students for this kind of society.

Changing Education Needs and Practices

Obviously we will need to impart new skills to our students. In the same way as in the industrial revolution there was a worry that new machines in textile industry will replace the workers. Today we wonder whether that is going to happen with all this robots and intelligent machines. A recent study from the UK called "the Hourglass Economy" shows the contraction of middle wage routine jobs and the expansion of high wage abstract non routine jobs. The conclusion in that study is similar to that of recent book published in the US, a study by professors Murnane and Levy from Harvard and MIT respectively. What they did was to study the evolution of tasks in US first between the late 1960s and the late 1990s. Their book gives both good news and bad news. The bad news is that indeed the machines you can see on the lower right hand side are replacing human beings for both routine manual and routine cognitive jobs.

But there are two types of new tasks that are still only performed by human beings. One is what they call expert thinking; the other one is complex communication. What is expert thinking? It is the ability to look at patterns, complex patterns, to make sense of them and to propose a course of action. I think, perhaps, the best way to illustrate that is to look at the role of a medical doctor. Medicine has changed a lot, much more than education, and we even use robots. Here we have a robot that allows you to do telemedicine. The doctor is 2,000 km away and can interview a patient at a distance. However, we have many more sophisticated machines to do blood tests, we can do CAT scans, MRI, etc., but it's still the human medical doctor who looks at all the facts and who puts them together, makes sense of them and says, "This is what you have and this is the course of action that I recommend to cure the patient."

Now are we preparing our students well for this expert thinking? Many countries in the world, including Kazakhstan, participate in PISA, this test administered to 15 year-old students in secondary schools. It doesn't measure how they can memorize, but their critical thinking and ability to reason. The results are really of concern, because even in the top performance countries like Finland or South Korea the results are not good for 20% of the students. This is an exam on a scale of 1 to 6, but If you have less than 2, it means that you haven't mastered the basic skills. And in developing countries we see here statistics from Columbia or Brazil; more than 80% of the students are not there. And if they are not well prepared in high and secondary schools how can you expect them to do well in higher education.

The other type of skills that I mentioned are complex communications, the ability to explain complex situations, complex phenomena to persuade to convince, sometimes to communicate with people from different culture or people who are distant, you know, virtually. Now I could not find a lot of hard evidence, so I turn to our cousins to the dolphins and here is what they have to say about human communication. "Although humans make sounds with their mouth and occasionally look at each other. There is no solid evidence that they actually communicate among themselves." Indeed when we read the paper every day and watch the news what do we see, if not images of war, violence, civil strife, poverty, inequality, which make me believe that our education systems fail in helping us learn to communicate effectively.

What are some of the new competences that we need to impart? A few years back a friend of mine professor of University of Hong Gong interviewed the Samsung CEO for cellular

phones, asking him what kind of training do you look for among your future candidates and he was surprised when the CEO said "I am not so much worried about their skills in engineering or in in various technical.., what is missing today is the ability to be creative, because today increasingly what distinguish various high tech product. It is not so much high tech dimension specificity, but perhaps the design. This is why you can buy a product cellular phone or look at this new Aura, may be you want to Giorgio Armani Samsung, look at in Shanghai you can get this beautiful Vertu cellular phone, and those of you who have teenage daughters will identify with this model. And look at this elegant lady with matching handbag, actually it is not a handbag, it is a laptop. We also have beautiful laptops for us men, we have the Ferrari laptop for those of you who are interested and if you don't like Ferrari not to worry, how about Lamborghini? And please next time you buy a helicopter make sure you get the Versace designer version. Some of you may remember using this standard issued laptops very dull looking and they have not to compete to hire graphic designer to make sure they can compete effectively with other brands whose name I will not mention.

So it is all about creativity. What does it mean about the way we teach our students? They must learn to invent, to experiment, to think out of the box, to take chances to break, the rules to make mistakes and to have fun as you do that. And I know this is happening at Nazarbayev University, but believe me in many universities that I have visited, it is still all about teaching and learning as we have done for hundred years. Now do you remember the design that I showed at the beginning, well the beauty of knowledge economy is that any country can decide to participate in a knowledge economy. Coffee growers produce coffee that is sold all over the world and that represent a 70 billion dollars industry. Do you know how much they the countries that export coffee get? 5 billion dollars out of that. And today the digital economy already represents more than thirty billion dollars.

As observed by some of the speakers already, now it is all about lifelong learning. We have to start early and we can continue throughout our life. What does it mean for the shape of university? I want to recur point made earlier by Michel. If you imagine the shape of today's university and the universities that existed in the past, they have the shape of a pyramid where most of the students are high school graduates and then you have increasingly a portion of graduate students.

But I believe that the university of tomorrow will have the shape of a star, where the undergraduate students will be just a small proportion, same with the graduate students, but increasingly it will be about providing continuing education and what I call career change studies, because students, professionals as they move from one type of work to the other we need to be retrained. So increasingly it is going to be about learning to learn and also unlearn continuously.

We often celebrate Steve Jobs or Bill Gates as famous dropouts of university. Another one of my favorite dropouts is Edwin Land, whom some of you may remember founder the Polaroid technology. He once said "it is not that we need new ideas, but we need to stop having old ideas". So we can take advantage of new pedagogical approaches, where we focus on the needs of the learner, not what the professor likes to teach, where we can use a lot of modalities to teach and to facilitate learning in a more interactive and collaborative learning, where the students do not learn any more only from the professors, but increasingly also from their peers, where you can learn when you want and where you want provided you have a good internet connection.

I don't know if anyone can guess what you see on the picture, this is Duke University Faculty of Nursing on Second Life. One of the top business schools in Europe is INSEAD, and they have two campuses, one in France and one in Singapore and this is their virtual classroom on Second Life where students who are enrolled in Singapore and in France can meet and exchanges and study together at the same time. And this is not virtual anymore, this is the Technology Enhanced Active Learning classroom at MIT. Where there is no more teaching of basic physics. The students go through the textbook on their own, and when they meet in the classroom they do works as a team, trying to solve problems to verify that they have acquired the necessary notions and professor there is just a facilitator and they use also second year students as tutors to help in their learning experience. This is a game chemistry software from Carnegie Mellon Open Learning lab, where a game-like approach is used to make learning fun for the students, making it like a mystery.

This is an English language classroom in South Korea, where the teacher is a robot, and the students were asked "Do you like having a robot as teacher"? They said "Yes, better than the human teacher". Definitely, why? Two reasons: one, the robot "never makes fun of us" and second, "the robot never screams at us". And this is a medical robot, who can speak and you practice injections and if you do it well, she will thank you in a sweet voice. But is you hurt her, she will tell you in terms that I cannot repeat here what she feels about your new skills. As Peter Knight said in 1994: "in the early 21 century people will be able to study what they want, when they want, where they want and in the language they prefer, electronically."

Conclusion

Now to conclude, because talked a lot about the future of tertiary education, I want to share with you my three favorite quotes about the future. The first one is from William Gibson, a British science fiction writer, who wrote: "The future is already here, it is just unevenly distributed". And then we have Paul Valéry, the French philosopher, who wrote "The trouble with our time is that the future is not what it used to be". But my favorite one is an optimist one from Alan Kay, who said "Do not worry what anybody else is going to do, the best way to predict the future is to invent it". Alan Kay invented the windows environment on Macintosh in 1991.

But with the future we should not forget the past. 200 years ago in Cambridge, Massachusetts a math teacher entered the new school he was shocked, but what he saw that he wrote a letter to his wife that evening said "Dear, you cannot believe what I saw. There was new classroom and they had a black board and piece of cloth and some chalk. And I asked myself what is this for" and now we know the blackboard became the main pedagogical support in the following 200 years. And the question before is whether the internet and computers will have such a revolutionary impact on teaching and learning as the blackboard has.

A few years back Arthur Levine, president of Teachers College at Columbia University in New York predicted the disappearance of what he calls the "brick" university, soon to be replaced by the "click" university. I am not sure there will be such a drastic change, but definitely today universities are both brick and click. But that means that we know how to use the internet and these interactive approaches. We should not repeat the error of those who invented the steam engine. For the first train that they put together they just took the horse driven carriages and put them on the rails. Now we really have to think about the different

concepts, and for that we need to bridge the digital gap. Look at the contrast between the school bus in South Korea when the students already on their way to school are learning fast and this bus from India.

I come from Morocco where we have this beautiful animal, the gazelle, which has a terrible life, which I want to use to illustrate what it means to compete in the learning society. Every morning the gazelle wakes up thinking today once again I need to run faster than the fastest lion, if I don't want to be eaten up alive. And now does the lion have a better life? I am not sure because every day in the morning the lion gets up thinking today what's again I need to run faster than slowest gazelle, if I don't want to starve by the end of the day. And moral of this little anecdote is that is doesn't make a difference. Whether you are a small university or a big university, a rich university or a poor university you cannot afford to stay put, you need to change with your times. And I know that to some of you it may sound unpleasant, unfriendly. It is a tough world we live in. But this is only world we have. So we just can't seat back and do what this Chinese proverb says "He who waits with mouth open hoping for roast duck to fly in we have a way long wait."

If I can leave you with only one message today, it is the following, "don't allow others to dictate your future, you must develop you own vision" and always remember the wise word of the Roman philosopher Seneca, who told us more than 2000 years ago that there is no favorable wind for those who do not know where they are going.

A FEW GLOBAL TRENDS AND POINTS OF COMMONALITY IN QUALITY ASSURANCE IN HIGHER EDUCATION

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In this brief paper I offer a public policy perspective on quality assurance in higher education. I begin by arguing that there is a growing public interest in quality assurance and offer some reasons for this increased attention. I suggest that the forces and factors that have fostered this greater interest are common to many countries and that this commonality has led to a convergence of the fundamental principles underlying quality assurance in different jurisdictions. I conclude by suggesting how these principles might apply at higher education institutions in new nations and emerging systems of higher education in the region.

Is There Common Interest in Quality Assurance?

My argument is that there are some shared interests in quality assurance in higher education across developed and developing economies. These shared interests range from a concern for efficiency and effectiveness in the use of public funds as participation in higher education increases to greater academic mobility.

The most powerful source of increased interest in quality assurance is the increased size of the higher education sector. In the industrialized nations participation in higher education is growing. Greater proportions of each age cohort attend post school institutions. Higher education is moving from being a service for an elite to being a "mass" or "universal" good consumed by more than 50% of young people. (Trow, 2005). This growth in participation carries with it an increased public and private investment. Tax payers and the custodians of State funds want to know if they are getting "value for money". Individual investors, parents and students, also want to know if they are getting a reasonable return and a "good" education. Quality assurance is one way to satisfy these interests.

When the number of institutions of higher education was small and attendance the privilege of a few quality was less politically important. The sponsorship of the Church, Royalty or the professions of medicine and law were guarantees of quality. The participation of the children of the wealthy and powerful was also a source of presumed quality. Wider participation and more institutions, many of which are relatively young, generate demands for mechanisms that prove or demonstrate quality to the State and to other stakeholders.

The other stake holders include students, employers and those that rely on credentials and qualifications especially in trades and professions that directly affect the lives of individuals, be they engineers or doctors, nurses and dentists. Sometimes these interests are described in terms of consumer protection, for example, the need for laws ensuring that a patient is treated properly and ethically. The same language is sometimes used to refer to students as consumers and the importance of ensuring that they receive an appropriate education and access to the knowledge and experiences that will prepare them later life.

A different rationale for quality assurance is offered by those who advocate for greater transparency in the workings of institutions that serve the public. For example "public universities are highly visible functionaries of ...government" and should operate in ways

which enable "taxpayers to observe" how well resources are used. (Poliakoff and Hitt, 2010). Universities should be held to the same standards of openness and accountability as other agencies funded or operated by government. In practice this sometimes means simply the public disclosure of financial records and personnel policies and employee salaries. But it can also extend to making available information about admissions, tuition fees, course requirements, grade distributions and the employment destinations of graduates. It can also refer to information about research grants and the evaluation of teacher performance, although the later is controversial.

A third source of increased interest in quality assurance is increased academic mobility. Most attention is focused on the movement of students. More than 3 million students study outside their country of citizenship an increase over the 1 million who did 10 years ago. The number is expected to continue to increase. Quality assurance provides these mobile students with information that helps them make decisions about where to study and what programs to take. This is particularly important when choices are made at a distance because the potential students and the providers are far apart. The existence of quality assurance procedures gives a measure of comfort to the student choosing a program or an institution. It also indicates that degrees or credentials from these institutions are valued and valuable in the market place because they have some measure of credibility as a result of a process of review. Sometimes this is expressed through accreditation by regional or national bodies or by professional associations in cases like engineering, medicine and law.

Academic faculty and administrators are also mobile. The data on faculty mobility globally is less reliable but the US data shows that over 115,000 scholars visited US higher education institutions in 200/11. This is 30,000 more than visited ten years earlier (IIE, 2003 & 2012.) Like students faculty benefit from knowing that the institutions they choose to visit adopt or use quality assurance and are accredited.

 A fourth source is the mobility of graduates. In the case of nations with significant numbers of skilled and educated citizens living and working in other nations, quality assurance may increase the likelihood of their credentials being recognized in the host nation. This will benefit the individual by increasing opportunities and reducing "under- employment." It will benefit the host nation by easing skill shortages and it will benefit the home nation by lifting higher education standards as local programs are calibrated with global qualification requirements. These benefits flow to the general population in the form of better services and a more highly educated population

In addition to these broad public benefits that come from, and foster, quality assurance in higher education there are benefits to the institutions themselves. Quality assurance processes encourage self-evaluation and reflection on just how well the organization or its programs are performing. By benchmarking that self-assessment against recognized standards with the aim of identifying areas for improvement. Combined, these acts also enhance the reputation of the institution. Highly regarded institutions use their status and reputation to recruit and retain students and faculty. Their status will often give them access to government funds and grant competitions and help them attract private support.

The immediate beneficiaries of quality assurance are institutions and programs because most academic quality assurance focuses on improving practice within agencies or course of instruction or learning. Faculty and administrators learn from the various steps of the conventional cycle of quality assurance, self-study and documentation of practice

and procedures, alignment with the practice of others and the scrutiny and advice from independent but informed and knowledgeable peers. These lead to better academic programs inside better functioning settings and students and faculty benefit as a result.

Sometimes the quality assurance process is linked to accreditation but this is not always the case. It can be a standalone exercise in institutional improvement   or as an instrument of public accountability that is diffused directly to the wider community, be they parents, donors, employers or competitors.

Most national systems of quality assurance and accreditation focus on the quality of domestic programs delivered by traditional institutions. They are often grounded in national legal structures and codes of practice that are based on in-person, same-time provision. Yet the benefits of these processes are not limited to institutions or agencies or students within a nation. Quality assurance and accreditation processes can also assist countries to ensure that foreign institutions and providers that deliver programs inside their borders deliver robust and recognized services and qualifications. And that these services and credentials are in line with national needs and the aspirations and interests of individual citizens. In this respect, establishing transparent and clear quality assurance and accreditation frameworks for national and foreign institutions is vital.

In summary there are significant benefits from quality assurance. Students benefit because accreditation means that the knowledge and skills in their program of study are those necessary for professional practice or for graduation. It also helps them and their parents choose between institutions and invest prudently in programs of an acceptable quality. Employers benefit because students from high quality or accredited programs are more likely to have the skills and capabilities needed for specific roles. This makes recruitment easier and more reliable, and reduces on-the-job training costs. The general public, as taxpayers and as users or consumers of services from educated people, benefit because their taxes are used in reputable programs and because service providers such as doctors and accountants have reached a minimum standard. And importantly higher education institutions, programs and faculty benefit.

Global Convergence of Standards?

These shared drivers of increased interest in quality assurance in higher education have also fostered approaches to quality assurance that are broadly similar across national borders. The most obvious example is the common framework for quality assurance in Europe, the European Standards and Guidelines (ESG). These offer "mutually acceptable mechanisms for the evaluation, assurance and certification of quality". The ESG are a response to demands from governments, society, and higher education institutions for "mutually acceptable mechanisms for the evaluation, assurance and certification of quality" (EUA, 2010a). The ESG were developed to be applicable to all QA agencies in Europe, irrespective of structure, function, and size.

The key elements of the ESG are expressed on both internal (what institutions should have in place) and external (what national or regional quality assurance agencies should do) dimensions. Both are relevant to higher education policy makers overseeing evolving systems of higher education.

The internal dimension of the ESG is a set of policies and practices that institutions should have to ensure that quality and improvement are at the heart of the educational mission. They are phrased at a level of generality that accommodates the many differences between the culture, history and governance on the nations in the European Higher Education area. The polices include "formal mechanisms for the approval, periodic review and monitoring

of their programs and awards" and the consistent of explicit criteria, rules and processes for student assessment. They should also means by which institutions judge that those teaching students "are qualified and competent to do so" (ENQA 2005)

The external dimensions of the ESG are founded on two premises. First. that individual institutions benefit from processes of peer review and validation. Second that the public benefits of quality assurance are reinforced and realized by the existence of national or regional quality assurance agencies that act as a source of information and expertise. In practice this means the establishment and operation of external agencies which are singular in purpose; i.e., involved only in quality assurance and not in the design or delivery of educational programs. The external agencies should have sufficient intellectual and fiscal capacity; i.e., be solvent and appropriately staffed and should be separate and independent from state higher funding agencies. Ideally they should be not for profit and in good standing with the academic community, employers, and relevant professionals. Most importantly they should operate in an open and accessible way and be transparent in how they are financed and governed.

These internal and external dimensions constitute the quality assurance framework for 40 or more nations operating in the European Higher Education area. The general principles in the framework can be found in the criteria for accreditation adopted by the regional accreditation agencies in the USA (see for example the accreditation criteria for the Middle States MSCHE 2006) and in the US Federal government's criteria for recognizing accreditation agencies (US Department of Education 2012). They are also in the United Kingdom's "quality code" which places particular emphasis on the role of students. And they are embedded in the approach to quality assurance being pursued by the Arab nations. There is a convergence of principles across the developed nations about what constitutes good quality assurance. But that leaves the question of what does it mean for institutions of higher education who are moving towards academic autonomy and away from strong or close State control? What can they take from this commonality of approach? I offer the following seven maxims as points of reference for institutions developing or reviewing quality assurance procedures.

Seven Maxims for Developing or Reviewing Quality Assurance.

To derive the maximum benefit from quality assurance I suggest that an institution adopt the following principles to guide the development and operation its processes. Quality assurance should :

i.   align with the institution's accreditation aspirations which for many nations in the Central Asia seem to be participation in the Bologna Process;

ii. align with the individual school's discipline accreditation at both graduate and under-graduate levels;

iii. facilitate student aspirations for mobility and career entry;

iv. align with national needs for

    a. student mobility between a country's institutions of higher education,

    b. student mobility across national borders, &

    c. a labor market with effective signaling mechanisms which allow freedom of movement for skilled workers and professionals and assists employers making employment decisions;

v. contain elements of external review and validation that are appropriate for the institution's stage of development or are necessary for recognition by internationally recognized professional standards bodies;

vi. meet the information needs of students, employers and the public by providing accessible, understandable and transparent data on various dimensions of performance and quality; and

vii. give voice to faculty, students and the wider community.

viii. These seven propositions are not the definitive set. They constitute a beginning of an ongoing process of institutional improvement that aligns with national needs, the needs and aspirations of students and the professional responsibilities of faculty and higher education leaders.

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THE IMPACT OF STANDARTIZED TESTING ON EDUCATION QUALITY: THE CASE OF THE PROGRAMFOR INTERNATIONAL STUDENT ASSESSMENT (PISA) 2006 AND 2009

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Introduction

This paper examines the impact of the Program for International Student Assessment

(PISA) 2006 and 2009 on the quality of secondary education in Kyrgyzstan. In 2006, Kyrgyzstan, along with 56 other countries and economies, took part in PISA. Kyrgyzstan was the first country in post-Soviet Central Asia to enter the PISA competition. PISA 2006 focused on students' competency in science. The results demonstrated that Kyrgyzstan's 15-year old students performed extremely poorly, with Kyrgyzstan placing last among all participating countries. However, to date, there are no in-depth studies examining the results and the impact of the PISA test on the quality of secondary education in Kyrgyzstan. Employing a series of semi-structured interviews and document analysis, this chapter describes what lessons were learned from the PISA experience, and whether the process had any significant impact on the quality of education in Kyrgyzstan. The paper also examines the phenomenon of how transnational forces such as PISA, an international comparative test, can affect education policy in Kyrgyzstan, and what the implications are of this impact.

Methodology

To study the impact of PISA on education quality of Kyrgyzstan, a qualitative research design was adopted (Hitchcock & Hughes, 1995; Merriam, 1988). The data were collected between June, 2009 and April, 2010 using semi-structured interviews and document analysis (Hitchcock & Hughes, 1995). Purposeful sampling was used to gain the maximum possible data (Merriam, 1988; Miles & Huberman, 1984) from expert respondents about the impact of PISA 2006 on education in Kyrgyzstan. Respondents to semi-structured interviews included two representatives of the Ministry of Education and Science of Kyrgyzstan and Kyrgyz Academy of Education, a specialist from the independent testing center (CEATM) which conducted the PISA 2006, two representatives of the Rural Education Project (REP) of World Bank (WB) which initiated Kyrgyzstan's participation in PISA competition. Professors from public and private universities, school administrators and teachers, community members and students were interviewed. In total, 30 people were interviewed. With the participants' consent, the interviews were taped to aid in recall and analysis (Frankel & Wallen, 1993). Prior to being interviewed, the respondents were selected on a volunteer basis, informed of the purpose and nature of the study and gave their written consent to be interviewed and have those interviews recorded. (Cohen & Manion, 1997; Clandinin & Connelly, 2000; Glesne, 1999).

Document analysis was used as another tool for investigation (Bell, 1993). To examine the questions related to the focus of this paper, namely, the reasons for Kyrgyzstan's participation in PISA 2006, current state of education, PISA's impact on education quality, a number of materials, reports and other documents were analyzed. Documents and reports of the Ministry

of Education and Science, reports of PISA 2006 by OECD and CEATM, mass media materials, and others materials were reviewed and analyzed.

Programme for International Student Assessment (PISA)

The Programme for International Student Assessment (PISA) is an international standardized test for comparative assessment of 15-year-old students' skills. It is the product of collaboration between participating countries and economies through the Organisation for Economic Cooperation and Development (OECD), and draws on leading international expertise to develop valid comparisons across different countries. The members and partners of OECD participate in the PISA process to assess the comparative quality and condition of their education systems.

The PISA process also highlights components of participant countries' individual education systems, and offers recommendations to improve education quality. Thus, educational reforms and policies can be developed by participating countries, based on PISA results.

Educational authorities pay serious attention to PISA results because they provide objective and reliable data about education quality, and highlight both strengths and weakness of education systems (Figazzolo, 2009). Consequently, following PISA, many countries have launched educational reforms to improve their education quality and system in general. For example,

French President Sarkozy launched school reform under the 2007 Révision Générale des Politiques Publiques (general revision of public policies) using PISA 2006 results as a reference point, to support the educational reform in France. Similarly, German Education Ministers launched major educational reforms under the "Seven Action Areas" program to improve education and learning, based on the PISA 2000 and 2003 results. These examples demonstrate the impact of PISA beyond simply testing whether students have acquired predefined knowledge and skills from school curricula or not.

In PISA 2006, all 30 OECD member countries participated, as well as 27 partner countries and economies. In total, around 400,000 students were randomly selected to participate in PISA survey, representing about 20 million 15-year-old students from 57 participating countries.

Representative samples of between 3,500 and 50,000 15-year-old students were drawn in each country.

PISA 2006 focused on student competency in science. In today's fast-progressing globalized, technological world, understanding main scientific concepts and theories and the ability to solve science problems are more important than ever. PISA 2006 assessed not only science knowledge and skills, but also the attitudes which students have towards science, the extent to which they are aware of the opportunities that possessing science competencies may open, and the science learning opportunities and environments which their schools offer. PISA defines scientific literacy in terms of an individual's scientific knowledge and use of that knowledge to identify scientific issues, explain scientific phenomena, draw evidence-based conclusions about science related issues, and demonstrate understanding of the characteristic features of science as a form of human knowledge and enquiry, awareness of how science and technology shape our material, intellectual and cultural environments, as

well as willingness to engage with science-related issues. PISA measures scientific literacy across a continuum from basic literacy skills through high levels of knowledge of scientific concepts and examines students' capacity to use their understanding of these concepts and to think scientifically about real-life problems. Student performance scores and the difficulty of questions were divided into six proficiency levels.

Kyrgyzstan's Participation in PISA 2006

Since the break-up of the USSR, the Kyrgyz public and education community raised the issue of the dramatic decline of education quality in the country. Overall funding of education declined, and teachers' salaries lagged far behind any economic developments. There was a common feeling that education quality was deteriorating. Kyrgyzstan participated in PISA for the first time in 2006. The decision for Kyrgyzstan to participate in PISA was taken in 2005 by the Minister of Education and Science (MoES) of Kyrgyzstan with encouragement and financial support of the Rural Education Project of World Bank. A local consultant of REP of the WB commented,

> We hesitated for a long time to go with PISA or not. We thought as it was an international test, there would be test questions which were comfortable for French children, for example, and not for our kids. We then reviewed all PISA documents, and had discussions with other consultants about how test items of PISA are developed. We learned that PISA test items undergo very thorough examination and review and are adapted to each country specifically. There should be no shocking questions to any student from any part of the world. Only when all participating countries say: "Yes, this suits our country", be it Ethiopia, the United States or Kyrgyzstan, are PISA test items are approved. (Interview, April 3, 2010).

According to a specialist in the MoES, "Everyone was excited to participate and see the results of PISA. It could be a tool to demonstrate the state of education in our country, which area of the education system is not performing well, and how bad or good the system is in comparison with other countries." The REP consultant added, "It was important to know not only where Kyrgyzstan stood, but why we stood where we stood, and what should be done so that we could move forward." The following objectives for Kyrgyzstan's participation in PISA 2006 were identified by the MoES:

a. To assess the educational achievement of Kyrgyzstan's students with a modern and international assessment tool;

b. To define what place Kyrgyzstan occupies in the world among the other countries on level of preparedness of 15 year old schoolchildren for adult life; and

c. To analyze the results of research and propose recommendations and ways of school development and improvement.

The PISA 2006 in Kyrgyzstan was conducted by the Center for Educational Assessment and Teaching Methods (CEATM), with financial support from the World Bank REP. Around 6000 students from 201 schools were randomly selected throughout the country. The test was conducted in Kyrgyz, Russian and Uzbek languages. In addition to the test, a survey was conducted with school children and school administrations.

PISA 2006 Results in Kyrgyzstan

The PISA 2006 results were first presented on February 7, 2008 at an event attended by all educational officials from the MoES, representatives from the President's Administration, members of the Kyrgyz parliament (Jogorku Kenesh), representatives of international organizations and other stakeholders (Kiyizbaeva, 2008). The results of PISA 2006 showed that 15-years old students of Kyrgyzstan performed extremely poorly. Among the 57 participating countries and economies, Kyrgyzstan took the last place.

Among the participating countries and economies, Finland performed highest in science (563 points); while Chinese Taipei (549 points), Finland (548 points), Hong Kong-China (547 points), and Korea (547 points) performed highest in mathematics; and Korea performed highest in reading (556 points). Students of Kyrgyzstan achieved a mean score of 322 points in science,

311 points in mathematics, and 285 points in reading. These are the lowest scores among the participating countries and economies. Even among the participating post-Soviet countries (which included Estonia, Russia and Armenia), Kyrgyzstan's results were poor. Only 13.6 % of

Kyrgyzstan 15-year-old students were able to carry out a basic level of tasks in science, 11.7 % - in reading and 11.8 % in math. Over 85% could not score even the basic level of the PISA scale, meaning that a great majority of students could not demonstrate the science competencies that would enable them to participate actively in life situations related to science and technology

(Report on PISA assessment results, 2007).

> The PISA 2006 results provided solid evidence on the terrible state of secondary education in Kyrgyzstan. A specialist from the Kyrgyz Academy of Education stated, "On one hand, the PISA result was shameful for us, but on the other, it was very useful because we were able to identify education quality in Kyrgyzstan according to the international requirements. The poor result made all of us seriously think about our education system." (Interview, June 26, 2009).

The REP specialist commented,

> We knew the education quality was declining, but we did not have exact picture of what was bad and how bad it was. Therefore, the PISA results gave us documentary evidence as to where our position was. This is very significant evidence which no one can deny or ignore. Education ministers come and go, but these documents remain. (Interview, April 3, 2010)

Impact of the PISA 2006 Results in Kyrgyzstan

The PISA 2006 results increased awareness of the actual state of the education quality in Kyrgyzstan. They also became a springboard for advocacy efforts. Government and education authorities started using the PISA results as a reference point in forums and meetings. The poor results of Kyrgyzstan in PISA 2006 were more than once used as a justification for the implementation of the reform by the government. REP Country Coordinator observed: "In all strategic and programme documents they [government] now include questions about PISA related to content of education, methodology and resources" (Interview, April 3, 2010).

Also, the poor results of PISA 2006 gave the education officials an opportunity to strategically gain support from international development agencies. Silova and Steiner-Khamsi (2009) report that "They [government education officials] had to convey a graphic sense of educational crisis to attract external funding" (p.14). These new tactics were contrary to what government education authorities had been accustomed to do for many years, that is, to glorify that their goals had been accomplished, and often ahead of time. Now, they have become keen to state how far the education away from "international standards" was (Silova & Steiner-Khamsi, 2009, p.15).

Many education specialists and international development agencies also started using PISA to support their attempts to improve the state of education.

The PISA 2006 results impacted efforts to improve education quality and in some cases, the results catalyzed new action, in others they strengthened already existing efforts. Below are some examples of how the PISA results had a direct impact. Some of them were clearly illuminated by PISA and are being changed in response to PISA, while others are examples of government responses using PISA to lobby for more funds from international donors.

Curriculum Reform

The REP assessment specialist of the World Bank stated: "Our educational programmes do not meet the requirements or educational goals identified in the Education Development Strategy for 2011-2020. Our teachers mostly teach to develop rote memorization and retelling. But the PISA asks questions like 'Why? How do you use this formula? How does this formula work in real life?" A specialist from CEATM added, "Our children cannot apply their knowledge in real life situations. For example, there was a question in the PISA test asking where you should put a torch in order to get maximum lighting in the room, which requires knowledge of physics. Most students from Kyrgyzstan could not answer the question correctly."

The PISA 2006 report recommended reforms to align curriculum with international standards and focus on modern skills and competencies at higher proficiency levels (Briller, 2009). "Curriculum is at the heart of everything, and all other reform initiatives are linked to curriculum reform. So, we are trying to change our curriculum according to international standards" (REP Country Coordinator, Interview, April 3, 2010). Curricular reforms actually pre-dated PISA 2006. A new national curriculum framework had been spear-headed by the Soros Foundation, Kyrgyzstan prior to the PISA 2006. Education Specialist, at the Soros Foundation commented:

> The curriculum framework is a main document in education, and all documents should follow it. It describes goals and objectives of education at different levels, means to achieve those goals, including methodology of teaching and structure of organization of education system. For example, how many hours should be taught at primary or secondary level, how it should be assessed. It will also have graduate profiles which describe what a secondary school graduate should be able to do, his or her competencies. (Interview, July 28, 2009)

> At the same time, the Asian Development Bank's the Second Education Project (SEP) had been developing subject-based curricula. This curricular reform also pre-dates PISA 2006. Subject based curricula for primary grades 1-4 have already been developed and approved, and subject curricula for grades 5-9 are yet to be approved. These curricula aim to develop students' competencies and include innovative teaching methods to achieve their objectives (SEP

Specialist, Interview, April 3, 2010).

While the PISA did not initiate these curriculum reforms, the results provided clarity on where Kyrgyzstan stood internationally, and curriculum developers use the lessons and recommendations of PISA reports in their work. After the PISA 2006 results were announced, the Ministry of Education and Science of Kyrgyzstan strongly supported the curricular reforms, and pushed to expedite the process of curriculum development, which is just one step in a long process towards improving standards and quality in education.

If we complete the development of curriculum framework tomorrow, then the day after tomorrow, we will write textbooks according to new curriculum, and then train teachers accordingly. We will develop resources and then after we teach for five years, it will be necessary to participate in PISA and see the real outcome, pluses and minuses of this new curriculum. Thus, it will take about 10 years before we see some significant changes (Education Specialist, Soros Foundation of Kyrgyzstan, July 28, 2009).

Reduction of Education Load

According to PISA 2006 analysis offered by CEATM, overloaded learning time negatively affected the Kyrgyz students' performance in PISA 2006. The education programme in Kyrgyz schools, in terms of time spent in lessons, was the heaviest amongst all participating countries of PISA 2006. After the break-up of the USSR, new subjects were added to an already long list of subjects (Shamatov, 2010). The annual educational load for 15-years old students in Kyrgyzstan in 2006 was 1190 hours, while students in Finland clocked only 855 hours. As Steiner-Khamsi et al (2007, p.23) wrote "The breadth of knowledge required is overwhelming as is the limited amount of time in which teachers have to cover it. This also assumes that children attend school every day and that teachers also attend regularly". Currently, the Kyrgyz Academy of Education (KAE) is working to consolidate and reduce the existing subjects (Steiner-Khamsi et al, 2007).

However, longer contact hours for regular classes do not necessarily guarantee quality education. Therefore, reducing the amount of education load is a positive step forward. The next step is to ensure that the reduced amount of time is used efficiently, effectively and qualitatively. Extracurricular activities, such as science clubs, fairs, competitions and excursions also positively affect students' performance and also have to be scheduled.

Shortage and poor quality of textbooks

Shortage and poor quality of textbooks was another reason most respondents agreed on for the poor PISA 2006 results. Insufficient quantities of textbooks and teaching materials, especially in Kyrgyz language, and the poor quality of available textbooks and teaching materials were commonly reported to lead to poor quality education. According to the National Statistics Committee (2008), only 17% of Kyrgyz-medium schools are supplied with about 50% of their textbooks, and only 18% with more than 80% of their textbooks. Over 30% of Russian-medium schools are supplied with less than 50% of their textbooks, and only 24% of Russian-medium schools are supplied with more than 80% of their textbooks.

Poor quality of textbooks is attributed to the textbook development and publication procedure. Currently, one institution, the Kyrgyz Academy of Education (KAE), is responsible for

developing requirements for writing and approving textbooks. As a result, there is a conflict of interest, which has led to low quality of textbooks as a result of the monopolization of the textbook development. Textbooks are developed by authors who are hired and approved of by the KAE, but are usually removed from school life. Thus, according to the education official from Jalal-Abad, the textbooks these authors develop are usually overly theoretical and difficult for both teachers and students to use.

Teacher shortages

Teacher shortage was identified in Education Development Strategy for 2001-2020 as "the greatest barriers for quality improvement" calling it "the crisis of the pedagogical cadre". Shortages and inadequate quality of teaching personnel was a significant factor contributing to the poor PISA performance of students from Kyrgyzstan. "About 25% of students from schools participating in PISA did not take one or more science classes in academic year of 2004-2005.

Only 3% of students studied at schools where there were no vacancies for science teachers, and 72% of vacancies were filled by teachers of other subject areas" (CEATM report, 2009). This result provides alarming insight into the availability of qualified and quality teachers in Kyrgyz schools.

According to the specialist of the Ministry of Education and Science, teacher shortages remained between 3,000 and 4,000 each year from 2002 to 2007. Additionally, the percentage of young new teachers who enter the teaching profession is decreasing with rates of approximately 60% in 2005 falling to 35% in 2007. Even those that begin teaching, do not remain in schools very long due to professional and socio-economic difficulties (Shamatov, 2005). According to data collected by the district education office staff in 2007, schools lost 32% of foreign language teachers, 27-28% of Russian language teachers, 27-28% of computer science teachers, 15% of history teachers, 15% of biology teachers, 12% of primary grade teachers and 12% of mathematics teachers (USAID, 2009).

Ineffective teaching methods

Ineffective teaching approaches were also commonly believed as one of the main causes for the poor PISA results. This was linked to poor systems of pre- and in-service training for teachers and the lack of consistent and motivational teacher evaluation systems. Most teaching was reported to be poor and not aligned with modern theories and practices of teaching and learning.

A specialist from KAE observed:

More than 70 percent of teachers in Kyrgyzstan are doing their job inertially or routinely. They just come to work, pretend to be teaching and then leave. Teachers only cover the daily plans which are developed by the Ministry of Education. Only about 5 percent of teachers run update their knowledge. Students also do not like teachers' teaching these days, because what teachers teach often has no relevance to students' daily lives. (Interview, June 25, 2009)

It is essential to improve the quality by teaching subjects in greater depth as well as with more effective teaching methods and materials. Even though the competency-based

approach to teaching and student assessment is inscribed in the current curriculum framework it remains to be implemented in practice. Many international development agencies are assisting local education authorities to provide effective in-service teacher education by introducing elements of student-centered and interactive teaching methods. However, pre-service teacher education has been left neglected as "large donors considered teachers to be "lost generation," not worth investing in (Silova & Steiner-Khamsi, 2009. p.32); higher education reform has not been a priority of international aid; and finally, given that fewer than half of teacher education graduates ever enter the teaching profession, it is not seen as a good investment.

Shortage of resources and materials

Inadequate educational resources can explain the dismal results of students from Kyrgyzstan. The PISA 2006 survey that examined the level of school resources demonstrated that compared to other OECD countries, schools in Kyrgyzstan have a very low level of school resources (OECD, 2007). There are significant relationships between the level of material resources and overall performance. Over 90% of school directors surveyed for PISA 2006 referred to lack of, or low quality of, physical and material resources as laboratories, textbooks, computers, Internet access, libraries, audio-visual means, and other tools as a cause of poor quality of education.

The supply of resources and materials remains problematic. Government education officials have managed to use the PISA 2006 recommendations to gain support and more resources from donor agencies.

Lack of school autonomy and financial reform

The lack of school autonomy was also stated as a reason for the poor PISA result. From 2005, as part of decentralization reform, state funds were allocated to village governments who were responsible for distributing money to schools. School administrators' ability to develop and manage their budget, formulate school curriculum, and adjust school management in order to compete with other schools is severely limited by a centralized system that continues to mirror the system put in place during Soviet times. School curriculum is formulated and administered centrally by the Ministry of Education and Science, and schools have little flexibility in adjusting curriculum and school management. The budget allocation process, which involves bargaining and centralized discretion, is nontransparent, unpredictable, cumbersome and does not address long-term strategic issues, resulting in an inflexible and inefficient use of scarce resources.

In response to this issue, per capita school financing was implemented (Briller, 2009). This was done to increase "cost effectiveness and efficiency by decentralizing education finance, including financial autonomy at school level by introducing per capita financing, and by enhancing social accountability and participation" (Silova & Steiner-Khamsi, 2009, p. 19).

Since 2006, the Ministry of Education, with support from the World Bank and USAID, is piloting per capita finance at schools. The per capita funding system is a process of decentralizing budget management to the school level, opening access to school budgets and introducing accountability mechanisms to budget management. It prioritizes school

autonomy, allowing schools to make allocative choices in their budgets, according to their individual needs.

Equity Issues

The PISA 2006 results also highlighted existing issues related to equity and access to quality education. Students at private and elite urban schools of Kyrgyzstan showed significantly better performances in PISA 2006 than their rural counterparts[1]. The higher social and economic level of students in these schools, one of the main factors affecting literacy level, clearly impacted the test results. Post-Soviet officially endorsed diversification of schools which created "new type" schools further stratified Kyrgyz society. A small number of parents can now afford to choose quality education for their children (EFA, 2000). However, almost 70 percent of Kyrgyzstan's population lives in rural areas and 83 percent of schools are in rural settings (UNDP report, 2003). Rural schools in post-Soviet Kyrgyzstan are experiencing devastating challenges. They lack funds and material support from the government, and serve impoverished communities. Rural community members normally have a low opinion of education and teachers and students have additional responsibilities including agricultural work, which compete with their school work.

PISA 2006 confirmed the huge gap between quality of education offered at urban and rural schools. Unfortunately, this gap is increasing; some urban schools are becoming stronger, while the majority of rural and mountain schools are deteriorating. The large majority of rural, semi-rural and mountain schools still teach facts and memorization, but the PISA test assesses higher-order thinking and application of knowledge in real practical life.

Analysis and Discussion

The results of the PISA 2006 were shocking for Kyrgyzstan. However, the dismal performance in PISA 2006 also inspired self-reflection and self-realization by the Kyrgyz school system. Administrators and educators are now increasingly involved in advocacy and policymaking. The PISA 2006 results have shaped public opinion through references via the mass media, and education policy debates have been impacted. While policymakers initiated reforms in education before the PISA 2006 findings, they are now legitimizing their recommendations and actions with the PISA results.

Reforms and set-backs following the PISA 2006 are impacted by the broader context. There is also a lack of strong local capacity of education experts and policy makers. Reforms are implemented sporadically and ad hoc with different planning agencies and implementing bodies that do not communicate. Most reform initiatives and documents are conceptualized and designed primarily by international agencies. "Education system reforms have been driven primarily by the agendas and procedures of the funding and technical assistance

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1   Since the break-up of the USSR, which (at least in theory) aspired egalitarian principles, the issues of equity have become less pronounced. Though Soviet education espoused equality and uniformity, many scholars argue that Soviet schooling was never really monolithic or egalitarian, contrary to official doctrine. Besides clear disparities between Russian- and non-Russian-medium schools, obvious status differences existed between urban and rural schools as well as between schools with an emphasis on English or Mathematics (Niyozov, 2001; also see Sutherland, 1999). Korth and Schulter (2003) observe that the Russian-medium schools continue offering better education than schools in Kyrgyz and other local languages. The Russian schools continue to enjoy high prestige and are attended by children of different linguistic backgrounds, while the Kyrgyz schools are attended exclusively by Kyrgyz children (Korth & Schulter, 2003).

agencies" with the result that reforms are imposed externally rather than initiated internally (Silova & Steiner-Khamsi, 2009, p. 10). Since independence, Kyrgyzstan has been subject to a myriad of international education assistance projects including international agencies, private foundations and philanthropists and international non-governmental organizations. These international organizations are now assisting the Ministry of Education to conduct major education reform, using the results and lessons learned from the PISA 2006. Reform has been initiated in a range of areas including curricular reforms, introduction of standards and or outcome-based education, student-centred learning, decentralization of education finance and governance, and standardization of student assessment.

While the contributions of the donor agencies are praiseworthy and much needed, often there is dissonance between the discourse of donors and the local needs. It is still unclear whether the initiatives of donor agencies truly reflect local needs and bring about sustainable improvements.

> Besides, different components of education, such as curriculum framework, subject curriculum, assessment, teacher development, textbook development are being worked on by different agencies who work often with little or no communication. There is no effective coordination between all the international and national institutions working on educational sector. KAE specialist argued:

> It is true that there are many international organizations working on education sectors, but the problem is that in most cases they choose education issues and problems for their project themselves without asking the MoES suggestions. Sometimes, they repeat already implemented projects. Unfortunately, the MoES also does not actively suggest educational issues. (Interview with KAE specialist, June 25, 2009).

There is often lack of systematic, well-coordinated effort (REP Assessment Specialist, April 3, 2010). On the contrary, there is often overlap and duplication. Most reform initiatives are not institutionalized, indicating a lack of sustainability (Steiner-Khamsi et al, 2007). Systemic change on education system is only possible when all stakeholders and international organizations coordinate their activities with each other and when the initiatives focus on strengthening institutionalization and sustainability.

Conclusions

Developing new standards and curriculum, reducing education loads, modernizing school infrastructure and equipment, improving teaching standards and performance, introducing per capita financing were some of the reforms that got new impetus due to the results and lessons of the PISA 2006. The PISA 2006 results provided further proof that the national standard of education has to improve and there is a need for significant changes in curriculum and teaching methodologies. These changes are now being implemented by the Ministry of Education, with the support of international donor agencies. PISA has been a driving force for reforms, though within current economic constraints, it is difficult to expect drastic changes. The Ministry of Education has been using the PISA results actively in gaining support from international donor agencies. The PISA data have been largely used by different actors in the educational debate in different ways to support their positions.

The PISA test demonstrated that there is a huge gap between quality of education offered at urban and rural schools. Unfortunately, this gap is not decreasing but on the contrary increasing. Few urban schools are becoming stronger while large majority of rural and mountain schools are changing for the worse. The large majority of rural, semi-rural and

mountain schools still teach their students for 'facts' and 'memorization', but PISA test assesses higher-order thinking and application of knowledge in real practical life. In PISA 2006, one of the main reasons that Finland scored top position is due to fact that it has a strong secondary school system across the country, and there is no huge divide between quality of education in urban and rural settings. Almost all students in Finland have access to quality education. As this is a matter of public policy, the Kyrgyz government needs to recognize this increasing gap between quality of education is strengthening existing inequalities and it needs to invest to improve education quality, particularly in rural schools so that gap is reduced.

PISA 2006 provided a reliable and objective assessment of education quality and can effectively strengthen messages for reform to government authorities and other stakeholders of education.

The test results showed that the majority of students cannot apply their knowledge and skills in real life situations. They have little understanding of concepts and they mostly memorized concepts and facts. This is dangerous for the country's future, because if school students do not develop critical and analytical thinking skills, problem solving and cannot use their knowledge in real life, they will become citizens who are very poorly prepared to address issues and challenges of our dramatically changing societies. The PISA results are a wake-up call that have already, and can further, strengthen education reform efforts in Kyrgyzstan, as long as that reform is carried out in a systematic and well-coordinated way.

Michael Fullan (1992), analyzing the history of successful and unsuccessful reforms, asserted that most reforms fail because those who push for change do not involve all stakeholders, do not recognize complexity of their problems, and adopt superficial and quick solutions. Moreover, failure to institutionalize an innovation underlies the disappearance of many reforms. To truly build on the results of PISA 2006 and initiate the necessary changes, reforms in the education system of Kyrgyzstan must be systematic and sustainable, and based on the inputs of all stakeholders.

Finally, I propose to conduct a comparative research study on the impact of international assessment (e.g., PISA) to development of education policies and improvement of education quality in Russia, Kazakhstan and Kyrgyzstan. The comparative research can provide useful insights into what mechanisms are being adopted by a particular country and whether it has been successful or not, and whether any effective strategies can be disseminated across the neighboring countries.

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UNDERSTANDING FACULTY PERCEPTIONS OF THE CURRENT STATE OF HIGHER EDUCATION GOVERNANCE IN KAZAKHSTAN

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Established trends in higher education governance, including shared governance, institutional autonomy and public accountability, have started to have a long-term impact on the relationship between the state and the institution in the context of post-Soviet countries. Indeed, since the dissolution of the Soviet Union, we have observed an eclectic mixture of Western educational discourses geared and adapted to post-Soviet realities. Gradual changes in education governance mechanisms and governing structures of academic institutions in the fledgling countries of the Commonwealth of Independent States (CIS) have been long predicted by various scholars (Anderson&Heyneman, 2005; Altbach, 2007; Heyneman, 2010; McLendon, 2004; Froumin&Salmi, 2007).

Introduction

Many academic institutions in the CIS countries have initiated 'institutional restructuring' measures and reforms prompted by governments coupled with political changes permeated with market ideologies since the 1990s. Higher education institutions in Kazakhstan have been no exception. While there is extensive literature on educational transformations in post-Soviet transitional economies, little scholarly attention has been placed on faculty involvement in shared governance.

In an effort to shed light on faculty participation in institutional governance, not only from the Central Asian perspective but also from the perspective of globalised higher education systems, this article examines faculty perceptions of the current state of higher education governance in Kazakhstan by utilising both quantitative and qualitative data. The study reported on here involved the analysis of statistical, quantitative results from a sample, followed by in-depth interviews to probe and explore these results. The findings discussed here constitute part of a longitudinal study on the higher education governance and management in Kazakhstan (being conducted by the Centre for Educational Policy, Nazarbayev University). The study addresses six variables: first, faculty perceptions of the governance reforms in the higher education sector; second, faculty perceptions of the state of governance at their home institutions; third, faculty perceptions of the management of research in the system of higher education; fourth, faculty perceptions of their personal influence in their institutions; fifth, faculty perceptions of working conditions at their institutions; and sixth, faculty perceptions of the influence exercised by the administrators on them. We believe this set of variables represents the key dimensions of the faculty involvement in governance.

Concerns about the issue of governance, and more specifically, of which governing body in the higher education sector is accountable for managerial decisions, date back to the founding of the American Association of University Professors in 1915. More profoundly, the issue was articulated with the appearance of the 1966 "Statement on Government in Colleges and Universities." This document conceptualised two primary principles. The first calls for the sharing of authority and decision-making participation in all important areas of action in the university. The second principle states that the difference in the weight of

each voice, from one point to the next, should be determined by the responsibility of each constituency for the particular matter at hand (as cited in Jones, 2011, p. 119).

Birnbaum points out that "faculty and administrators fill different roles, encounter and are influenced by different aspects of the environment, and have different backgrounds" (Birnbaum, 1988, p. 7). The global tendency to maintain public accountability has led senior leaders to manage their institutions following an essentially bureaucratic paradigm. As Birnbaum goes on to note, "the increasing numbers and importance of managers at all levels have led to the administered university" (Birnbaum, 1988, p.7). As higher education institutions are complex in their structural nature, the governance issue has been very controversial. Discussing the issue on a global scale, Altbach (2006, p. 13) is adamant that "governance systems are being strained, sometimes to the breaking point. To meet the demands for accountability, universities are becoming 'managerialized', with professional administrators gaining increasing control. The traditional power of the professoriate is being weakened."

In Western educational discourse, the 'golden age' compact of shared governance has experienced a significant decline (Cummings, Locke & Fisher, 2011). As Musselin states, "higher education institutions are more and more involved in the management of their faculty staff, developing new tools and making decisions about position creations, suppression or transformations: their intervention in faculty careers is more and more frequent". Performance reporting and assessment cements a "stronger link between each academic and his/her institution. Academic self-regulation is partly preserved but overall faculty autonomy is reduced and "they must cope with 'external' constraints" (2005, pp. 143-146).

Many administration theorists note a divide between university administrators and faculty. As Rourke and Brooks state (1964, p. 180), "in a context in which faculty members are less privileged and in which they often feel oppressed beneath the weight of administrative authority, the innovations brought by the new devices of management may widen the gulf between faculty and administration and thus intensify the antagonism, latent and overt, which has traditionally existed between the administrative and the academic cultures" (as cited in Birnbaum, 1988, p. 7). In fact, the administration has been considered by the faculty as more isolated from the essential academic matters and problems important to the institution. Simultaneously, the faculty was considered by the administration as "self-interested, indifferent with controlling expenses, or unwilling to react to legitimate requests for accountability" (Birnbaum, 1988, p. 7).

In the context of higher education governance in Kazakhstan, one should also bear in mind that neither the administrators nor the faculty have had ample opportunity to professionalise as educational managers, in contrast with the 50 years of the study of higher education management and governance in the US academic tradition. As Anderson and Heyneman state, "nowhere in the former Soviet Union was the education sector managed by professionals. Today, the demands for skills and managerial training and background are unprecedented. The shift which one can expect over the next ten years will include an increased emphasis on the empirical comparisons of educational efficiency in Central Asia with that of other parts of the world" (2005, p. 377).

Sample and Data Collection

In order to examine faculty perceptions of the current state of higher education governance in Kazakhstan, we surveyed 303 professors at 28 higher education institutions in 10 different cities of the country. The professors came from both public and private institutions. Along with the survey, we held 50 face-to-face interviews with faculty members, university administrators and representatives of the Ministry of Education and Science. The selection process for individuals was based on random sampling so that each individual in the population had an equal opportunity of being selected (Creswell, 2003, p. 156). Though the sample was probabilistic, we took into account academic degrees, teaching experience and age of the individuals.

It would be short-sighted to analyse faculty perceptions of the current state of higher education governance in Kazakhstan without taking into consideration the findings of similar research done on the global scale. Up to the present, the best and most telling research has been the Changing Academic Profession (CAP) project which went to the field in 2007 in 18 countries – Argentina, Australia, Brazil, Canada, China, Finland, Germany, Hong Kong, Italy, Japan, Korea, Malaysia, Mexico, Norway, Portugal, South Africa, United Kingdom, and United States. According to the CAP findings, the surveyed faculty in all the involved countries believe they are most influential in shaping policies at the departmental level and that they have very little influence at the institutional level. Professors in most countries believe they are the primary decision makers on most academic matters, though there is an interesting variation by country in what is considered academic and what is not. For example, approving a new academic program is thought to be an academic decision in Japan and in much of Europe but a managerial decision in the United States, Korea, and several emerging countries (Cummings et al., 2011, p. 7).

It is worth noting that the key variables used in our survey, faculty perceptions of shared governance, faculty perceptions of facilities and faculty perceptions of decision-making authority have common features with the dependent variables used in the Changing Academic Profession project.

Analysis and Results

It is understood that a substantial full-time cadre of university teachers and researchers can maintain the essential teaching, research, and governance functions of any university. The faculty survey asked professors to evaluate the effectiveness of the implemented governance reforms in the higher education system, the state of the governance at their home institutions as well as management mechanisms of the research on a 5-point scale. Figure 1 provides mean scores of a composite scale consisting of a series of questions about satisfaction with higher education governance in Kazakhstan. The scale is scored from 1 (negative) to 5 (positive). Most faculty members gave low evaluation scores of the governance in the whole of the higher education sector. The management conditions for the faculty's engagement with research were also evaluated on a very low scale. The governance at the faculty members' home institutions was evaluated higher to some extent than the other 2 dimensions.
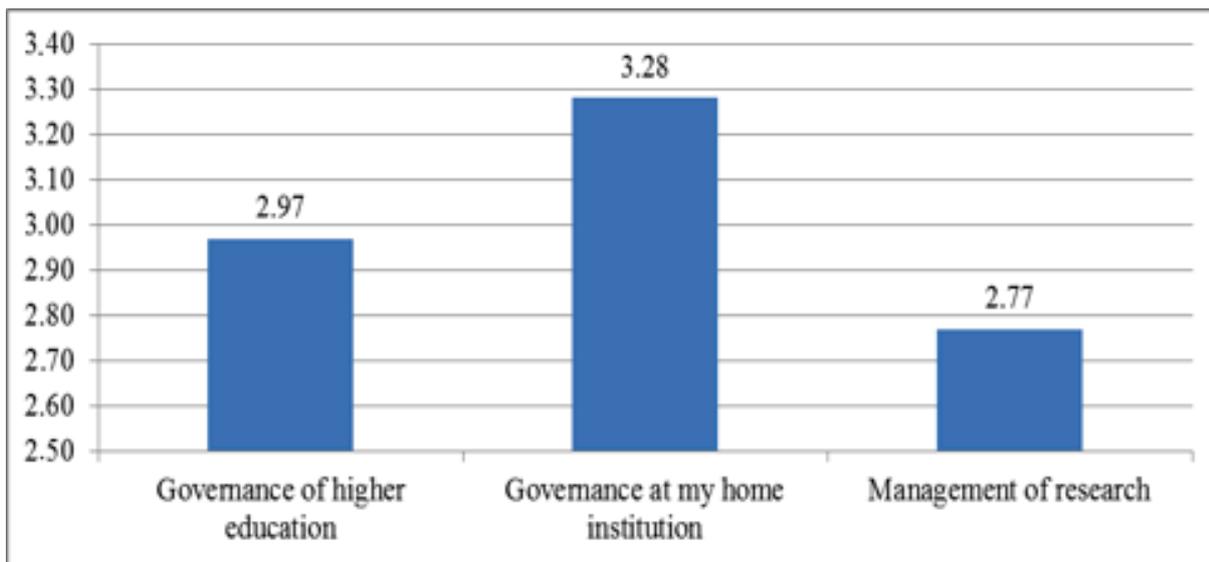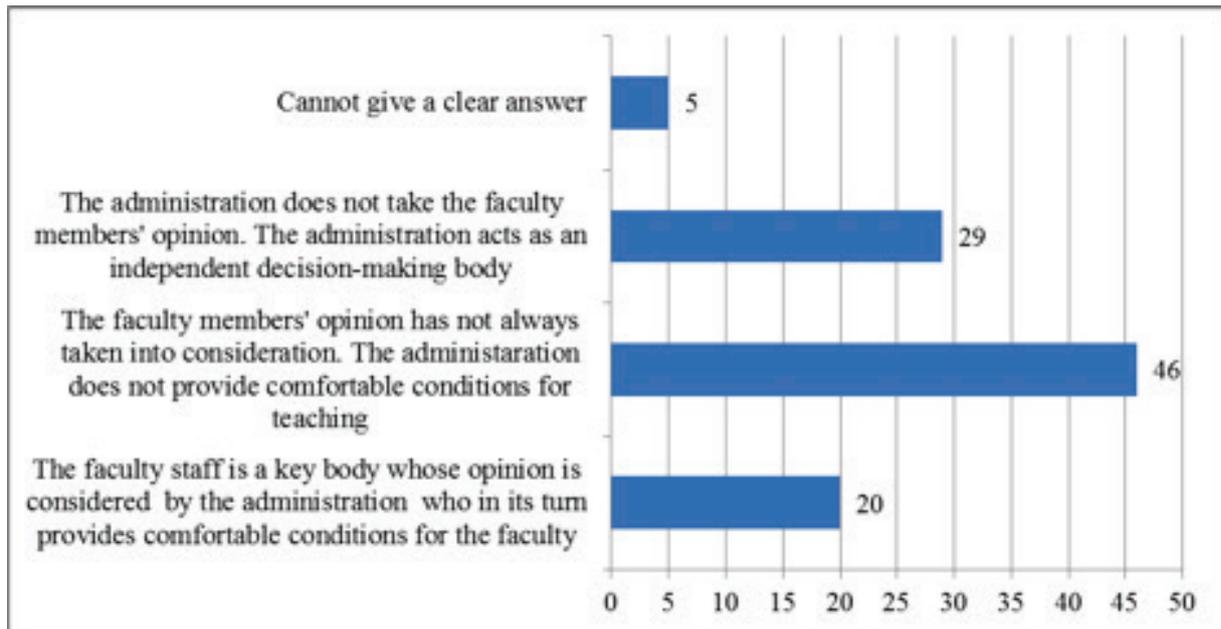
Figure 1: Percentage of faculty members evaluating the effectiveness of the higher education governance in Kazakhstan on a 5-point scale.

Interestingly, faculty members state that they do have their say on the departmental level as they take part in the development of the department strategy which adds to the general strategic plan of the institution. Despite their opportunities for contributing to the departmental strategy design, faculty complain that department chairs do not receive administrators' feedback on the submitted strategy documents, which leaves faculty without any follow-up or update.

The administered model of governance that is deeply embedded in the system of higher education of Kazakhstan is also reflected in the top-down communication processes between the Ministry of Education and Science and academic institutions. The Ministry develops the national mandatory educational standards for all academic institutions, regardless of their status as public or private institutions, and institutional leaders have to administer such that a faculty follows the standards. As one interviewed faculty member states, "I don't agree with most of the standards which are distributed to our institution from the Ministry. They impose too much teaching load on us that we hardly find time to involve in paperwork, let alone engaging with research or institutional decision-making processes".

As can be seen in Figure 2, faculty respondents were asked to evaluate their personal influence and their working conditions. Just about 20% of faculty report that they regard themselves as a key decision-making body whose opinion is considered on the administrative level. The faculty's perception of the quality of their working conditions is also relatively positive.

Around 30% of faculty members indicate low evaluation of their personal influence within the administrative level and higher-level bodies. The administrative constituencies are perceived as independent decision-making bodies. This echoes with the existence of the administered, bureaucratic model of higher education governance that has been entrenched in the higher education system of Kazakhstan due to the 'command-and-control' thinking of governance of the Soviet past.
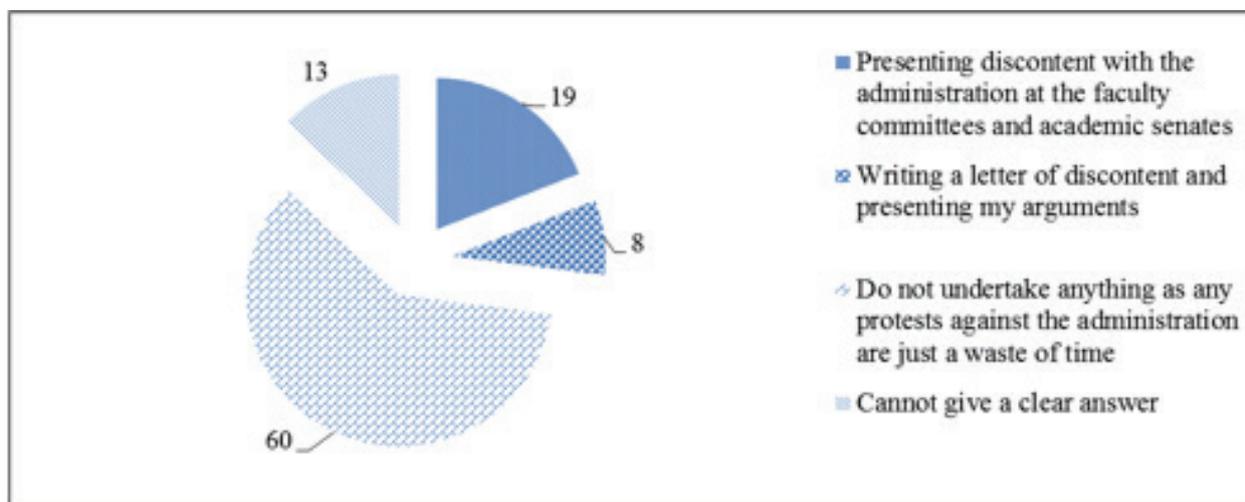
Figure 2: Percentage of faculty members who report on their personal influence and working conditions in their institutions

A significant number of the surveyed faculty confirm that their personal influence is diminished as the administration does not consider their opinions. Moreover, the efficiency of support processes with working conditions is not likely to meet faculty's expectations. This has been demonstratively signaled by a response rate of 46,5%.

Another dimension of faculty involvement in institutional governance is the actions of faculty members when they do not agree with the decisions made by the administrator. According to Figure 3, a response rate of 60% shows that a faculty is typically disengaged with the decision-making processes as they believe that attempting to change the senior administrator's decision is a waste of time. Though the faculty has a decision-making authority within their departments, making decisions on the higher-level of administration, say, in selecting key administrators, choosing new faculty members or determining budget priorities is not a common practice. Within the analysis of the interview data, we learnt that the new faculty are recommended to the Dean by an established faculty panel. The Rector makes a final decision on new faculty appointment. Regarding faculty promotion, the department chair is usually nominated by the faculty, approved by the Dean and appointed by the Rector. Deans are recommended by Vice Rectors. Alternatively, the candidates can approach the administration themselves. This means that the faculty recommendations can be entirely disregarded. The Rector can make his final decision on dean's appointment. The appointment of prospective Vice Rectors has to be confirmed with the Ministry of Education and Science of the Republic of Kazakhstan.

We take the notion of shared governance as "the set of practices under which college faculty and staff participate in significant decisions concerning the operation of their institutions" (American Federation of Teachers, 2006, p.4, as cited in Jones 2011). As Birnbaum points out, "the structures and processes of shared governance identify the rights of the faculty to participate in making important decisions, thereby certifying their status and importance (2004, p. 14). Given the survey results, the level of shared governance in academic

institutions of Kazakhstan is relatively low. Most faculty respondents pointed out the fact that the institutional governance process is of a more administered model. The Rector can make appointments at his own discretion, without the faculty being involved.

Figure 3: Percentage of faculty members who report on the influence exercised by the administrators affecting their work

The interviews held with faculty and higher education leaders in Kazakhstani academic institutions confirm this perception.. For example, in answering the question 'do the faculty take part in selecting key administrators including deans and rectors?', the Vice Rector of one national university stated that this is the Rector's prerogative. In the respondent's words, faculty should engage more with academic affairs rather than making decisions on the administrative level. There is good reason to believe that some top administrators find the top-down appointments more effective due to efficient decision-making processes that bypass the faculty's decision-making processes. However, as Kerr reports, "faculty involvement in shared governance may slow down the decision-making process, but it also assures more thorough discussion and provides the institution with a sense of order and stability" (Kerr, 1963).

Conclusion

In this paper, we have examined faculty perceptions of the current state of higher education governance in Kazakhstan. The purpose was to analyse the faculty's opinions and attitudes towards governance in their institutions. Several conclusions can be drawn from the findings. The first is that faculty was mostly unsatisfied with their level of involvement in governance, particularly in terms of the ways in which they communicate with upper management. Faculty would like to see proper feedback mechanisms in their communication channels with Vice Rectors and Rectors. Interestingly, the majority of faculty respondents claim that contemporary governance systems cannot respond appropriately to new social and academic realities. Most faculty members take their inactiveness for granted as they do not feel that their decisions will have an impact on institutional governance. However, the research has shown that faculty members are involved at the departmental level and feel comfortable about that.

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INTERNATIONALIZATION OF UNIVERSITY AND LEARING OF UNIVERSITY AND LEARNING PROCESS: WEB 2.0 DIMENTIONS

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Introduction

Today WEB 2.0 means a qualitative leap in computer technologies that have made the internet environment more creative, participative and socializing. But has this enormous development also triggered a revolution in higher education field? Do the higher education and overall learning process requires re-thinking in view of the continuous change of information and communication technologies, and do we need new concepts and designs for respective university profile and learning environment? There have been several research projects about WEB 2.0 possibilities in learning process, but none of them has come across university itself and internationalization processes.

WEB 2.0 dimensions are present in almost every aspect and process at a university. This paper gives an insight about usage and possibilities of such dimensions. Meaning of the term "internationalization" is constantly growing, and there is more, than just foreign students, staff mobility, international projects and cooperation network. Universities all around the world need to implement and adapt newest technologies in order to stay up to date and offer modern solutions to their students, teachers and staff members. Current situation forces universities to think not only about learning environment, but also about ranking systems, university profile, methodology, strategy and future visions. The main principles of WEB 2.0 are: user generated content, user-controlled applications and sharing of content.

It is very important for universities to take into account all available WEB 2.0 solutions to achieve new levels of internationalization. There is a correlation between three sciences among WEB 2.0 tools – engineering, pedagogy and social sciences. Such correlation means faster, wider and more efficient internationalization for university and learning process. The strong points for WEB 2.0 are cost-effectiveness, accessibility and user friendly environment. This paper reveals dimensions of WEB 2.0, suggests activities involving its tools, and highlights benefits and risks. Next generation of WEB technologies (semantic web) will suggest even larger scope of possibilities, but they are still being developed and it is important for universities to start using existing 2.0 tools as much as possible.

The term Web 2.0 has been introduced by O'Reilly (2005) and was quickly adopted by Silicon Valley circles as well as by many practitioners and observers. There is no definition widely accepted and at the moment the issue is open to discussion. A simple Google search query of this term produces about two million results, and there are several definitions already proposed. In the academic literature there is no agreement as to the delimitations of this term (Needleman, 2007; Coyle, 2007). The definition applied in this paper is the one proposed by Constantinides and Fountain (2007): Web 2.0 is a collection of open source, interactive and user-controlled online applications expanding the experiences, knowledge and market power of the users as participants in business and social processes. Web 2.0 applications support the creation of informal users' networks facilitating the flow of ideas

and knowledge by allowing the efficient generation, dissemination, sharing and editing/refining of content.

On the basis of this definition the Web 2.0 can be described along three main dimensions: The Application Types, the Social Effects and the Enabling Technologies. These dimensions are illustrated in the following picture (Image No.1.).
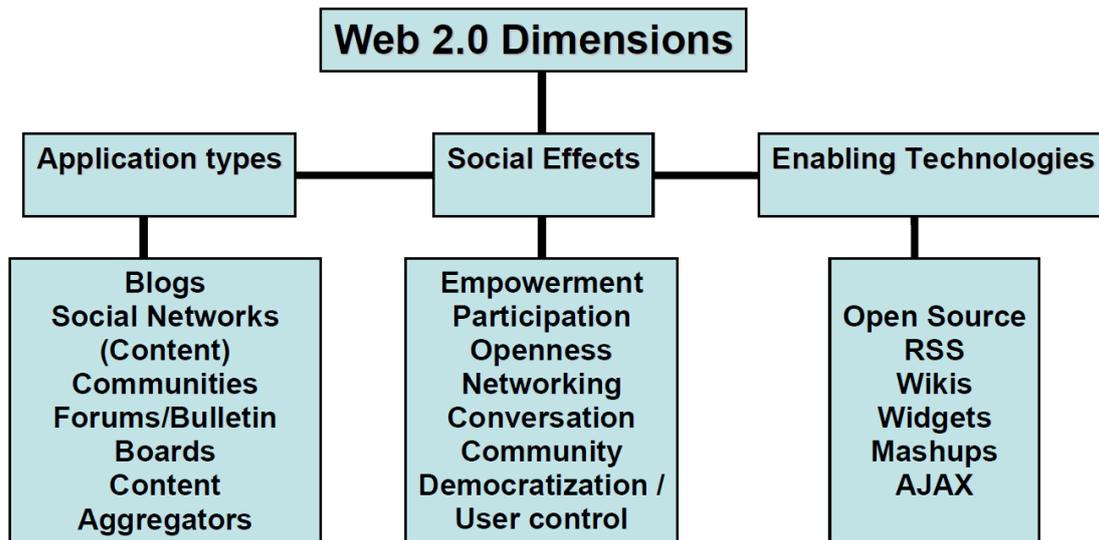
Image No.1: WEB 2.0 dimensions

Application Types: There is a wide variety of application types fulfilling the criteria of the above-mentioned definition. In order to simplify the issue the application can be classified in five many categories.

1. Blogs: Short for Web logs: online journals, the most known and fastest growing category of Web 2.0 applications (Du and Wagner, 2006). Blogs are often combined with Podcasts i.e. digital audio or video that can be streamed or downloaded to portable devices.

2. Social Networks: allow users to build personal websites accessible to other users for exchange of personal content and communication.

3. (Content) Communities: Web sites organizing and sharing particular types of content. Examples are applications of Video sharing, Photos sharing, Social Book marking and publicly edited content sites like online encyclopedias.

4. Forums / Bulleting Boards: sites for exchanging ideas and information usually around special interests.

5. Content aggregators: applications allowing users to fully customize the web content they wish to access. These sites make use of a technique known as Real Simple Syndication (RSS).

The user is a vital factor for all categories of Web 2.0 applications, not only as consumer but also as content contributor. The term User Generated Content (UGC) is often used to underline that special attribute of all above listed Web 2.0 application categories.

Social Effects: Enabling the seamless generation of information and easy access to it is the key advantage of Web 2.0 applications - copying, sharing, editing, syndicating, reproducing and re-mixing information are common practices in the Web 2.0 domain. The same can be said about the generation, sharing and dissemination of information results to democratization of knowledge and active participation of the user as contributor, reviewer and reporter. Users can easily create communities of special interests and further share their experience and knowledge but also they can engage in a transparent conversation with the industry or even politicians. The result is, as explained earlier, a unique form of customer empowerment allowing customers to affect as never before the market power structures and more importantly the shape of the future marketing. The social effects of media are by and large a fascinating research area and a field most likely to shape the future consumer or even human behavior.

Enabling Technologies: While several technologies involved in the Web 2.0 domain are not necessarily new, there is a basic difference between Web 2.0 and the previous software applications namely the fact that many of these applications are open source (O'Reilly, 2005; Constantinides, 2007). This fact has places the application user in the chair of the application co-developer and has lead to a fast, low cost and efficient application improvement. Next to existing applications the Web 2.0 movement founded on some unique new software applications and development techniques. The purpose of this article is not to examine this aspect of Web 2.0 but bellow there is a short description of the most important new enabling technologies and development tools applied in this domain. We name tagging and managing references (links): del.icio.us., Furl, CiteULike etc. , special search engines: Technorati, Blogsearch etc.

- Internationalization of university means adjustments in culture. Pushing universities towards online culture, WEB 2.0 suggests various types of online collaboration (Image No.2.):

- Educational institutions (collaboration with partner universities, regional networks);

- Publishers / content providers (individual authors and companies providing books, etc.);

- Technology vendors (with software and tool vendors for customization of available platforms or creation of new ones);

- Sources of students (governmental agencies, private companies for enrollment of new students or to reach specific target audiences, for example - veterans);

- Turnkey systems (companies providing training, course management systems, marketing activities);

- Global partners (project partners, joint research actions, guest lectures etc.).

Types of Online Collaborations

Educational Institutions / Publishers/Content Providers / Technology Vendors / Sources of Students / Turnkey Systems / Global Partners

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Institutional Process Toward Online

Traditional Pedagogy → Web-enhanced Courses → Hybrid Courses → Online Courses → Hybrid / Online Programs → Online Degree Programs → Strategic Partnerships & Collaborations → Global Vision and Reach

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Image No.2: Types of online collaborations and intitutional process toward online by Bruce Rosenbloom

All this user generated content is already happening at universities, but the main question remains about efficiency and how often these technologies are involved. Almost every University within European Union has its own Twitter and Facebook account, but it seems like it's done only for formal purposes. Internationalization strategy of each higher education institution should involve online courses and degree programs, e-learning principles, and also WEB based collaboration vision.

The degree to what a higher education institution will engage the social media as active marketing tools depends as in the previous case on the size of university, market coverage and of course the marketing objectives (prior regions). In principle all four categories of objectives (using Web 2.0 as PR and Direct Marketing tools, reaching the new Influencers, personalizing students experience and tapping student's creativity) are presenting very interesting options to higher education institutions. However, such type of activity requires a higher level of commitment in the form of financial means and human resources and probably some degree of organizational transformation. In this case higher education institution becomes also active contributor of Web 2.0 content. For example, personalizing the customer experience means that the HEI must create and make available online tools that will allow the user to customize his experience; tapping consumer creativity means actively reaching the customer and offering tools that will allow the customer to express his/her creativity either in advertising copies or design of new products. Next to this we must follow up by evaluating the customer generated content and in cases of interesting ideas to integrate them into the mainstream marketing program.

Web 2.0 Applications as Marketing Tools					
	Passive	Active			
MARKETING OBJECTIVE	Listening In	PR and Direct Marketing	Reaching the New Influencers	Personalizing customer Experience	Tapping customer creativity
APPLICATION TYPE					
Web logs	XXX	XXX	XXX		X
(Content) Communities	XX	X		XXX	XXX
Social Networks	X	XX		X	XX
Forums / Bulletin Boards	XXX	X	X	XX	XXX
Content Aggregators		XX	XXX		

XXX: very suitable, XX: suitable. X: suitable sometimes

Image No.3: WEB 2.0 applications as marketing tools

The active engagement of Social Media is therefore depending on the management commitment and ambition, and also on the capacity of the firm to create the necessary organizational infrastructure necessary for utilizing these technologies in the proper way. As to the most likely candidates to make use of such media among higher education institutions, the size and 15 market position/reputation of the university are important criteria for this. Extensive costs – benefits analysis is needed in order to evaluate the value of these media versus traditional marketing tools for achieving the above mentioned objectives. The newness of the subject means however that there is still not enough knowledge or reliable metrics of the effects of Web 2.0 applications as marketing tools versus traditional marketing tactics.

When it comes to learning process and learning enivornment, WEB 2.0 challenges current design and methods, because of its possibilities. That means new roles for teachers and also for students. Teachers are considered as coaches and mentors of students (see Image No.4.), they are still ones responsible for all the data and information of lectures, but in new shapes. E-mail, skype, facebook and other WEB 2.0 tools are already used widely among the teachers all around the globe and this means that virtual tuition is happening and is also one of the roles for teachers. Because of simplicity of WEB 2.0 tools and applications, it is possible for teachers to create new media and tool designs themselves. Of course teachers still have role of examiners and advisers in overall learning process.
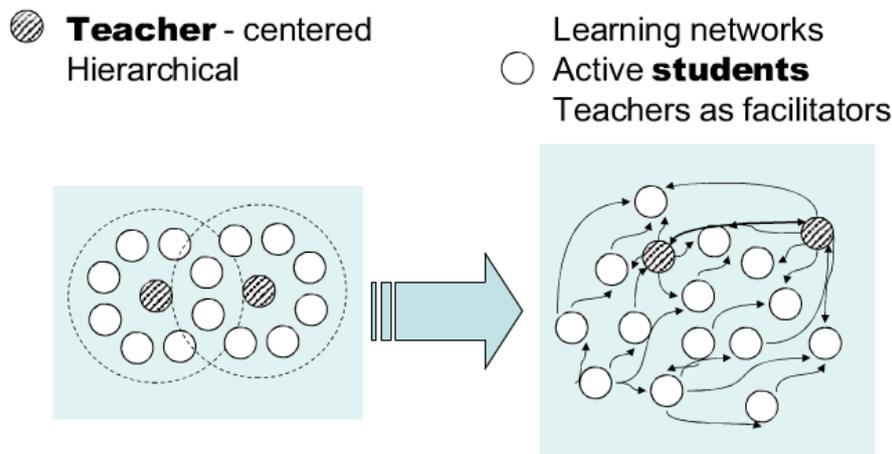
Image No.4: changing roles of teachers and students

If we are speaking about the students and their role, then its obvious that participation from they behalf is becoming more active and collaboriong. Collaboration among students is one of the most important condition for WEB 2.0 environment. Information sharing and team work allows students to view not only teachers side of opinion and knowledge, but also each others. Learn by doing approach is more suitable for this design of learning, fostering innovations and creativity from students behalf. Students are more willing to change their agenda and style of participation in learning process, teachers still needs to overcome their fear about transfering initiative to their students. Before entering university, most of students already have had some interaction with WEB 2.0 tools and they are ready to star using them as soon as they arrive. It goes without saying that there is still need for the feeling of academical presence by all means – content and apperiance should not be too unoficial or entertaining.

From		To
Consuming	→	**Producing**
Authority	→	**Transparency**
Expert	→	**Facilitator**
Classroom	→	**Hallway**
Access to information	→	**Access to people**
Learning about	→	**Learning to be**
Passive learning	→	**Passionate learning**
Presentation	→	**Participation**
Publication	→	**Conversation**
Formal education	→	**Lifelong learning**
Supply-push	→	**Demand-pull**

Image No.5: Transition to WEB 2.0 based learning environment

Transition to WEB 2.0 based learning environment (see Image No.5.) is already happening and it isn't completely new to universities, but there is reason to believe that it's stuck. Higher education institutions know about most popular tools and possibilities, but they have lack of interest and it is not set as an institutional priority. Classical model of learning involves terms as classroom, authority, formal education and authority, but new paradigms suggests that formal learning must be switched to lifelong learning, classroom to hallway and authority to transparency. It is obvious that new learning environment is based on collaboration and cooperation, allowing students to develop necessary skills themselves and involving other students as much as possible. All the advantages of technologies clearly makes learning environment more international and global, raising overall level of internationalization for Higher education institutions. Being without borders and limitations WEB 2.0 tools encourages international communication and networking, for example students can ask questions not only for their course teachers but also get feedback from experts all around the world.

Overall there is no need for major infrastructural changes to adapt new learning environment, the largest contribution would be additional human resources or optimization of current staff, in order to create, maintain and monitor WEB 2.0 solutions.

WEB 2.0 offers very collaborative, transparent and accessible environment, suitable for all departments within the university. Most of tools are suitable for teachers, students and even for non-academic staff members – user generated content can be useful for all parties. Here are some general benefits and pros of using this environment at a university:

a. Open source. Many of WEB 2.0 tools are open source, which means that user (teacher, student, and staff) can customize it and make custom solutions for individual needs. This is one of the strongest points, because it allows universities to adapt environment to their profile (Culture, Music, Engineering, Medicine, Social sciences, etc.). Open source software usually means that there are no issues with licenses and it is free for all.

b. Free or low cost. Considering worldwide economic recession one of the biggest questions for universities is cost effectiveness. And being completely free of charge or low cost solution WEB 2.0 tools are very appealing to every higher education institution. Biggest investment will be human resources and time that needs to be contributed to personalize and update WEB 2.0 tools.

c. Easy to learn, user friendly. Most of teachers and academics at universities are not advanced users and cannot create new applications or do programming themselves; therefore it is very big advantage for WEB 2.0 environment, because it is very easy to use and user interface combines simplicity and hi end technologies together.

d. Transparency. Most of the blogs, Wikis, social networks etc. are available for all internet users and that fosters transparency of content and user actions. Learning from each other is one of the principles of WEB 2.0, its tools provide universities with sufficient transparent environment. It is much easier to monitor and search for teacher's posts, student's posts, Partner University posts etc.

e. Access anytime/anywhere. Internet connection is available in most of our 21st century gadgets (mobile devices, laptops, tablets) and that means that content is accessible anywhere – anytime. Therefore users can create content with WEB 2.0

tools driving in public transport, sitting in the parks or even during the lunch time. This is one of the brightest advantages for WEB 2.0, because it gives users opportunity to get instant access to the tools and publish their ideas on site.

f. Interdisciplinary actions. Being transparent and accessible, tools and platforms in many cases fosters users to engage into various interdisciplinary actions.

Universities and their managers, when they assume an active role for the adaptation to the new environement, discover series of internal and external risks/problems:

a. Copyright protection. Massive amount of information and data being developed every day in WEB 2.0 environment, makes it tough to follow and trace actual copyrights. This brings universities to search of new types of copyright protections. This is a major risk that will occur eventually to every university who will contribute to WEB 2.0 tools and learning, but there are already some solutions availible for universities to solve this problem (example: Adobe company has been very active protecting copyrights and updating secure PDF file format).

b. Rejection by users. Many of the users (typically staff members and students) are fearful of learning new abilities needed to use new software and change their attitudes about education and knowledge. Typicaly rejection should come from elder staff members, but could be also found among students.

c. Dependence on technology. Most of the WEB platforms and tools are secure and safe place to keep user data, but there is always a chance that technology somehow can go down and data will be lost. And it is almost impossible for each individual user to create backup copy of data, because in this case meaning of easyness and accesibility of WEB 2.0 is jeopardized.

d. Management of human rescources. Being strictly virtual, WEB 2.0 raises question about human resources and management. Digital platforms still need to be managed by someone, and often universities struggle to create apropriate strategy for management of human resources for WEB 2.0 tools. For example – should the e-learning be managed by academics themselves or by separate e-learning officer.

e. Existing technologies (non WEB 2.0). Universities have made large investments during 1980s and 90s to develop in-house tools or to buy software platforms. Such infrastructure could become a barrier. Most of the technology is starting a phase of accelerated obsolescence and has to be changed by tools available in the market (and in most cases at a very low cost), that have to be configured, integrated and remixed to create new applications or mashups adapted to the needs of local users. Low cost in many cases is a matter of distrust by decision-makers due to the misunderstandings that the concepts of free software and open source continues to be generated.

f. Aversion to innovation and entrepreneurship. Bureaucracy, governance, procedures for decision-making and inertia in large institutions are in many cases the worst environment for inside innovation and entrepreneurship. However, the adoption of technology and working methods associated with web 2.0 requires a high dose of experimentation and creativity.

1. Terra Incognita project – University of South Queensland (2nd life). USQ has built a classroom in Second Life, the online virtual world. The project attempts to exploit the benefits of study groups in a virtual environment - it supports lecture-style teaching and allows small groups of students to break away from the main group and work independently. Lecturers stay in constant touch with both groups by 'visiting' them or sending them messages and then summon them back when required.

2. Harvard Law School – 3 levels of participation (2nd life). Second Life, a three-dimensional virtual community in which Professor Charles R. Nesson '60 is offering a cyber-law course. Nesson, the Weld professor of law, is offering "Cyber One: Law in the Court of Public Opinion," not only to Harvard Law School (HLS) students, but also to Extension School students as well as Internet users across the globe. Nesson drummed up interest in his filled-to-capacity course through a YouTube promotional tape in which he describes its content after a dramatic entrance on a scooter. The tape is mostly narrated by his significantly younger-looking Second Life person—called an "avatar."

3. Faulkes Telescope Project. The Faulkes Telescope Project is an education partner of Las Cumbres Observatory Global Telescope Network (LCOGTN). Main aim is to provide free access to robotic telescopes and a fully supported education programme to encourage teachers and students to engage in research-based science education. LCOGTN operates a network of research class robotic telescopes. Currently there are two telescopes, one in Hawaii and the other in Australia. These telescopes are available to teachers for them to use as part of their curricular or extra-curricular activities and are fully supported by a range of educational materials and a team of educators and professional astronomers.

4. The Bugscope project – provides free interactive access to a scanning electron microscope (SEM) so that students anywhere in the world can explore the microscopic world of insects. This educational outreach program from the Beckman Institute's Imaging Technology Group at the University of Illinois supports K-16 classrooms worldwide. Bugscope allows teachers everywhere to provide students with the opportunity to become microscopists themselves – the kids propose experiments, explore insect specimens at high-magnification, and discuss what they see with our scientists – all from a regular web browser over a standard broadband internet connection.

5. Decameron Project – Brown University, provides educational resources and have built up a community of students to use them / debate and submit own resources. This mini-library or virtual encyclopedia includes the text in its established critical edition (Branca), sources, translations, annotations and commentaries, bibliographies, a growing selection of critical and interpretive essays, as well as visual and audio materials. These resources are all hypertextually linked and complemented by a variety of analytical tools and search engines meant to make your exploration of the site easy and rewarding.

6. Open Source Communities – over 1 million people are engaged in developing OS products by contributing through networked communities of practice (same process for Wikipedia). The fact that world-wide open source communities can organize themselves to collaborate is one of the great treasures of the world's recent history. If people are pessimistic about the world's future and about governance in general, they should really take some time to look at all these great open source projects and their incred-

ible success. Drupal is an example right there with the Linux kernel project, Wikipedia, Debian, Ubuntu, KDE, and dozens of others. They give us great reason for optimism. The fact that communities like the Drupal community can thrive is a huge reason for optimism about the future. The various communities thrive with a whole variety of different governance mechanisms. Some, like Drupal and KDE, have nearly no formal governance process, and rely completely on community norms and culture. Others, like Debian, have an extremely formalized governance process. And there are lots and lots of variants.

7. Reflective Practicums – Learning about Learning. This is term for the educational setting, or environment: "A practicum is a setting designed for the task of learning a practice". This is where students learn by doing, with the help of coaching. Teachers tell us the practicum is 'reflective' in two senses: "it is intended to help students become proficient in a kind of reflection-in-action; and, when it works well, it involves a dialogue of coach and student that takes the form of reciprocal reflection-in-action."

Conclusions

Internationalization of a university and learning process is clearly visible through WEB 2.0 dimensions – they bring new applications, tools, social effects, enabling technologies, new types of online collaborations, provide new marketing activities for universities and in the end suggest new learning environment and roles for teachers and students. Process of dynamic and WEB based learning environment has been already triggered – Higher education institutions are cautiously using WEB tools and applications, but many opportunities have been left outside the window. Universities are still offering e-learning, online courses, social media portals with their own created content, but as the new paradigm shows it is time to let students join in. Lack of time, accessibility issues and cost effectiveness are the main questions for students entering university and they can be resolved by using WEB 2.0 solutions. It is very important to create sustainable balance between WEB platforms and traditional pedagogical methods, maintaining student's motivation to learn, sparkle for innovations, socialization possibilities, quality of education, etc.

There are few reasons why WEB 2.0 hasn't overcome traditional learning models and pedagogy, but the most important thing is that people still doesn't believe that it is the right thing to do. Successful examples of new type social learning shows that adjustments can be made to almost all sciences, and sometimes it only takes one person's initiative to start the process. Every new solution struggles at the start, but in our case we can easily say that every teacher or university leader who will create new possibilities using dimensions of WEB 2.0 will get great support and understanding from students, staff members, etc. More futuristic version named WEB 3.0 will replace WEB 2.0 in future, but it offers slightly different approaches, therefore we can make an assumption that current design will be sustainable.

To move our educational practices forward, we will need an understanding of our all users (students and teachers) and their changing behavior, willingness to experiment with new education models, and an appreciation of hybrid organizations that take advantage of skills contributed by various players with diverse backgrounds. Leadership of such an organization will require an appreciation of each of those players and of the value of each of their contributions as well as a clear and imaginative view of the future information landscape. It will not be easy, but the next generation will create new models of scholarly publishing and learning, regardless of whether we choose to participate. The only question will be what role we carve out for ourselves.

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REFLECTION ON THE DEVELOPMENT OF CHINESE HIGHER EDUCATION IN THE POST-INDUSTRIAL AREA

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In 1973–American scholar Daniel Bell published a book named, The Advent of the Post-Industrial Society—an Exploration on Social Trend, in which he proposed the concept of a "post-industrial society". Bell thinks that modern industrial society is turning to a new phase of development which is based on information and services. His definition for the "post-industrial society" has the following three features:

First, social economic structure has shifted from commercial into service-oriented, highly-developed industrial automation and increasingly enhanced productivity created a bigger superfluous manufacturing labor force. The populace has higher demand for material, spiritual life and social service, which caused more labor force stream from industry and manufacturing into service.

Second, social vocational distribution has changed characterized by the rise of the technological class. Along with the development of the service economy, the focus on workshop began to transfer to office, research institute, educational institutions and government departments. The feature of index of the professional distribution in the post-industrial era is the increasing number of scientists and engineers, which constitutes the key factor in post-industrial society. The post-industrial society revolves around knowledge innovation and revolution, which formed an organized society with controlling and guiding function, gradually brought into existence of new social relations and classes which are quite different from their counterparts in the industrial age. In the post-industrial society, the feature of knowledge has changed, in that, theoretical knowledge takes the lead, which becomes critical power to make decisions and guides transformation. Intelligence departments such as schools and institutes are increasingly becoming the core of the new society.

Three, in the post-industrial era, the direction of future development is piloted by technical control and evaluation. The post-industrial era is likely to plan and control the development of technology, so as to master the new ways of social transformation.

Prophecy made by Bell on the emerging post-industrial era is based on the social reality of the development of the earlier industrialized western countries such as the United States. After the publication of The Advent of the Post-Industrial Society—an Exploration on Social Trend, western society entered into the information era characterized by computer technology and network technology. Twenty years later, Asian countries and the surrounding areas remain committed to their industrialization development process, the dawn of the post-industrial era appear in the late 1920s. As far as China is concerned, on the one hand, we need to speed up the development of industrialization. On the other hand, we also need to face the new type of industrial wave just as information technology has had to do. We can say, China has entered the period of parallel development of the industrial age and the post-industrial era since the 1990s. We need to reach the development goal of industrial modernization, just as we should agree with the opportunities of information and biological technology developments, finishing the industrial modernization at the same time, and completing the transition of industrialization. Therefore, the Chinese government put forward new

industrialization construction goals in 'the country`s 12th five-year development plan' that Chinese government should build up a modern industrial system which is carried out through information so as to realize the leaping development, to enhance the ability of sustainable development industrialization and also give full play to the advantages of human resources.

Burdened with the dual tasks of modernizing traditional industry and informationizing industry, higher education takes the responsibility of developing intellectual resources. China's former leader, Deng Xiaoping, once pointed out: "Our national strength and economic development momentum in the future increasingly depends on the quality of the labor force, depends on the quantity and quality of intellectuals. A country with a population of one billion with good education cannot be surpassed by any country in its advantageous talent resources". He highlighted the development of science and technology, and the cultivation of talents in a strategic position related to the destiny of socialism. Although China has taken part in the worldwide high-tech field at the same time, the emphasis on how to effectively enhance the whole nation's scientific and cultural quality is crucial for socialist modernization. Consequently, one of the important goals is to enhance the whole nation's scientific and cultural quality, and to train scientific and technological talents adapting to the development of modernization.

After long-term reformation and development, the higher education of China has laid a good foundation with a driving momentum as a whole, which displays the following features:

First, Chinese higher education is basically capable for the socialist market economy system, and its further direction of reforming and development has been initially set up. On the one hand, the central government has enhanced the support for colleges and universities in economically and culturally backward regions, including "Project 211", "Cooperative construction between province and department"; on the other hand, in many small-medium cities, the Chinese government has established sorts of comprehensive higher schools in the names of their cities. Under the circumstance of market economy, these schools adapt to the differences of regional development and integrate their growth with the developing pace of local society and economy. The funding system for higher education is featured by government-centered financial provisions with the assistance of raising money from different channels. What's more, the higher education system of China deserved a wild microcosmic base to get with the socialist market economy institution, which means that reformation and development turned a host of colleges and universities into community—oriented legal entities with independent rights of running the schools in terms of thinking, management, curriculum setup, enrollment and employment and raising education funds. Therefore, the higher education of China has been formed into an interactive institution between government and society preliminarily, and the developing model has also changed from "The Limitation of Resources" into "The Restriction by Requirement", the novel system whose establishing body, managing body and running body are different, but related.

Second, we have learned more about the fundamental rules of higher education's development thus can schedule and promote the reforming and growth of it more actively. With the help of recent years' experience in reforming and growth, especially our experience in booming enrollment, understanding the law of the reforming and development of higher education has been escalated to a higher level since 1990's: the law "Scale, Quality, Structure and Benefit must be coordinately developed." Such law has become the essential rule for the development of higher education of China, which takes the guiding role in deepening and furthering the future development of Chinese higher education.

Third, China's higher education has entered a more steady and ordered development stage through the expansion of colleges and universities, which greatly benefits the coordinate and healthy development of higher education. After 1999, China's higher education moved into a golden age of expansion in number and scale and has realized a transformation from "elite" to "pop". The number of students in schools has increased from less than 7 million to 29.79 million, the number of colleges and universities reached 2263, higher education gross enrollment rate reached 24.2%, and the number of college students ranked top in the world. Since 2004, the development scale of Chinese higher education has been slowing down, basically keeping up with the speed of GDP growth. Therefore, China's higher education entered into a relatively stable and orderly stage, which was very beneficial for the reforming and development of the whole higher education, especially beneficial for improving the overall quality of higher education, adjusting and optimizing the structure, discipline and professional structure of the college itself. Thanks to less pressure from size and number, school conditions and some hardware construction could continue as planned, and there would be more time and energy put into the reforming of the talent training model and improving the quality and level of the administration of the schools.

Fourth, the quality of higher education is receiving more and more attention. China's central government has stressed more than once that higher education development should be put on improving quality. The national long-term education reform and development put forward clearly: to improve the quality of higher education is the core task of the higher education development and the basic requirements of constructing the powerful country in higher education. With the development of our social economy, it is necessary to cultivate more professional personnel and innovative talents; and at the same time, to accept the increasingly vigorous national demand of higher education has challenged higher education. Higher education should adhere to combine the steady development and quality improvement, but emphasize on improving the quality. At Tsinghua University's 100th anniversary, Chinese General secretary, Hu Jintao, stressed that China's schools should take improving education quality as the core and the most urgent task of educational reform and development, perfecting the modern university system with Chinese characteristics. Improving quality continuously is the lifeline of higher education, which must be run throughout school personnel training, scientific research, social services, and cultural inheritance innovation.

Confronting the future social economic development and the challenge of the post-industrial era, several respective views on how to deal with the problem of university education development and reform are described in the following:

First, update and modernize the educational ideology and educational concepts.

The concept of cultivating the "generalist" should be converted into the concept of cultivating the "specialist". Due to the long-term division of arts and sciences in Chinese traditional education, the scope of a student's major is too narrow and it greatly limits the potential ability of students within their professional fields. As a result, the structure of students' knowledge is unreasonable, and it can cause a deficiency in quality and talent. However, the development of modern technology and its application in production require people to have the ability to study and create in various disciplines and majors. It also requires leaders at all levels and modernized managers to know about many subjects including politics, economy and history. They are also required to use their knowledge to cultivate "generalists" who know something about everything.

On the other hand, the post-industrial developing trend turns elite scientists into a major force to promote social productivity and the innovation of knowledge and technology. Therefore, Chinese higher education should cultivate "generalists"; meanwhile, it should also undertake the task of cultivating "specialists" in various fields. National higher education development planning should become a necessity for ideal conversion, which is based on the layout of higher education development, taking differential installations in specific talent-training objectives in different colleges and universities. Some institutions with better teachers and conditions for scientific research should be determined as the base for cultivating the "specialist" into the elite, realizing "generalist" education and "specialist" education go hand in hand.

Second, seize the opportunity of informationization development, transforming the single "school education" system into a mature and social "life-long education" system.

The phrase "information explosion" fully reflects the character of the information era. It means the acceleration of knowledge update. Students cannot get used to society only by learning in school. We need to build an adequate educational system and to offer efficient study methods to meet the requirements of the labor force in improving their quality. At present, due to the initial framework of coexistence of diverse educational forms and the overall situation of running schools from various channels, a boom in correspondence university, broadcasting television, adult education and private school is happening. With the development of Chinese information construction, the spreading of personal computers and networks, family education, school education and social education are more closely related. A network education system is taking shape and a social "life-long education" system has been a tendency.

With the deep development of the new industrialization, the structural adjustment of China's industry has been confronted with the structural shortage of human resources, that is to say, on the one hand, the development of high-tech industry, information technology and service requires a great deal of labor force highly qualified in their skill, scientific knowledge and culture; on the other hand, a large quantity of the surplus rural labor force and the increase of population of laid-off workers of state-owned enterprises lead to high employment pressure. Therefore, the development of vocational education and the improvement of workers' quality and employment ability has become an important issue in reforming the educational system. To meet the market economy, education serving economic development in China must be focused on developing vocational education and it's also one of the essential parts of establishing a "life-long education system ". At present, the campus of Yili Normal University located in KuiTun city is being transformed into a vocational school. It is believed that in the near future, a high-level technical school geared to northern Xinjiang in its new industrialization, modernized agriculture, animal husbandry and urbanization will be set up as the cradle for talent to meet the needs of the service and tourist industry.

Third, realize the modernization of teaching contents and teaching methodology through information and internet network technology.

The reforming of teaching materials have been under the spotlight of teaching reform - for old materials have a direct and negative affect on teaching quality. The network of Chinese education and scientific research has been founded and linked with international academic computer networks, which is a convenient access and shortcut for Chinese universities and colleges to the world's scientific and technological information. Such sharing of information

on international leading technology assures the beaming position of Chinese universities and colleges in scientific research. Besides, the popularity of the information technology will reform the teaching methods profoundly. Let's take Yili Normal University as an example, where the traditional teaching style with "one chalk and one blackboard" has been replaced by multimedia classrooms. As a result, teaching efficiency and quality have both been improved. The comprehensive use of audio-visual instruction, such as through remote computer networks, TV, projectors and cameras, which can fully arouse the students' sight, hearing, touch and other senses, greatly enhances the vividness, visualization, and reality of teaching content, and fully mobilizes the students' learning interests and initiatives, helping to cultivate the students' intelligence such as observation, concentration, and memory. Besides the application of multimedia teaching mode, the development and application of network technology also set free the sharing of teaching resource of high quality from space and time. The satellite communication and rapid broadband network help students in remote colleges share the teaching resources from advanced colleges and universities in developed areas. The technological progress facilitates the narrowing of the educational development gap among different regions. Let's take Yili Normal University as an example where the university is the base for bilingual teacher training including the plan for special classrooms for remote education. Such a project will realize the sharing of remote teaching resources with our partner colleges such as Northeast Normal University and Nanjing University. The remote education contents will be transmitted live, which provides our school with a new driving force to improve the educational level.

Generally speaking, the era of post-industrial society is both a challenge for higher education and a rare developmental opportunity. Only by deeply understanding the connotations and characteristics of the post-industrial era, closely integrating with the higher education developmental purpose, deeply studying higher education teaching methodology, continuously developing modern educational technology and conforming to social trends, can we easily tackle such challenges and seize the rare opportunities bestowed by the times for the development of higher education and aiming to transform higher education into a powerful booster for national and social development.

CURRENT STATUS AND PROSPECTS OF UNIVERSITY PARTNERSHIPS: THE EXAMPLE OF THE PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA

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The Peoples' Friendship University of Russia, Russia

This article discusses the current status and prospects of university partnerships, using as an example the Peoples' Friendship University of Russia. The theme of university partnership in our context has actively developed during the last few years. At the moment, Russian universities use consortium agreements in order to actualise and create partnerships. There are two ways of doing this: the decision can be made on a governmental level or/and on a university level.

The 'Education Act' is one of the forces that make university partnerships easier. This legislation identifies the potential participants of the network to be involved in the partnership: scientific, cultural, sportive, religious and other organisations that have the resources that are needed in order to accomplish the goals of the partnership. The draft of this Act includes the following collaborative programmatic matters:

- Joint activities of organisations engaged in educational activities aimed at enabling students to develop an educational programme using the resources of several organisations engaged in educational activities;

- The acceptance of the results of the developed curriculum programme. This includes courses, subjects, and modules and so on.

Article 109, Chapter 14 of the Education Act, "Participation in international cooperation," requires that Russian organisations and citizens of Russia take part in cooperative international undertakings in education enter into agreements with foreign organisations and citizens in accordance with the laws of the Russian Federation, other forms provided by Federal law, and other normative legal acts of the Russian Federation, including those that address networking with foreign organisations engaged in educational activities.

The Peoples' Friendship University of Russia is a member of three international education consortia and two Russian ones. Three international educational consortia in which the Peoples' Friendship University of Russia is a participant are especially important:

- The University Network of the CIS, with the support of the Interstate Fund for Humanitarian Cooperation of CIS Member States, which was created on the 11th of June in 2009.
- The Network University of Shanghai Cooperation Organisation that was established with the support of the SCO in 2009.
- The Venice Consortium for Human Rights at the UN. Entry into this Consortium took place on the 15th of July, 2009.

The above-mentioned international education consortia, all supported by international organisations, have different areas of training and different numbers of participants. The table below illustrates these differences:

	CIS	SCO	EIUC
Number of Participants	22 universities from 9 countries	59 universities from 5 countries	44 universities of Europe
Education	MA: joint courses	MA: inclusive	MA: inclusive
Number of students	More than 300	More than 15	59
Financing	IFESCCO, the budget of the Russian Federation, the national budgets of the CIS	Budget of the Russian Federation, the Federal Program	Budget of the Russian Federation, the UN
Faculties of…	Economy, Philology, Jurisprudence, Humanitarian sciences	Ecology	Jurisprudence

The University Network of the CIS

The CIS development of academic mobility for students doing a joint master's degree includes the following academic programmes: "Jurisprudence" in international law, "Management" in the management of international projects "International Management," "International Economics," "Philology" in Russian Language and Literature, and "International Relations."

The main objectives of the Consortium are to accomplish the following :

- – Creation of a single (general) education area of high schools of the Commonwealth of Independent States through the implementation of joint educational programs and the organisation of "inclusive education."

- – Establishment of mechanisms for the development of academic mobility of students and teachers in the Commonwealth of Independent States;

- – Promotion of intercultural dialogue among students; promotion and enrichment of culture, language, historical and national traditions of the peoples of the Commonwealth of Independent States.

The People's Friendship University is the initiator and the parent organisation of the CIS Network University. Our university has the central part of the organisational and methodological work, as well as interaction with national ministries, including financial support related to the IFESCCO CIS Network University.

The Network University of Shanghai Cooperation Organisation was established with the support of the SCO in 2009, and now has some 59 member universities from Russia, Kazakhstan, China, Tajikistan, and Kirgizstan.. The main objectives of the Consortium are to accomplish the following:

- The SCO development of academic mobility for students doing the following academic programs: "Ecology," "IT and Nanotechnologies", "Regional Studies" and "Energy Studies."

In this consortium, the People's Friendship University plays a key role in the Ecology course. Our mission is to unite all of the schools in this programme, to develop joint curricula, and to enroll students from the partner universities.

On the 1st of June, 2010, the Peoples' Friendship University joined an agreement on Venice Consortium for Human Rights to develop joint educational programmes in the field of human rights with the Office of the High Commissioner and 44 European universities.

The teaching of MA students, specialising in human rights, is provided at a high level of academic training. The programme is innovative in both its content and form.

So, what does the participation in the consortium provide to the Peoples' Friendship University and other Russian institutions of higher education? What benefits do we receive?

Why should other universities implement this model of partnership? And how can partnerships and networks benefit universities more generally? The answers to these question are not insignificant; such partnerships and cooperative networks:

- facilitate the use of new educational technologies in the learning process.
- encourage cooperation with international organisations.
- result in an increase in academic exchanges.
- allow the benefits of multilateral agreements to also become bilateral agreements.
- expand the range of educational programmes offered by the software to integrate with other universities, including Russia.
- improve the quality of education, including taking into account the quality of training by the partner universities.
- expand international cooperation.
- provide additional opportunities for advertising to recruit students.
- maintain and improve the competitiveness of the university in the external and internal markets of educational services.
- help to upgrade of the university within the country and abroad.
- facilitate the integration of logistics and human resources of educational institutions participating networking (teachers, educational support and administrative staff).

Thus, the prospects of the international partnership of Russian universities in the implementation of educational programmes in various regions of the world (Europe, CIS, SCO, APEC, etc.) are broad and we believe have great prospects.

INTERNATIONAL RELATIONS AT THE UNIVERSITATEA BABEŞ-BOLYAI

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Universitatea Babeş-Bolyai, Romania

Our University is a dynamic, but also traditional institution, with deep roots in Central Europe and strong international academic ties. Its origins date back to 1581, which makes it the oldest institution of higher education in Romania. It was named after two prominent Transylvanian scientists – the Romanian biologist Victor Babeş and the Hungarian mathematician János Bolyai. Located in Transylvania, a European province with a complex history, Universitatea Babeş-Bolyai is the crowning achievement of a long series of attempts to establish here a higher education institution. Thus, the University's international recognition is manifested in different forms of collaboration and joint scientific programmes with other well-renowned universities from all around the world.

It is the largest Romanian university (approximately 45,000 students and 1,700 faculty staff), situated at the confluence of the Eastern and Western cultures. As an academic public institution, its aim is to promote and sustain the development of specific cultural components within the local, regional, national and international community.

Situated in a geographical area characterised by the presence of diverse ethnic and religious groups, the University benefits from a multicultural and multilingual environment that gives it its unique character and it offers complete studies in Romanian, Hungarian and German.

The multilingual and multicultural profile of Universitatea Babeş-Bolyai, developed in compliance with the 1995 Universitatea Babeş-Bolyai Charter, has brought considerable advantages to every historical community of Transylvania – Romanians, Hungarians, Germans, Jews, and others –, reflecting not just the demographic structure of population, but also its historical heritage. At this main Transylvanian university, around 31,188 Romanians are studying (251 fields of study at undergraduate level and 225 master programmes; 24,414 undergraduate students, and 6,774 graduate students); 21 Faculties (of 21) provide training in Romanian at this university. Numerous Hungarians study in their mother tongue (72 fields of study at undergraduate level, and 31 master programmes; 4,780 undergraduate students and 783 graduate students, plus 2,831 Hungarian students who have chosen to study in other languages). 16 Faculties provide training in Hungarian as well. Study opportunities in German language are also widely spread (14 fields of study at undergraduate level, and 6 master programmes, more than 539 undergraduate students, and 182 graduate students). 8 Faculties provide training in German language. Never before have the history, the culture, and the language of the Hebrew people been studied so systematically and comprehensively (1 field of study at undergraduate level and 1 master programme, with almost 16 undergraduate and 5 graduate students). Other ethnic communities enjoy similar opportunities to promote their language and cultural identity. The university currently has 1,800 doctoral students, while enrolment for graduate studies has reached an annual figure over 4,000.

In addition, the University lays considerable emphasis on foreign language skills and on educational programmes in widely spoken languages; therefore it provides a wide range of internationally competitive BA, MA and Ph.D. programmes in English, French and Italian. Also,

in order to allow all students to study at least one foreign language, the University provides language centres and various foreign cultural centres.

Having the role of mediator at local level between Romania and various world countries, the foreign cultural centres contribute to achieving a mutual awareness of different cultural traditions through their activities made available to the general public.

There are several cultural centres carrying out their activities at our university to support the learning and understanding of our students, and other members of the University and local community. . For example, we have contributed to the inauguration of: the Brazilian Cultural Centre (2011), the Russian Cultural Centre (2011), the Confucius Institute (2009), the Korean Cultural Centre (2007), and the Polish Cultural Centre (2003).

Furthermore, there are other cultural centres carrying out their activities on the premises of our university and with our support: the Italian Cultural Centre, the French Cultural Centre, the German Cultural Centre and the British Council.

The university also has a number of institutes, such as: the Institute of Ecclesiastical History, which promotes and stimulates research in the field of ecclesiastical history in a variety of areas s (organisation, religious life, confessional schools, personalities, relations between the State and the Church, etc.) referring to all historical religions in Romania and in Central and Eastern Europe.

There is also the Cultural Institute of Cluj in Europe, which employs the strategy of highlighting, at the European level, the main cultural and multilingual accomplishments – past and present – of the city of Cluj-Napoca.

The Institute of Romanian as a European Language is an institution whose mission is to promote education and research projects, to maintain and further develop theory and practice (in the field of Romanian language as a foreign language, as a mother tongue language and as a non-mother tongue language) and to strengthen partnerships with other institutions.

The Institute of Turkish and Central Asian Studies (ITCAS) is the first of its kind in Romania, and is meant to familiarise scholars and the public with the values of the Turkish history, culture and civilisation, back to its roots in Orient and Central Asia, but also providing political and economic projections concerning the evolution of these regions. The understanding of the history, culture and civilisation of the Turkish, Orient and Central Asian world envisages the identification of the contribution of this area to the progress of humankind.

The University's assets comprise modern buildings, equipped with laboratories at high technical standards, libraries, sports and leisure facilities. Each faculty, cultural centre and research institute has its own library, all being coordinated by the Central Library. We also provide high quality support services, 15 dormitories (with a total capacity of 5,000 places), eating establishments (2 restaurants and 4 cafeterias), museums (Academic Museum, Mineralogical Museum, Zoological Museum, University Memorial Park, and Museum of Paleontology and Stratigraphy), cultural centres, language centres and other facilities, such as the Botanical Garden, and the Sports Park.

Our students benefit from outstanding educational and research opportunities under the guidance of well-prepared academic staff. Research has continuously and thoroughly been promoted throughout our University's existence, and therefore laboratories and

research centres of internationally scientific relevance have been created. In this respect, the Universitatea Babeş-Bolyai has made significant investments in the research area, in order to increase its performance and international visibility.

Cluj-Napoca is genuinely a university city animated by a vivid and colourful cultural life and entertainment possibilities. It provides both students and its long-life standing residents various museums (History, Art, Ethnography, Pharmacy, Linguistics, Romanian National Opera House and Hungarian Opera House, Puppet Theatre), leisure parks, movie theatres and movie complexes, commercial and shopping centres. Annually, our city hosts national and international film festivals (Transylvania Film Festival, Night of Ad Eaters) and various music festivals (Musical Autumn in Cluj), thus uniting people from different parts of the world in one multi-ethnic and multicultural gathering.

While belonging to the European Union area, the educational costs for studying at UBB are substantially lower than in most parts of the EU. The average tuition fee per 10 months at our University is around $3,200 - $3,400, covering all needs, for students from non-EU Member States. For students from countries within the EU, the tuition fee is the same as for Romanian students. Furthermore, in order to assist international students, our University gives average information concerning the living costs in Cluj-Napoca.

Accommodation	800 - 3,000 €/year
Meals	600 - 1,200 €/year
Books	70 - 140 €/year
Clothing, personal objects	700 - 1,000 €/year
Transportation	100 - 250 €/year
Theatre, Sports, Entertainment	100 - 250 €/year
Others	200 - 500 €/year
Total living costs	**2,570 - 6,240 €/year**

The cooperation agreements concluded by our university go far beyond the European continent, to North America, South America, Asia, Australia and Africa.

In the field of humanities, Universitatea Babeş-Bolyai has concluded inter-university agreements with the University of Stellenbosch (South Africa), the Archives and Museum of Literature in Brussels (Belgium), the Cooremans Institute of Brussels (Belgium), the Free University of Brussels (Belgium), the Catholic Institute for High Commercial Studies (Belgium), the University Québec à Montréal (Canada), the University of Montréal (Canada), the University of Ottawa (Canada), the Zhejiang University of Science and Technology (China), Seoul National University (South Korea), Dongguk University (South Korea), the University of Geneva (Switzerland), the University of Lausanne (Switzerland), the University of Fribourg (Switzerland), the University Michel de Montaigne Bordeaux III (France), the University of Caen Basse-Normandie (France), the University Auvergne Clermont I of Clermont-Ferrand (France), the University Pasquale Paoli of Corsica (France), the University Joseph Fourier - Grenoble I (France), the University Pierre Mendès France Grenoble - Grenoble II (France), the University Stendhal - Grenoble III (France), the University Charles de Gaulle Lille III (France), the University of Limoges (France), the University Claude Bernard Lyon 1 (France), the University Paris XII Val-de-Marne (France), the Catholic Institute of Paris (France), the Pädagogische Hochschule Ludwigsburg (Germany), Friedrich-Alexander-Universität of

Erlangen-Nürnberg (Germany), the Carl von Ossietzky Universität of Oldenburg (Germany), the University of Rostock (Germany), the Otto-von-Guericke-Universität of Magdeburg (Germany), the University of Regensburg (Germany), the Università degli Studi di Roma "La Sapienza" (Italy), the Università degli Studi di Roma Tre (Italy), the Università Cattolica del Sacro Cuore of Milano (Italy), the Università degli Studi della Tuscia of Viterbo (Italy), the Università degli Studi di Firenze (Italy), the Università degli Studi di Pisa (Italy), Kobe University (Japan), Staffordshire University (U.K.), Jagiellonian University of Krakow (Poland), the University of Porto (Portugal), Mordovia N.P. Ogarev State University (Russia), N.I. Lobacevski State University of Nijni Novgorod (Russia), the Universidad Complutense de Madrid (Spain), Yeditepe University (Turkey), Çankırı Karatekin University (Turkey), Yuriy Fedkovich National University of Chernovtsi (Ukraine), Uzhhorod National University (Ukraine), Pázmány Péter Catholic University (Hungary), Debrecen University of Reformed Theology (Hungary).

Also, at the Faculty level, the departments within our university have concluded inter-departmental cooperation agreements in the fields of theology (with the University of Lugano – Switzerland), philosophy (with Jadavpur University – India), theatre (with Victoria University of Wellington – New Zealand), etc.

Responsibility for the implementation of all decisions regarding the international relations at our University, including the cooperation agreements signed with different international partners, rests with the Centre for International Cooperation. The Centre was founded in 1991, under the name of the Office of International Relations and Academic Image, with the aim of using the opportunities for international cooperation at UBB, within an adequate institutional framework and in the new democratic regime. In 1995, the Office was transformed into the Department for International Relations and Academic Image. The current name was adopted in February 2000, and, following its reorganisation at the beginning of 2009, two offices now operate within the Centre for International Cooperation:

- The Office for Cooperation Programmes, in charge of initiation, negotiation and administration of cooperation with foreign institutions, with affiliation to academic international networks, and central cooperation with the industry.

- The Office for Student Exchanges and International Students, in charge of exchange programmes for students, teaching and administrative staff, with the recruitment of international students, and with the promotion of community and international programmes for higher education

The Centre for International Cooperation is a structure that offers assistance and consultancy to different categories of beneficiaries – the faculties, the teaching staff and students, and the partner universities. CIC intends to render efficient the services offered to the beneficiaries and assumes, at the same time, the role of creating new opportunities.

The activities carried out by the Centre for International Cooperation include:

- The development, promotion and implementation of the internationalisation strategy of UBB;

- Organising and extending the international relations at UBB;

- The promotion of joint study and research programmes;

- The promotion of the educational programmes offered by UBB at an international level;

- The coordination, administration and evaluation of European programmes, promotion of international participation of the University in programmes such as ERASMUS, CEEPUS, LEONARDO DA VINCI, DAAD, TEMPUS, ATLANTIS, etc.;

- Organising summer schools and the international reunions under the auspices of the Rector's Office;

- The recruitment of international students;

- Organising orientation seminars and monthly reunions with international students;

- Informing the general public on opportunities of international cooperation, possibilities to study and experience a different educational culture and academic environment, as well as the possibility to obtain a degree from prestigious European, Asian, American, and Canadian universities;

- Offering consultancy and assistance to the applicants for the U.S. Fulbright Program (incoming and outgoing);

- Editing and publishing informative materials for foreign citizens (students and teaching staff);

- Organising international mobility for teaching staff, researchers, students, and administrative staff;

- Facilitating access to international programmes;

- Informing prospective international students and teaching staff about participation in exchange programs at UBB, as well as about the admission/employment procedures;

- Facilitating accommodation in student hostels;

- The promotion of interaction between the international students, lecturers, professors, and the local community; and

- Offering assistance and counselling to international students and teaching staff throughout their stay at UBB.

Our university and its subsidiaries work continuously to promote the internationalisation of studies, not only to the benefit of students going overseas, but also to the benefit of visiting students from elsewhere, for whom we provide the possibility of visiting and living in an East-European country, which has many pleasant surprises to offer.

INTERNATIONAL COLLABORATION OF
S. TORAIGYROV PAVLODAR STATE UNIVERSITY:
SCIENCE WITH NO BOUNDARIES

Serik Omirbayev

S. Toraigyrov Pavlodar State University, Kazakhstan

One of the major tasks of Kazakhstani higher school at the current stage of development is the integration of education and science into the broader world educational space, in which the principles of the Bologna process are being implemented. . Kazakhstan has been a full participant in the Bologna process since 2010, thus indicating its intention to modernise and optimise higher education and to bring its higher educational institutions into conformity with international higher educational norms and practices. The significant amount of international activity of Kazakhstani institutions of higher educational is one of the major indicators of their innovative development.

For S. Toraigyrov Pavlodar State University (PSU), which within fifty years turned from peripheral technical university into state-of-the-art multifunctional and extremely innovative university, international collaboration has been a major undertaking.

When the higher school system was being reformed, the university stepped into world educational space having signed the Charter of Bologna in Italy, the 'Great Charter' of the world university community.

Today PSU is making good progress in collaboration internationally. The international activity of the biggest university of the region is directed to active integration of the university into world educational processes, providing its participation in international scientific and educational programmes, building bridges with the world's higher educational institutions, and training specialists who are able to meet international professional and scientific requirements.

The major indicator of the international activity of the university is how international experts estimate this university. In their opinion, PSU meets all major criteria characterizing innovative universities. High ratings of the university are indicative of this. PSU received high appraisal of the German international accreditation agency ACQUIN when it decided to accredit six specialties of the University in March of 2012: Auditing and Accounting, Economics, Management, Finance, Public and Local Administration, and Tourism. Accredited as well were master's degree programmes in the Faculty of Finance and Economics and the Faculty of Chemical Technologies and Natural Science.

Owing to this successful accreditation, the diplomas of graduates of PSU in these specialties are acknowledged both nationally and internationally.

In addition, PSU was one of the first Kazakhstani higher educational institutions which acquired a certificate of conformity of its quality management system to ISO 9001:2000 international standard requirements.

The University became an experimental ground for many successful pioneering ideas and approaches. This was acknowledged when PSU received a special award "For Training

Experienced Personnel" at the VI International Kazakhstan exhibition "Science and Education of XXI century - 2009" that was held in the Congress Hall of Astana.

PSU works from the principle of openness and transparency. The cornerstone of future employment and career advancement for university graduates depends on how successful the higher education institution was in entering the world educational space.

One of the effective ways that PSU has done this, in the light of integration into European area of higher education, is through the development of the increased academic mobility of lecturers. Currently, the government provides huge financial support for the development of academic mobility of the learners. Indeed, the financial investment provided by the government is unmatched in the rest of the world. In other countries, various social funds are typically used for this purpose, but allocations from state budget for academic mobility – this you can find only in Kazakhstan.

Academic mobility of learners and professional and teaching staff is a key element of Bologna process and it provides development of international collaboration between educational institutions and, as well, improves the quality of higher education and scientific research.

On April 17, 2012, the US Ambassador in Kazakhstan, Kennet Fairfax, presented a lecture on Kazakhstan-American relations, programs and projects at PSU. The lecture, which was attended by faculty deans, department chiefs, chiefs of organization departments of PSU, doctoral candidates, undergraduates and students, took place within the scope of two-day visit of the Ambassador to Pavlodar region. The significance of this event for the biggest regional university which successfully realized credit technology of training is inestimable, as the Kazakhstan republic credit education system is based upon the American model of credit education. This is why it is important for PSU to further expand partnership with American universities.

The international collaboration department of PSU generates the database on foreign universities. As a rule considered are rating higher education institutions and their accredited educational programs. After being selected these accredited educational programs are offered to university departments. Thus appropriate conditions are prepared for students.

In the 2011-2012 academic year, PSU students studied in such universities as Xinjiang University (China), Universidad Publica de Navarra (Spain), Technica univerzita Chemnice, Higher School of Chemical Technology, Metropolitni univerzita, Czech Technical University (Czech Republic), Collegium Civitas (Poland), Novosibirsk State Technical University (Russia), Ural Federal University named after B.N.Yeltsin, Tomsk State Architectural and Building University (Russia), Moscow State University named after M.V.Lomonosov. In total, these students completed 264 credits of coursework.

In the 2011-2012 academic year, the post-higher education learners also engaged in scientific study courses abroad. The overall number of undergraduates and doctoral candidates who took scientific study courses abroad is 50, of whom 6 were doctoral candidates. Countries of scientific study courses were the Russian Federation, China, Germany and the Czech Republic.

In return, students of foreign and Kazakhstan partner universities currently study in PSU. Altogether, they completed 330 credits.

One of the major tasks of international activity of PSU in the scope of education is the integration of higher education institution system into the global educational space. Currently there are 107 mutual collaboration agreements in educational services, including with 77 partner universities. These agreements include institutions in more than ten countries, including Great Britain, Germany, Spain, Russia, Kyrgyzstan, Mongolia, China, the USA, Turkey, the Czech Republic, Poland, and Latvia.

In 2011, PSU was visited by 40 foreign scholars from various higher schools of Russia, Germany, the USA, the Czech Republic, Turkey, Azerbaijan, Great Britain and Romania. Just within first six months, of 2012 there were 17 scholars who had worked in PSU. Among them were such scientists as Larissa Sheiko (President of International Association for Education Development), Olaf Hengerer (Heilbronn University professor), Michael Cole (professor of Anglia Ruskin University), Hans-Christian Brauweiler (Applied Sciences University Chancellor, Leipzig, Germany), Manfred Schmidt (Dresden Technical University professor), Peter Otto Althoff, Peter Hauppert, Ulrich Schmidt (experts of Fund of German Economy on International Collaboration SES), Lubomir Tsivin (Doctor of Economics, Professor, Vice-Chancellor of Prague Bank Institution), Mardakhayev Live Vladimirovich (Doctor of Pedagogics, Professor of Russian State Social University), Yuksel Hajioglu, Shahdi Evren Shehker, Esra Sungur, Oljay Kushrun, Fethi Ahmet Yuksel (Professors of Stambul University).

The purposes of professors' visits included lecturing on selected disciplines (the majority of which were presented in English, thus favouring development of linguistic skills among students, undergraduates, doctorate candidates and lecturers), carrying out of information trainings and consultations in the course of which the modern techniques and study programs with professional and teaching staff were being implemented, professional development of professional and teaching staff, improvement of education services quality, exchange of experience with foreign colleagues, and finally, analysis of the best practices of certain universities.

A significant event in the history of the university took place with the official visit of Canadian Noble prize winner Robert Mundell, "the father of euro" (as he is being called across the world) during May 21-23, 2012. He presented a lecture on, "The analysis of monetary and fiscal policy in the framework of various exchange rate regimes: Analysis of optimal currency zones."

PSU is one of the first regional universities in Kazakhstan that saw lecturing by a Noble prize winner. In the course of R. Mundell's visit to PSU, one of the lecture rooms was named after him, and he was given a Chair as an Honorary Professor of PSY.

Duirng June 4-16, 2012, PSU was visited by German scientist Bastian Baumann, a member of expert international committees in education, and a well-known specialist on implementing quality management system in education in Europe and USA. B. Baumann presented a series lectures entitled "Management in education" for management team and professional and teaching staff.

In June, PSU was also visited by a group of scholars, authorities in linguistics, from Russia, Ukraine and Poland. They lead the summer semester for the philology department students. Among these scholars were the chief of Kemerovo Regional Department of the Russian Association of Cognitivists-Linguists, Doctor of Philology, Professor M. V.Pimenova, study management vice-principal of Linguistics Institution named after A.A.Potebnya of National

Academy of Sciences of the Ukraine, Doctor of Philology, Professor V. M. Britsin, and senior staff scientist of Ukrainian Language Institution of National Academy of Sciences of the Ukraine, I. A. Kazimirova. It should be noted that the lectures were attended not only by students and employees of PSU, but also by representatives from other universities in the Pavlodar region. As a result of this visit, the Pavlodar Division of the Russian Association of Cognitive Linguistics was established, and an agreement on scientific collaboration with National Academy of Sciences of the Ukraine was signed.

On July 10, 2012, George Gamota gave a lecture entitled "Innovations: from laboratory to market." Gamota is an expert in developing research and experimental activity, has long-term experience in science and technology, business development, and technologies commercialization in higher education. George Gamota headed a research and development institution and a number of innovative companies. He, as well, is the author numerous publications on technologies elaboration and the development of innovative businesses in the USA, Japan, New Zealand and Ukraine. In the course of his lecture professor Gamota discussed the mechanisms for creating innovations and, as well, recounted the role of government, culture and system of education in developing innovative projects.

Actively drawing on foreign lecturers and guests promotes the expanding of international collaboration, thus integrating PSU into the global scientific and educational space.

In this respect, one can consider the systemic and stable character of international relations with foreign scholars to be a serious breakthrough for PSU. Their fruitful but brief visits happened to be habitual practice for university. Foreign lecturers actively partake in study process of PSU, read lectures in disciplines. Consult young lecturers, undergraduates and students.

The trajectory of innovative scientific and research activity of PSU is determined by priority scientific trends emphasized by the President of the Republic of Kazakhstan N.A.Nazarbayev in the State Program of Forced Industrial and Innovative Development of Kazakhstan for the period 2010-2014.

Currently a large-scale program is being realized in developing PSU as the innovation-oriented university with heavy emphasis placed on implementing innovation into both the study process and scientific research, with close links to industry and international integration. In other words, science in PSU favors improving of education while close collaboration with foreign universities and huge international corporations will, in the future, allow the university both have exchange of ideas and technologies and realize joint educational international projects, and to obtain the state-of-the-art equipment for training and research.

It is today when PSU scholars actively elaborate scientific projects in the direction of the most urgently- needed fundamental and applied research. Only over last year scholars of PSU carried out a number of significant innovative research and development investigations including: elaboration of nanotechnological method of water sterilization through complex electric discharge for human settlements of the Republic of Kazakhstan; investigation of biological peculiarities of fen-cricket with the view of developing biologicals for limiting the development of tuberculosis in the animal organism and its prophylactics; investigation of cultural and household complexes of Neolithic-Bronze period of Borly 4 settlement (Pavlodar region) etc.

These very research studies resonate with   the international scientific community and this is especially important for international integration of Pavlodar State University. Thus in the course of study carried out by scholars of PSU to investigate the unique complex of Neolithic and Aeneolithic settlements at Borly lake in Liebyajie area of Pavlodar region, there were found new materials never experienced before at the territory of Kazakhstan. It is possible that this is the settlement of an absolutely new archeological culture of Aeneolithic period. Initial results of these researches has provoked great interest among foreign scholars, quite a number of whom had wished to partake in investigation of these relics.

Collaboration and communication with foreign scholars are very important for PSU since we live in the epoch of modernization of science and education systems; we witness radical transformations in this field, the transfer to world educational standards which is a complex and versatile process. Close and fruitful international collaboration in the scope of science and education is the shortest path to successful integration into global educational space.