TWINNING AZERBAIJAN

Support to the Ministry of Education of the Republic of Azerbaijan for Further Adherence of the Higher Education System to the European Higher Education Area (AZ-ad-EHEA)

**AZ/14/ENP/OT/31**

**EU Short Term Expert Mission Report**

**1. Basic Information**

**Component 3:** Developing Azerbaijan Qualification Framework

**Activity: 3.3.** **Aligning HE Qualifications and Curricula** - Developing Doctoral study programs

**Names of the Experts:** Mr. Karl-Erik Michelsen, Mr. Mati Heidmets

**Dates of the Mission:** 27 June - 1 July 2016

**Contractor:** Finnish Education Evaluation Centre (FINEEC) /

Estonian Quality Agency for Higher and Vocational Education (EKKA

**2. Relevant Background Information/State of Affairs**

Doctoral education in Azerbaijan has long history. First degrees were awarded in the 1920s. Currently doctoral studies are carried out in universities and in the Academy of Science which is an independent scientific institution with large number of research institutions. Higher education in Azerbaijan is organized in three-cycle structure: undergraduate, postgraduate and doctorate. This structure follows the Bologna protocol which Azerbaijan signed in 2005.

Doctoral education has been recognized as an important part of Azerbaijan domestic policy in the future. In 2009 the President of the Republic approved the program to reform the higher education system in Azerbaijan and the program was carried out during 2009-2013. The goal was to improve the educational content and teaching technologies to ensure that Azerbaijan is compatible with the European system of higher education. New academic programs and scientific and methodological guidelines were issued and the governance of universities and other higher education institutions was reformed.

From statistical point of view, Azerbaijan has significant resources to conduct scientific resource. In 2014 there were 145 institutions and more than 33.000 educated scientist engaged in research. More than 2500 of them had received the highest academic degree, The Doctor of Science. In the same year more almost 12.000 professionals with PhD engaged in research in scientific institutions. Also the number of universities (53) is high compared to the size of population.

The structure of the doctoral education is an adaptation from the Soviet era. There are two levels in the system; the first level (PhD studies) are organized by universities. Students can choose to be full-time, part-time and independent PhD candidates. The timeframe for PhD varies from 3 years up to 6 years. PhD thesis is defended in the university, but the diplomas are awarded by the Higher Attestation Commission that has the power to approve or disapprove the dissertation.

The second level of doctoral studies leads to the degree of Doctor of Science. It takes officially from 4 to five years to complete studies, but in real life the time spent in this level of doctoral studies is between 6 and 10 ten years. The defense of dissertation is managed by the Higher Attestation Commission and the process is described as slow, heavy and bureaucratic.

Students who pass the doctoral education (either PhD or Doctor of Science) can continue career in academia or seek employment in private sector or administration. There are several reasons why students decide to seek degrees in higher education. PhD degree gives them better chance to advance in professional careers and ensures them higher salaries. Doctor of Science degree opens careers in academia where private research and teaching ambitions can be fulfilled.

As mentioned above, there has been several initiatives and projects to reform the higher education system in since the beginning of 2000. It may be that the gap between Azerbaijan and Europe has narrowed, but the differences are still significant and the system of higher education in Azerbaijan is not compatible with the European higher education area. This fact has been recognized and as the Nizami report (WP.1.2. report, January 2016) concludes, the system is outdated and requires immediate upgrades, improvements and changes.

**3. Objectives and Tasks of the Mission**

The objective of this mission was to analyse both the structure and function of doctoral education in Azerbaijan. Based on the analyses practical recommendations are given to improve the system.

The objectives take off from the commonly agreed goal to orient doctoral education in Azerbaijan towards the European system of higher education.

The other goal of doctoral education in Azerbaijan is to enhance the production of high level scientific and technological knowledge and to educate new generation of professional scientists and engineers.

**4. Time Schedule of the Mission**

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| **Date** | **Activities/Meetings**  BC experts met (title and institution) |
| 27.06.2016 | **Working in the Austin hotel:**  Preparing the mission, questions for theinterviews and meeting with the RTA Mr. Reijo Aholainen. |
| 28.06.2016 | **Interview in the National Academy of Sciences of Azerbaijan**: Mr. Aminaga Sadigov– Head of Science and Education Department at the Presidium of National Academy of Sciences of Azerbaijan;  Mr. Fail Kazimov - Head of Science and Analytics Unit at Science and Education Department at the Presidium of National Academy of Sciences of Azerbaijan;  Ms. Samira Rahmanova - Deputy Head of Science and Education Department at the Presidium of National Academy of Sciences of Azerbaijan;  Mr. Vagif Guliyev - Deputy Director for Scientific Affairs of Mathematics and Mechanics Institute at the National Academy of Sciences of Azerbaijan; Mr. Tofig Ahmadov - Senior Adviser, the Science, Higher and Secondary Professional Education Department, RTA  Counterpart;  **Meeting in the Ministry of Education of Azerbaijan**:  Mr. Tofig Ahmadov - Senior Adviser, Science, Higher and Secondary Professional Education Department, RTA  Counterpart;  Mr. Sulhaddin Gozalov - Head of Higher and Secondary Professional Education Unit;  Mr. Azad Akhundov - MoE, BC Component Leader III;  Ms. Zahra Jafarova - Leading adviser at Science, Higher and Secondary Professional Education Department;  Ms. Gultakin Huseynova - Head of Science Unit at Science, Higher and Secondary Professional Education Department;  **Interview in the Azerbaijan Oil and Industry University**:  Mr. Rauf Aliyarov - Vice Rector for Scientific and Technical Affairs at Azerbaijan Oil and Industry University, PhD in Geology;  Mr. Vugar Mustafayev - PhD student;  Ms. Farida Abuzarli - PhD student;  Ms. Fargana Hasanova - PhD student;  Ms. Asmar Valiyeva – PhD student;  Ms. Latafat Gardashova - Head of Doctoral Studies Department, Doctor of Sciences;  Mr. Vagif Bagiyev - Head of Scientific and Technical Laboratory at Azerbaijan Oil and Industry University, Professor;  Mr. Tofig Ahmadov - Senior Adviser, Science, Higher and Secondary Professional Education Department, RTA  Counterpart; |
| 29.06.2016 | **Interview in the Baku State University:**  Ms. Isayeva Gular - Head of Ecoclub at Environmental Education and Experiments Center of Republic of Azerbaijan, PhD student;  Ms. Roza Mammadova - Full-time PhD student at Bioecology Chair, Baku State University;  Mr. Eldar Jafarov - Lecturer, PhD student, Baku State University;  Mr. Mammadali Ramazanov - Dean at Baku State University;  Mr. Aydin Kazimzade - Vice-Reector, Baku State University;  Ms. Afet Mammadova - Head of Master and Doctoral Studies Department, Baku State University;  Mr. Ismat Ahmadov - Associate Professor at Nanomaterials Chair, Baku State University;  Ms. Ulviyya Hasanova - Professor at Organic Chemistry Department, Baku State University;  Mr. Tofig Ahmadov - Senior Adviser, the Science, Higher and Secondary Professional Education Department, RTA Counterpart;  **Interview in Khazar University**:  Mr. Ruslan Khalilov - Instructor and PhD student, Khazar University;  Mr. Adil Asadov - Head of department at the National Academy of Sciences of Azerbaijan;  Mr. Jestin Mandumpal - Instructor and researcher, Khazar University;  Mr. Shahriyar Mammadov - Instructor and PhD student, Khazar University;  Ms. Malak Karimova - Vice-Dean at School of Humanities, Khazar University;  Mr. Humeyir Ahmadov - Education Problems Institute of Azerbaijan;  Mr. Jeyhun Mammadov - Head of Economic Department, Khazar University;  Mr. Mahammad Nuriyev - Vice-rector for Academic Affairs, Khazar University;  Mr. Eldar Shahgaldiyev - Head of Division of Graduate Students and Research, Khazar University;  Mr. Tofig Ahmadov - Senior Adviser, the Science, Higher and Secondary Professional Education Department, RTA  Counterpart; |
| 30.06.2016 | **Interview in Qafqaz University**:  Mr. Cihan Bulut - Vice-rector for Academic Affairs, Qafqaz University;  Ms. Sevil Imanova - Vice-rector for International Affairs, Qafqaz University;  Mr. Nasimi Kamalov - Head of Master's Degree Studies Department, Qafqaz University;  Mr. Fakhraddin Isayev - Mathematics and Information Science Department, Qafqaz University;  Mr. Vugar Muradov - Independent researcher, Qafqaz University;  Mr. Tofig Ahmadov - Senior Adviser, the Science, Higher and Secondary Professional Education Department, RTA  Counterpart;  **Interview in the Azerbaijan State Economics University:**  Ms. Esma Ismayilova - Employee at International Economics Chair, Azerbaijan State Economic University;  Mr. Hamid Hamidov - Head of Doctoral Studies Department, Azerbaijan State Economic University;  Mr. Fariz Guliyev - Deputy Director at Business School, Azerbaijan State Economic University;  Mr. Fakhri Mammadov - ISE Project Manager, Instructor, Azerbaijan State Economic University;  Mr. Anar Kazimov - Head of International Relations Department, Azerbaijan State Economic University;  Mr. Sakit Yagubov - Director at Science and Innovation Center, Azerbaijan State Economic University;  Mr. Azad Akhundov - BC Component Leader III; |
| 01.07.2016 | Reflection of the week with RTA, assistants and MoE representatives:  Mr. Tofig Ahmadov - Senior Adviser, the Science, Higher and Secondary Professional Education Department, RTA  Counterpart;  Mr. Azad Akhundov -BC Component Leader III, MoE;  Mr. Sulhaddin Gozalov - Head of Higher and Secondary Professional Education Unit, MoE;  Ms. Zahra Jafarova - Leading adviser at Science, Higher and Secondary Professional Education Department, MoE |

**5. Achievement of the Expected Results**

The aim of this mission was to assist Azerbaijan authorities and relevant stakeholders to improve and reform the higher education and research system to be more in align with the European Union higher education area. This mission focused specially on PhD programs. Foreign experts were expected to gain during the mission:

- Good understanding of the current situation of the PhD education in Azerbaijan.

- To pinpoint mismatches and bottlenecks which slow down and hinder harmonization of the Azerbaijan PhD education and research system with European practices.

- Provide a roadmap for reforms to future doctoral degree programs;

**Problems/mismatches**

We were able to locate several problems in the PhD programs and in the governance of the programs, which are foreign or even contradict the common practices in the European Higher Education area:

1. Structure of the programs and human resources:

* Two level doctoral degrees, PhD and Doctor of Sciences. This is a heritage from the Soviet era and non-existing in any European country.
* -PhD programs don’t use credit system that is based on points. Also doctoral studies are without clear curriculum structure.
* -Higher attestation commission has strong powers to control dissertation process and to provide diplomas;
* Immigration law requires that at least 80% of the university staff should have Azeri citizenship;
* Supervisors for PhD candidates must have Doctor of Science degree. This is outdated requirement, because about 70% of potential supervisors are older than 65 years;

2. Malfunction of system:

* Only about 10% of PhD students graduate in time. Fulltime students are required to finish studies in 3 years and part-time students in 4 years.
* There is a clear lack of research infrastructure and support services. There is no free access to electronic databases and foreign scientific journals.
* There is weak international component in the PhD studies. Students publish mostly in national language and very few participates in foreign exchange programs;
* Dissertations are written in the form of monograph instead of article-based dissertations.

3. In-efficient use of resources:

* Currently the higher education system and PhD – programs in Azerbaijan are too costly because there are two parallel systems co-existing. Academy of Sciences employes more than 11 000 staff members and additionally there are 53 universities and several research institution. This heterogenous system of research results in-efficient use of financial and human resources. Salaries are low and the status PhD studies are also suffering from low status. Universities and Academy of Science has difficulties in attractin best talents and brains.
* There are several governmental institutions that govern and micro manage universities. This creates overlapping actitivies that eat up scarce resources.

**6. Unexpected Results**

No unexpected results occurred.

**7. Issues Left Open After the Mission**

The purpose of the mission was fulfilled and no issues were left open at the end of the mission.

**8. Recommendations for Future Missions**

It is very important to maintain the momentum of change. Higher education systems are slow and institutes often resist radical and also conservative changes. There are plenty of hidden power structures which become vulnerable when reforms are introduced. Therefore, there should short, midterm and long term reforms taking place in parallel. Short term changes should be implemented quickly to achieve positive results that bring positive energy to the academic community. Midterm reforms are more fundamental and their progress should be monitored carefully. Long term changes result from successful short and midterm changes.

We recommend that international group of experts assists Azerbaijan authorities and professional conducting this very important process. In the near future is needed at least missions for quality assurance, evaluation of contents of doctoral programs and internationalization of science.

**9. Conclusions and General Remarks Concerning the Project**

As a general conclusion we state following: Higher education system in Azerbaijan has all necessary elements in place. There are enough institutions, enough educated and trained scientists and enough government agencies to govern the system. Although we don’t have exact information regarding funding the system, we assume that there is no serious lack of financial resources that would hinder the development of the system. All interviews emphasizes the will of scientists and also administrators to engage in major changes of the system. What is, therefore, needed is a strong political action that would push the reforms in action. We want to emphasize that no foreign model could be implemented face-value in Azerbaijan, but foreign models are useful instruments and tools when the system undergoes radical changes. We also received positive feedback when concrete examples were given from Estonia and Finland on how similar reforms have been made and how the process has been handled accordingly. Finally we want to emphasize that no time should be wasted, because scientific environment to day is challenged by fundamental changes in society, economy and environment. Hence, the capability to produce new knowledge is and will be tremendously valuable asset and it cannot be replaced by transfer of knowledge or any other means.

Experience from several countries indicates, that reforming Soviet-type higher education programs is possible. In Estonia during 1993-1996 the national Academy of Sciences was transformed into personal academy, all research institutes of Academy were merged to universities. This boosted the research capacity of universities and helped them to improve the quality of the PhD programs. It also rationalized the use of financial resources that lead to the rise of salaries of researchers. During the reforms a large variety of higher education institutions (more then 30) were merged into 4 public universities and 2 academies (arts and music) which are currently responsible for teaching and training PhD students in Estonia. They are autonomous scientific institutions with full powers to issue academic degrees.

In order to assist Azerbaijan on this future path, we recommend following actions and reforms:

1. Training of high level researcher is currently done in too many institutions. Therefore, we find it necessary that doctoral programs should be concentrated in the large and well equipped universities that have passed rigorous quality assurance evaluations.
2. The two level PhD- degree program should be abolished and and replaced by one level PhD – degree that is compatible with the PhD programs in the European higher education area.
3. Dissertation work should evolve from monographs into article based dissertations. At least four peer-review articles + intellectually stimulating summary is needed to complete doctoral studies. Article based dissertation connects PhD students in the international scientific networks. In addition, objective peer review process validates dissertations and improves supervision.
4. Universities shold be given full autonomy in scientific matters. They are the place where scientific research is done in the future. This process requires quality assurance system that will evaluate scientific functions in the universities. Those institutions that pass the rigorous evaluation, should be granted rights to design and conduct programs that aim at BA, MA and also PhD degrees.
5. When the universities have achieved autonomy, there is no need for Higher attestation commission anymore.
6. Governance of higher education system should be changed to support and provide best possible infrastructure and environment for scientific research.

- Ministry of Education should cease to micro manage universities and adopt the role of science policy maker.

- Ministry of Education should take an active role in building networks and contracts with the European higher education area.

- Ministry of Education should provide funding for expensive and large-scale research infrastructure projects that will be used by all higher education institutions.

- The role of Academy of Science should be reconsidered. Reseearh institutions and researchers should be relocated into the universities where the scientific research will be conducted in the future.

- Academy of Science should evolve to be a research funding agency, whose responsibiity is to design research programs and projects and to allocate research funding to the universities.

1. The scientific content of the doctoral programs should be re-design to assist PhD students to conduct high quality research. For instance, current mandatory course on philosophy should be replaced by courses that enhance skills in research design, methodology and writing a peer review article in English language.
2. Research infrastructure and environment should be improved by providing all PhD students and professional researhers a free access to electronic databases and foreign publications. In addition new laboratory and research facilities should be built and contracts with other countries signed to get access to national and transnational research infrastructure (for example CERN).
3. PhD students should have good and open access to international exchange programs and at least six months training abroad should be required from all students. In addition supervision of PhD studies should be given to domestic as well as international scientific experts.
4. To promote the internationalization of Doctoral programs there should be considerable investments in improving English language skills of students and staff. Additionally foreign experts need to be invite to serve as opponents and members of the defense panels. Efforts should be made to open doors for international PhD student exchange programs.

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