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RESTRUCTURING AND DEVELOPMENT OF DOCTORAL  
STUDIES IN AZERBAIJAN IN LINE WITH REQUIREMENTS  
OF EUROPEAN HIGHER EDUCATION AREA

**WP 1.2 Report**

State of the Art on Doctoral Studies in Azerbaijan

**Ministry of Education of the Republic of Azerbaijan**

**Baku State University**

**Khazar University**

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## FOREWORD

After joining the Bologna process in May 2005 in Bergen, Ministry of Education of Azerbaijan elaborated an Action Plan and by the appropriate Order of the Minister of Education “Plan of activities on implementation of the requirements of Bologna Declaration in higher education system of the Republic of Azerbaijan for 2006-2010” was adopted. This Plan stipulates modernization of multi-tier system of higher education, transfer to credit system, elaboration of new Diploma Supplement in compliance with UNESCO/Council of Europe.

The teaching and methodological leadership over all higher educational institutions functioning in the Azerbaijan Republic, regardless of its type of ownership and subordination, as well as supervision over quality of teaching and learning process at these institutions is conducted by the Ministry of Education. The Ministry of Education reports to the Cabinet of Ministers.

At today two phases of higher education as proposed in Bologna Declaration was implemented in Azerbaijan higher education system. At the first level of higher education, i.e. at bachelorship level a general course provides opportunity for gaining general scientific, humanities and specialized applied knowledge in the areas covering relevant fields of activity. The duration of full-time bachelor degree education is 4 years. The bachelor degree study is implemented according to teaching plans developed on the basis of standards relevant to certain areas (specialties) and approved by the Ministry of Education. Graduates of bachelor level write degree work and defend it before the State Attestation Committee.

Establishment of the second, i.e. master level of higher education in Azerbaijan was implemented during 1997-98 academic year. According to the Education Law of the Azerbaijan Republic, the most talented and promising specialists conferred with bachelor degree are retained in magistracy on a competitive basis. Graduates of higher educational institutions delivering only bachelor level can also apply for participation in competitions for magistracy. Magistracy is delivered full-time. The official duration of magistracy depends on master education programs and ranges between 1,5-2 (part-time 2,5) years subject to specialty. During the final semester of the magistracy the students defend master thesis.

There is an urgent need for Azerbaijan universities and ANAS to revise the rules and content of organizing doctoral studies - the third level of high education in Azerbaijan within the Bologna process documents in terms of their consistency, especially in ensuring science and research provisions in relevance with EU standards, to fulfill the students' mobility - one of the basic provisions of Bologna process.

Figures (number of HEIs and others) in the document may contain minor inaccuracies due to the fact that the Education System of Azerbaijan Republic is still under extensive reform. Restructuring and mergers of HEIs and other changes are continuously implemented.

## GENERAL INFORMATION

### Higher Education System in Azerbaijan

- ECTS fully adopted and Diploma supplement issued
- Quality assurance mechanisms
- At institutional level – quality assurance departments – self assessment, surveys, improvement oriented
- At national level – Accreditation Unit at Ministry of Education (institutional and programmer accreditation)
- National Qualification Framework – in the process of early implementation (without governmental approval)

According to the Law on Education, doctoral studies are presented as the highest level of higher education with two hierarchical levels of doctorate programs – PhD and Doctoral. The doctoral candidates fulfilling these programs are consequently given Doctor of Philosophy (in a certain field) and Doctor of Sciences degrees, respectively.

The **Ministry of Education** and the **Azerbaijan National Academy of Sciences** are the main bodies responsible for doctoral programmes. According to the presidential decree on the Improvement of the Educational System of the Republic of Azerbaijan (2000), the control of education quality control has been transferred to the Ministry of Education.

- The **Higher Attestation Commission (HAC)**<sup>1</sup> is responsible for delivering the doctoral diplomas.
- The plan of recruitment and placement of doctoral candidates based on the orders of higher education institutions and scientific organizations is approved on the basis of opinions of Azerbaijan National Academy of Sciences and the Ministry of Education and are approved by the Cabinet of Ministers of Azerbaijan.
- For the creation of Doctorates in HEIs and scientific organizations are analyzed their existing scientific potential and innovation in the field of data analysis on their performance.
- According to the Law on Education of the Republic of Azerbaijan (1992), some HEIs are autonomous. HEIs have the autonomy to determine the contents of education they provide and to draw up academic plans for the disciplines. However, HEIs need to ensure that they comply with the requirements of state educational standards with a view to maintaining certain knowledge standards.
- Today the budget of HEIs in Azerbaijan is formed by the state orders and by parents of students which are planned for each HEIs (number of students). The tuition fees determined by the HEIs. The research activity of HEIs do not funded by the state. It is financed by the internal resources of HEIs.

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<sup>1</sup> [http://www.azerbajjans.com/content\\_1812\\_en.html](http://www.azerbajjans.com/content_1812_en.html)

- It is possible to set up joint doctoral programmes. In that case, the candidate will generally undertake research on both institutions and will be supervised by two supervisors.

There are 51 HEIs in Azerbaijan, 36 of which are state owned, 2 of them are branches of Russian universities, and the remaining 13 of them are private HEIs. State HEIs were mainly established during the Soviet period (although some of them began in post-Soviet times). Out of 36 state higher education institutions 19 were attached to the MoE and 17 to other Ministries. This situation has also been changed recently and those research institutes which once were under the authority of individual ministries were also shifted to the management of the MoE. Doctoral programs are implemented in 26 HEIs of MoE system and in all institutes of the National Academy of Sciences (ANAS).

According to Doctor of Philosophy (PhD) program, the period of fulltime education is 3 years, and for part-time - 4 years. Concerning the Doctor of Sciences (DS) program, fulltime education is 4 years, and part-time is 5 years. In exceptional cases, the term of study of all education forms can be extended according to respective legislation.

**Appendix A** provides some statistics on doctorate studies in the years 2010-2014, on HEIs and teaching staff.

Today, Azerbaijan has 398 professional doctorate studies programs which are endorsed by the law on "Classification of specialties in Doctoral studies" approved by the order No.65 dated March 15, 2012 of the Cabinet of Ministers of the Republic of Azerbaijan. Currently, about 135 programs (from 398) are used in doctorate studies.

<http://edu.gov.az/upload/file/emr-no641-23.04.12.pdf>

Doctorate programs and the number of doctoral students enrolled to these programs always had some lability in Azerbaijan. **The Appendix B** shows some statistical figures over a certain period of time.

The government still hold a centralized power to annually order the number of doctorate programs to be allowed to carry about admission in each HEI. Further, it can make changes to the general number of doctorates to be admitted to a given HEI, thus the final quota of admission is decided only after endorsement by the Government of Azerbaijan (GoA).

Upon successfully graduating and defending the doctorate dissertation, doctoral candidates are awarded with a doctoral diploma issued by the HAC under the authority of the President of Azerbaijan Republic.

Dissertations are defended in Dissertation Councils (DC) established by HAC, traditionally including scientists from certain HEIs and ANAS. The research potential of the institution serves as the major criterion to form the likely Council/s in the institutions. Those councils are responsible for the quality of dissertations. Currently, in Azerbaijan not all HEIs are entitled to

hold the committee for awarding PhD and DS degrees in different branches of doctorate programs. These are:

- National Academy of Sciences (24 branch Institutes)
- Ministry of Education (14 state HEIs)
- Ministry of Health (total 5 points of Dissertation Councils: 2 institutes and + 3 Centers)
- Ministry of Agriculture (2 HEIs)
- National Aviation Academy (both Philosophy Doctor (PhD) and Doctor of Sciences (DS) degrees)

Azerbaijan has a total of 47 Dissertation Councils under the umbrella of above mentioned state organizations for holding PhD and DS dissertation defenses.

## 1. OVERALL ORGANIZATION OF DOCTORAL EDUCATION

### 1.1. Admission

Doctoral studies are established at the National Academy of Sciences of the Republic of Azerbaijan, higher education institutions and scientific (scientific-research, scientific production) organizations, irrespective of their organizational-legal and ownership form. The relevant bodies, which higher education institutions and scientific organizations are subordinated to, submit plans of annual admission to doctoral studies and assignment of dissertationists to the Cabinet of Ministers of the Republic of Azerbaijan on the basis of the order of higher education institutions and scientific organizations. The plans of annual admission to doctoral studies and assignment of dissertationists are approved on the basis of the opinion of the National Academy of Sciences of the Republic of Azerbaijan and the Ministry of Education of the Republic of Azerbaijan. Admission to doctoral studies is conducted by higher education institutions and scientific organizations at fixed periods annually.

According to current regulations, citizens of Azerbaijan with a Master's degree or a medical doctor and holding "specialist" diplomas are entitled to apply for post-graduate programmes on the basis of competition.

Persons who have completed a full course of doctoral studies (also, former post-graduate courses) cannot be accepted in the same specialty again.

Candidates shall submit the following documents:

- Application (to the name of the institution or organization);
- employment history;
- autobiography;
- 2 photos (3x4 cm);
- Reference from the workplace;
- Payroll records for those with work experience;
- The list of published scientific works or essay on a chosen specialty;
- Higher education diploma duly certified copy (for citizens of Azerbaijan Republic who have been educated abroad, certificate of recognition of education documents);
- A copy of identity card

Those who wish to be admitted to doctoral studies should be take an exams on the subject of specialty, foreign language (except for the Russian language, the choice should be compatible with the free or qualifications) and philosophy.

The admission exams carry out by the commission in the related content of at least two of the doctors of sciences or professors. In exceptional cases, for the some specialties in the content of admission Commission can be included PhDs (candidates), associate professors, experienced professionals on a foreign language.

Regarding the admission procedure, candidates applying for full-time positions have to pass written exams.

During collected equal points in the competition, preference is given to those who have published scientific work and got the higher point on specialty subject.

Academic councils of doctoral dissertation of higher education institutions and research organizations, no later than 1 month from the day of their decisions about admission of candidate confirm the supervisor and the topic of his/her dissertation work.

The number of doctoral students attached to the scientific supervisor must be of not more than 5 persons. This case regulated by the higher education institutions and research councils according to the official charter (regulations) of governing.

PhD students at least once a year certification pass in accordance with the approved regulations on certification determined by the higher education institutions and scientific organizations. The process of certification is determined by the heads of higher education institutions and research organizations. According to the results of certifications, students continue their studies in the next academic year.

Doctoral academic councils of higher education institutions and research organizations, academic leaders, discuss to reports of PhD students from time to time.

## 1.2. Foreigners as doctoral candidates

### *Requirements for foreign candidates*

- Foreign candidates are allowed to apply to Azerbaijani universities and ANAS. Before applying to a particular university, the foreign candidate generally attends language classes (i.e. Russian and English) for 6 months up to 1 year. Moreover, candidates need to hold a Master's degree diploma.
- It is recognized that this lengthy check remains necessary in order to avoid counterfeit diplomas and unqualified candidates applying for PhD (such cases have been reported).
- Exams are assessed by a jury including 2-3 members of the faculty. Foreign candidates need to be in the country even before the jury makes public its decision (admit or reject the candidate's application).

## 1.3. Tuition fees

### **State universities offer two types of doctorate**

- **Free of charge positions:** these positions are subsidized by the state budget. Candidates who are already employed by the university where they are applying for a doctoral position can secure free positions. In order to benefit from these free positions, the university needs to be a financed by the Ministry of Education.
- **Paying positions:** candidates who do not work already at the state university where they are applying as well as other doctoral candidates need to pay the full tuition fees. Fees vary between 2,400 up to 3,000 euro/year, with some universities charging higher fees in some specialization areas (e.g. law, international law, mathematics).

By way of example, at Baku State University, 50% of all doctoral candidates are charged the full tuition fees and only 50% of candidates benefit from free tuition.

Regarding the scholarship, doctoral candidates studying full-time and benefitting from free of charge positions receive a state allowance of 90 euro/month. Candidates not enrolled on a full-time basis do not receive any allowance.

No other research allowance/grants are available. The majority of doctoral candidates work in order to cover their living/research expenses (i.e. at least 50% of doctoral candidates). It is widely recognized that doctoral programmes tend to be self-funded.

## 2. DOCTORAL EDUCATION STRUCTURE

The existing law on Doctorate studies envisages the education towards Doctorate degrees on both levels to be carried out on paid and unpaid (funded by the state) basis. Doctoral studies are conducted on the basis of PhD and Doctor of Science requirements which are reflected in the law “Establishment of doctoral studies and admission rules” of 01 July 2010 according to which minimum mandatory courses include the following (without successfully passing these, the doctorate students cannot be recommended for defense):

### *Mandatory Courses*

1. Philosophy (for independent Dissertation Researchers only)
2. Informatics (Computer Science)
3. Foreign language
4. Azerbaijani language (for foreigners only)
5. Major
6. Compliance exam (or a Complimentary Subject)

The classes and examination on Informatics are organized and held in a centralized way by a government institution – the Institute of Information Technology of the Azerbaijan National Academy of Sciences, but not by each HEI. Depending on a PhD researcher’s actual level of IT skills and knowledge, researchers’ Informatics classes may vary in duration. Students may take either a three-month, a one-month or a five-day course. Researchers with advanced IT skills and knowledge usually prefer to choose the IT courses with the shortest term. This is decided by the researcher him/herself upon agreement with the management of the Institute of Information Technology.

If a PhD researcher’s previous educational background (Master MA or MSc Master of Science) is different from the one chosen for PhD studies, then one (or two) additionally recommended subjects need to be taken and tested by a Compliance Exam.

Persons admitted to a PhD program on a full-time, part-time basis, or through Individual (Independent) Research define a theme and title for their future thesis and supervisor to be approved by the Republican Council on Organization and Coordination of Scientific Researches (RCOCSR) organized in different fields. This unit may accept, render some amendments or decline the chosen theme on reasonable grounds. Assignment of scientific supervisors to dissertation writers is usually concluded by signing a mutual agreement document between the doctorate entity and supervisor (if the supervisor is outsourced) along

with a consent paper. Signing the consent paper by future supervisors is mandatory for all cases and for all types of doctorates. Alterations made in agreement documents should also be documented by the respective parties.

Doctorate degree education programs (curricula) are approved by the Ministry of Education of the Republic of Azerbaijan or the Presidium of the National Academy of Sciences of the Republic of Azerbaijan. We do not have consistent programs in this field for the whole of Azerbaijan and the individually prepared programs are the subject of further interagency discussions among the implementing agencies dealing with admission programs for doctorates.

Syllabi are prepared for qualifications of PhD programs and are approved by the respective institution.

Curriculum of Doctor of Sciences consists of only research topics.

Research-methodical supervision and monitoring of the activity of the doctorate departments established within institutions are realized by the Ministry and organization they are attached to.

Those who have finished doctoral studies and fulfilled the requirements which are imposed on dissertations are usually allowed to defend their dissertations for the respective academic degree.

Those who have finalized their dissertations before the due educational term has phased out and have also fulfilled all necessary requirements (articles, preliminary departmental positive references, supervisor's positive opinion and reference, etc.) may present their dissertation to the appropriate Dissertation Council for future procedures.

Each person can only complete one state-funded education for a doctorate degree (including through Individual Independent Research).

## **2.1. Activity program of doctorant**

It is usually prepared by the relevant departments of the doctoral programs and supervised internally (by Division/Dean of the Graduate Studies) and externally by MoE, ANAS and HAC. The latter usually checks that the mandatory study courses are fulfilled before the defense and before awarding the scientific degree of PhD. DC candidates spent study duration only for research.

## **2.2. Coordination**

Coordination of doctorate programs is usually done by the assigned units at the HEIs and ANAS (Department/Division of Graduate Studies or in some cases by the Vice Presidents of the HEIs for Science and Innovations).

**Appendix C** provides details on organizational structure of ANAS

### **2.3. Academic Commissions**

The institution establishes the admission commission for doctorates which is chaired by the head of the institution or vice-head/s on scientific research works. The admission commission includes the heads of departments, divisions, sections, labs and leading specialists.

The suitability of the admitted person is checked by the commission against appropriateness of the specialties to the chosen area of the doctorate program.

### **2.4. Internal Quality Control**

A PhD candidate can appeal to the Division of Graduate Studies or head of the institution in case of conflicts with his/her supervisor. There is a charter defining the duties and rights of the doctoral candidate and the supervisor. Also, apart from the legal supervisor a doctoral candidate can have support of the chair of his/her department (during the discussion of the results of the research, publications and abstracts).

It is acknowledged that the quality of doctoral research varies significantly. For example, doctoral research in natural sciences need deep experiments which doctorant him/herself should perform. The doctoral research in the humanities require more analytical approach.

Moreover, most of candidates have not wide open access to international journals, therefore it is difficult for them to benchmark their research.

Cooperation with foreign countries remains insufficient: this is mostly due to the fact that Azeri universities do not have the same resources for implementing joint degrees or exchange programmers;

Dire economic prospects after graduation: although unemployment as such is not a problem, the level of wages for doctoral graduates is a significant issue.

Salaries for supervisors and teaching staff are also low.

## **3. DOCTORAL CANDIDATES**

### **3.1. Status**

HEIs and Academic Councils of research organizations approve the topics of doctoral theses and admission to doctoral programs held by the admission commissions no later than 1 month from the date the decision is confirmed.

Admission to the doctoral program is formalized according to the Regulations governing the operation of higher education institutions or research organizations based on the approved plan.

The copy of the order about the admission to the doctoral program is the basis to terminate the employment contract between the employer and the person who has been admitted to the doctoral program leaving his/her occupation.

The topics of doctoral theses, duration of the study and the names of the supervisors are displayed in the admission order to the doctoral program and the candidates are informed about these. As a rule, supervisors of doctorate candidates must be professors or have postdoctoral degree of “associated professors”.

### **3.2. Rights of doctoral candidates**

The doctoral candidates have the rights of transfer of from one institution to the other, as well as transfer from full time study to part-time or vice-versa. It is carried out by the decision of higher education institutions or the Academic Councils of institutions according to the Regulations governing the operation of the same higher education institution or research organization.

Doctoral candidates have the right to use the libraries, laboratories and other appliances in a similar way as the academic staff of the academic organizations; they have also rights to travel or take part in expeditions for research purposes.

The heads of higher education institutions and research organizations shall assist doctoral candidates in carrying out their work plan and obtaining necessary materials concerning research work.

Full-time doctoral students who have won government scholarships are paid a certain amount of remuneration according to the legislation. The doctoral students who complete their academic work plan successfully can be awarded special scholarships funded by the research organizations themselves.

With the approval of supervisor/s, full-time doctoral students can be involved in academic teaching as 0.5 staff unit (a part time position) in higher education institutions and academic organizations.

### **3.3. Duties / Obligations / Responsibilities**

During their studies, PhD students should:

- obtain deep knowledge of the relevant area;
- acquire ability to conduct research independently;
- learn methodology for conducting scientific research;

- fully implement individual work plan;
- take exams on field of study (including others making sure that it coincides with the main field of study), Informatics (Computer Science), and foreign language.
- publish research articles based on scientific research they conduct;
- approbate the results of the scientific research;
- complete his/her scientific research.

During their studies, DS students should:

- complete his/her doctoral thesis
- approbate the results of the research;
- submit his/her doctoral thesis to defense

### **3.4. Systematic feedback collected from doctoral candidates**

Each doctorate periodically reports about the implementation of his/her Individual Work Plan in the meetings of departments, laboratories, divisions or sections. Doctoral candidates are also responsible to report for year-end procedure or attestation.

## **4. THESIS**

The thesis subject is agreed between the supervisor and the doctoral candidate. Both the supervisors and/or the candidate can propose the thesis subject. The final decision belongs to the doctoral chair and it is also confirmed by the scientific council of the university. The thesis subject is eventually approved by the Azerbaijani National Academy of Science.

### **4.1. Research Plan / Proposal**

PhD dissertation must have at least three chapters along with subchapters, introduction, conclusion and the list of literature used (references). A DS dissertation must contain at least four chapters along with subchapters, introduction, conclusion and the list of literature used (references).

### **4.2. Language**

The language of the dissertation must be either Azerbaijani or Russian. The legislation admits that dissertations may be defended in other languages as well.

### **4.3. PhD Supervisory Management**

Persons admitted to doctorate programs/PhD programs via full-time study, part-time, or through Individual Research are given topics to be approved by the Republican Council on Organization and Coordination of Scientific Researches (RCOCSR) organized on different fields of study (Decision on establishment of this unit and its Terms of Reference are made on the 22<sup>nd</sup> of December, 2009, No. 6/4 and 6/5). After the scientific supervisor/s sign the consent agreement paper the doctorate students/researchers may start their activity on specific topics.

The Academic Council of the Institutions discusses the proposed topics of dissertations and the assigned supervisor/s and makes its decision on future proceedings before sending them to the board of RCOCSR.

Candidates generally have only one supervisor, however it is possible to have several supervisors (sometimes the second acts as an advisor), if this is required by the thesis subject.

In order to qualify as a supervisor, one needs to be a professor and have a degree of doctor of science. There is no specific training for supervisors, however their doctoral degree and research track record is taken into consideration. Supervisors can supervise candidates from the same university or from other universities.

As a general rule, supervisors cannot have more than five candidates per year. On average, supervisors would need to spend 50 hours/year for full-time candidates (and 100 hours/year for full-time doctoral foreign candidates). The time required to spend with part-time candidates is only 25 hours (and 50 hours for part-time foreign candidates).

Although there is a general control mechanism for supervisors (e.g. they report every year and need to publish articles), there are no procedures for supervising supervisors or for controlling their work and involvement with doctoral candidates.

### **4.4. Required qualifications for supervisors**

Decision on admission to doctorates states the theme of the dissertation and the name/s of assigned supervisor/s advisor/s, and the doctoral students are informed about this. Supervisors of doctorate students must hold the scientific degree of DS or professor. In exceptional cases the Academic Council of the institution can assign associated professor/s as supervisor/s in the relevant field of the program. If the topic of the dissertation is related to interdisciplinary subjects, then it is possible to assign two supervisors or one supervisor and one advisor out of which may hold the scientific degree of PhD.

#### **4.5. Rights and responsibilities of supervisors**

The Supervisor gives consultations and recommendations to doctorate students or individual (independent) researchers, monitors and supervises the endorsed individual working plan of a doctorate student to ensure it is consistent with programs and implemented in a timely manner; and ensures that the dissertation work is finalized within a defined time and with high quality.

The officially assigned supervisor is paid per each doctorate student in the amount endorsed by legislation.

In individual cases the Supervisor may offer some additional subjects to be studied by a doctorate student to be able to implement work related to the dissertation.

#### **4.6. Procedures for dealing with supervisor-supervisee conflicts**

In case of conflicts the head of institution may discuss the problem and the Academic Council of the Institution may change the supervisor on an as-needed basis. This procedure must be thoroughly documented according to existing legislation.

### **5. THESIS SUBMISSION**

#### **5.1. Modalities (Thesis Monograph / Articles)**

PhD candidates must publish 5 articles covering the content of the dissertation out of which 1 must be published in international peer-reviewed scholarly journal. DS candidates must publish 20 articles covering the content of their dissertation out of which 3 must be published in international peer-reviewed scholarly journals for the doctorates who study humanities and social science, and 6 for the doctorates who study natural sciences.

Candidates for DSs need 20 generalizing works and candidates for humanities and social sciences need a monograph in their fields of study. These also involve the relevant field patent certificate/s, certificate of discovery, articles published in the reports of international conferences and symposiums, theses and electronic publications. It is the decision of the Commission whether or not to consider the articles published in national conferences or symposiums and electronic publications.

During dissertation writing the candidate must accurately cite the sources and authors. This also includes the sources which are the product/s of collective work. Violation of these rules or plagiarism inflicts the withdrawal of the dissertation and rejection of the discussions, and a repeat defense is not organized.

## 5.2. Defense & exams. Parts of the Defense

- Discussion of the thesis at the institution where it is fulfilled;
- Recommending it to Dissertation Council (DC);
- Preliminary expertise by the leading agency;
- Preliminary defense;
- Final defense;
- Submissions to Commission.

The process of defense of thesis in Azerbaijan is multi-step process, consisting of:

Primary defense of the dissertation is carried out in the institution where this work has been done.

Next defense of the same thesis on the leading enterprise's specialized scientific council approved by Supreme Attestation Commission (SAC)

Main defense is carried out in specialized scientific council approved by SAC. The dissertation is considered to be fully approved when the specialized scientific council adopts a decision about it. Defense is public and open, but final approval by the specialized scientific council is done by a closed voting system. The dissertation is reviewed at the Expert Council of Supreme Attestation Commission. The approval is done by the Presidium of the SAC.

These bureaucratic systems cause more postponing than real scientific evaluation of dissertation and delay for time its approval. The dissertation is carried out at one institution, but its results are evaluated by the other structure.

So, the fundamental differences in the higher educational systems of our countries lead to the non-recognition of diplomas, obtained in our country by the academic institutions of European Union as well as the bureaucratic complexity of the recognition of diplomas obtained in the EU institutions by SAC of Azerbaijan Republic.

## 5.3. Thesis approval

Having finished the defense, DC holds a closed (secret) vote before which it holds an open vote among the members of DC appoints three persons out of the DC members as 3 representatives for the Counting Commission whose protocol is adopted by a simple majority of votes.

When the results of the voting process for awarding the scientific degree are positive, the DC adopts the final decision by simple majority of votes.

## 5.4. The Jury

DCs assign two competent scientists, opponents (by their written agreement) in the related field/s of research and education. One of the opponents may be the member of the DC. For

PhDs two opponents are assigned. One of them must hold the title of DS, but another one may be a PhD. When DC is unable to assign opponents, it is done by the HAC.

PhD supervisor is not permitted to be on the examination/assessment panel.

Panel members cannot come from the same institution or unit where the dissertation is conducted.

At the same time, the Heads of Research centers or institutions or enterprises, Rectors, or Vice-Rectors are not permitted to defend dissertations in the DCs which function in the same institution where they work.

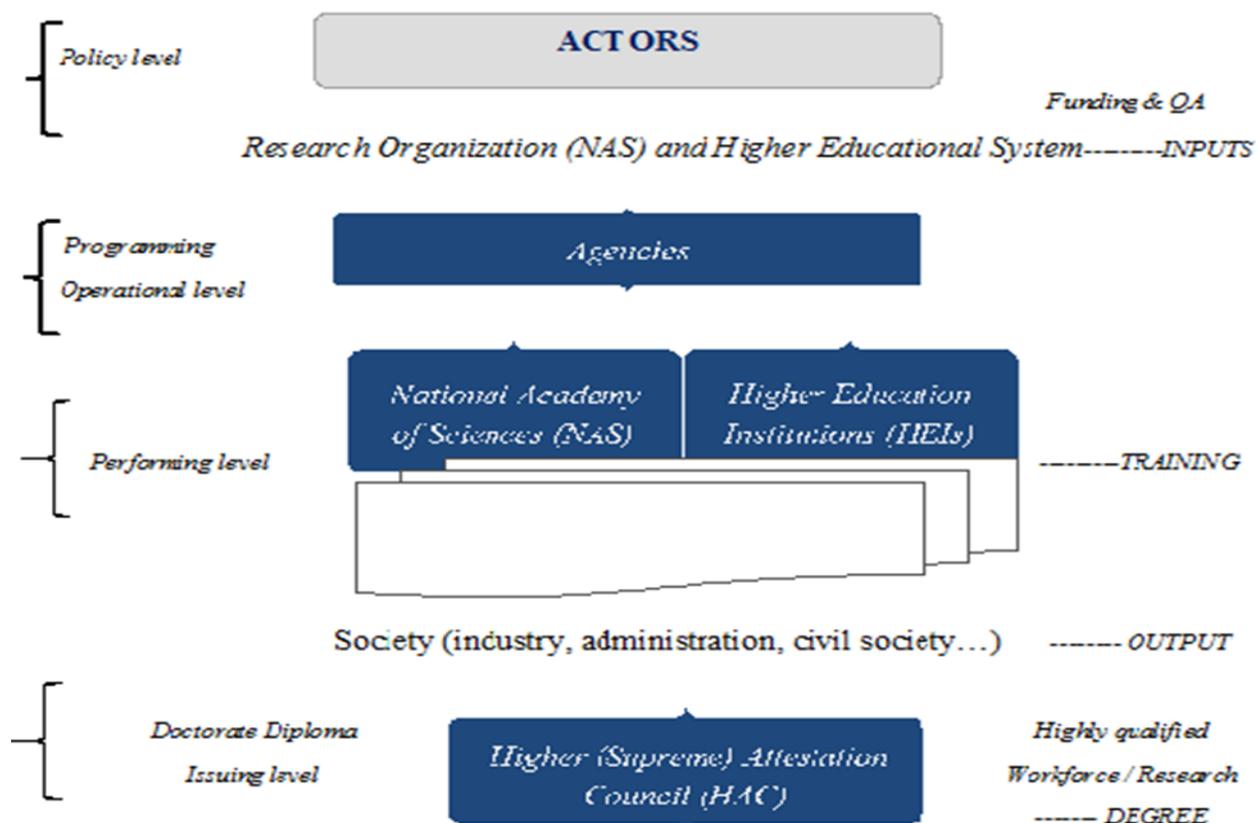
Does the panel include assessors/examiners from other countries?

Under reasonable grounds, a one-time DC including foreign specialists can be created as a part of an existing DC for the defense of individual researchers as appropriate.

## **5.5. Results**

Those who has successfully defended a thesis in the DC appointed by HAC are awarded doctoral diplomas by HAC. This is usually possible after the experts' (2) reviews arranged by HAC to conduct the authenticity of the thesis. DC also can decide not to award a degree or send the dissertation back for additional expertise. All these cases are regulated by regulations established and endorsed by HAC.

## ORGANIZATIONAL SCHEME OF DOCTORATE (AZERBAIJAN)



*The diagram reflects the State of Art for Jan-2016*

## 6. PRINCIPLES OF INNOVATIVE DOCTORAL TRAINING

The following are the major principles of innovative doctoral training in Azerbaijan:

- All agencies offering doctorate studies have to be responsible for the programs and training offered which should guarantee and improve research habits and widen their professional and career opportunities;
- In PhD programs the *triangle of science-education-enterprise* should always be considered;
- As the author of the article, all doctoral students should have some relevant rights;
- The research topics chosen, various agreements signed and evaluations of doctorate students' activities should be transparent;
- One of the essential features of a doctorate program is that it relays innovative experience, and considers the interagency cooperation;
- Doctorate programs should function within a fixed period of time (usually ranging from 3 to 5 years);
- These programs should create new skills and ensure the interdisciplinary of mobility of the doctorate students;
- Doctorate programs have some financial implications for increasing and ensuring quality of these programs (QA).

## 7. RESEARCH PERFECTION (RP)

Research Excellence is regarded as the new system for assessing the quality of research in higher education institutions and other research institutions. We consider that this is essentially measured by certain criteria which can somehow be feasible to measure.

First, one of the important uses of RP in doctorate studies is *Assessment level of the doctorate programs* and increase evidence on the improved research performance. Unfortunately, we do not yet have sufficient statistics referring to this. This area is an expected method for future activities by governmental as well as by non-governmental agencies.

Second, another indicator of RP is connected with the *Diversity of doctoral programs* which is not a high indicator. In fact, depending on the types of programs, all types and forms of research (applied, basic, practice-based and strategic research) are done more individually than collaboratively, and are less interdisciplinary and multidisciplinary research, excepting the case within the research framework of International programs such as TEMPUS, ERASMUS, FP7, HORIZON 2020, Jean Monnet etc.

Third, the RP in Azerbaijan doctorate schools is connected with their *Impact level* on the country' s economy, public policy and services, health, society, culture and eventually the environment and quality of life. We must be involved in joint local and international projects to have productive results. This factor is also still not visible on a high level in Azerbaijan, excepting some cases of investigations carried out on the subject of nanotechnology (Baku State University), different scientific fields of institutions ANAS, Khazar University (cell biology and petroleum engineering) and some other institutions in chemical engineering and environmental studies which reflect the universities' productive engagements.

In the case of Azerbaijan, themes of dissertations are taken from the scientific research plans of the educational institutions and scientific organizations, but the suggestions of doctoral candidates and of their supervisors can also be taken into account.

We still need to do a great deal of work to generate more research outputs that are internationally and locally recognized.

## 8. INTERNATIONAL NETWORKING

Azerbaijan's education system is growing rapidly through integrative networks, especially since September 2005 when the MoE of the Republic of Azerbaijan signed a membership agreement with European Higher Education Area in Norway. In addition, Azerbaijan's doctoral programs in any institution do not have a permanent membership with international partners yet, excepting the various project frameworks of international networking (such as TEMPUS, ERASMUS) in certain areas of research and analysis. This situation is much better in the first and second levels of higher education.

First, we assume that doctoral programs can become eligible for membership if they *develop regulations* in accordance with the existing European standards for doctoral regulations. Second, the regulations of the international partnerships/networks to be established must include the following:

- Requirements for admission
- Application and selection procedures
- Standard components of doctoral program
- Duration of the doctoral program,
- Language(s)
- Organization of the program and responsibilities
- Key competences to be acquired

Third, for successful completion, *exemplary curriculum and requirements* must be fulfilled;

Fourth, there should be agreed upon sample of the supervision agreement, certificate and transcript of records;

Fifth, programs to have internationally network system should be able to provide the sustainability;

Finally, the accepted programs must have a comprehensive and systematic evaluation system.

International networking of Azerbaijan's doctoral programs will need inter-university cooperation agreements. These will also need to include the membership in the European Doctoral Programs Association.

## APPENDIX A

Education  
Doctorate (at the end year)

Indicator	2010	2011	2012	2013	2014	
Number of institutions conducting training program for PhD ( <i>unit</i> )	95	103	103	105	108	
Number of persons who studied in training program for PhD ( <i>person</i> )	786	897	0	2,070	2,400	
Admission to training program for PhD ( <i>person</i> )	5	677	814	625	629	
Graduates from training program for PhD ( <i>person</i> )	455	396	0	131	377	
Number of institutions conducting training program on doctors of science ( <i>unit</i> )	26	74	74	74	64	
Number of persons who studied in training program for doctors of science( <i>person</i> )	91	185	411	426	535	
Admission to training program for doctors of science ( <i>person</i> )	13	168	0	134	129	
Graduates from training program for doctors of science ( <i>person</i> )	12	10	44	7	50	

## APPENDIX B

## Doctorate (year-end figures)

Indicator	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of institutions conducting training program for PhD ( <i>unit</i> )	84	83	83	83	81	83	84	83	86	88	94	96	96	94	95	95	103	103
Number of persons studying in training program for PhD ( <i>person</i> )	1282	1306	1347	1218	907	963	982	1059	1178	1318	1479	1705	1681	1636	1084	786	897	1601
Admission to training program for PhD ( <i>person</i> )	367	386	303	253	151	367	292	303	398	470	503	5550	452	455	51	5	677	814
Graduates from training program for PhD ( <i>person</i> )	339	307	274	368	418	321	244	202	260	320	317	340	431	503	593	455	396	327
Number of institutions conducting training program on doctors of science ( <i>unit</i> )	15	23	19	25	23	21	16	17	19	20	21	19	24	31	32	26	74	74
Number of persons studying in training program for doctors of science ( <i>person</i> )	38	65	78	83	55	47	40	58	57	68	80	80	83	93	64	91	185	411
Admission to training program for doctors of science ( <i>person</i> )	18	19	19	23	10	9	17	18	14	14	18	17	19	22	20	13	168	219
Graduates from training program for doctors of science ( <i>person</i> )	5	6	6	18	36	22	7	7	15	6	8	11	20	25	43	12	10	44

## APPENDIX C

### Details on organizational structure of ANAS

#### **I. Unit of Physical, Mathematical and Technical Sciences**

1. Institute of Physics
2. Institute of Control Systems
3. Institute of Mathematics and Mechanics
4. Institute of Radiation Problems
5. Shamakhy Astrophysical Observatory named after Nasraddin Tusi
6. Institute of Information Technology
7. Institute of Biophysics

#### **II. Unit of Chemical Sciences**

1. Institute of Petrochemical Processes named after academician Yusif Mamedaliyev
2. Institute of Catalysis and Inorganic Chemistry named after academician Murtuza Nagiyev
3. Institute of Chemistry of Additives after academician Ali Guliyev
4. Institute of Polymer Materials

#### **III. Unit of Earth Sciences**

1. Institute of Oil and Gas
2. Institute of Geography named after academician Hasan Aliyev
3. Institute of Geology and Geophysics
4. Republican Seismic Survey Center

#### **IV. Unit of Biological and Medical Sciences**

1. Institute of Molecular Biology and Biotechnologies
2. Institute of Botany
3. Institute of Zoology
4. Institute of Physiology named after academician Abdullah Karaev
5. Institute of Microbiology
6. The Central Botanical Garden
7. Institute of Dendrology
8. Institute of Soil Science and Agro Chemistry
9. Institute of Genetic Resources

**V. Unit of Humanitarian Sciences**

1. Institute of Manuscripts named after Mahammad Fizuli
2. Institute of Architecture and Art
3. Institute of Folklore
4. National Museum of Azerbaijan Literature named after Nizami Ganjavi
5. Institute of Literature named after Nizami Ganjavi
6. Institute of Linguistics named after Nasimi
7. Huseyn Javid's Memorial Flat

**VI. Unit of Social Sciences**

1. Institute of Archaeology and Ethnography
2. Institute of Philosophy
3. Institute of Economy
4. Institute on Law and Human Rights
5. Institute of the History of Science
6. Institute of Caucasian Studies
7. National Museum of Azerbaijan History
8. Institute of History named after Abbasgulu Aga Bakikhanov
9. Institute of Oriental Studies named after academician Zia Bunyadov

## ABBREVIATIONS

ANAS – Azerbaijan National Academy of Science

CD – Compact Disc

DC – Dissertation Council

DS – Doctor of Sciences

ECTS – European Credit Transfer System

EU – European Union

GA – Government of Azerbaijan

HAC – Higher Attestation Committee

HQ – Headquarter

IELTS – International English Language Testing System

MA – Master of Arts

MOE – Ministry of Education

MSc – Master of Science

NGO - Non-Governmental Organization

PhD – Philosophy doctor

QA & QS – Quality Assurance and Quality Control

RCOCSR - Republican Council on Organization and Coordination of Scientific Researches

TOR – Terms of Reference

TOEFL – Test of English as a foreign Language

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