

# **FURTHER DEVELOPMENT OF DOCTORAL EDUCATION IN UZBEKISTAN | RECOMMENDATIONS FOR QUALITY ASSURANCE IN DOCTORAL EDUCATION IN UZBEKISTAN**

Outcomes of the UZDOC project



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## **SECTION 1**

# **FURTHER DEVELOPMENT OF DOCTORAL EDUCATION IN UZBEKISTAN**

# EXECUTIVE SUMMARY

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This publication, which is the final outcome of the UZDOC project, presents the conclusions of three years of in-depth analysis of the Uzbek doctoral education system, study visits and good practice sharing among Uzbek and European partners, as well as discussions with stakeholders during roundtables organised at partner universities in Uzbekistan.

The publication is organised into two complementary sections. The first section, entitled *Further development of doctoral education in Uzbekistan*, analyses the current organisation of the Uzbek system, comparing

it to the European framework and good practice and offering recommendations on how to improve the current situation in Uzbekistan. It is divided into four chapters. Chapter 1 introduces the organisation of doctoral education in Europe and outlines the latest developments with a short overview of past events and the drivers of change within the European framework over the past 10–15 years. It aims to acquaint the reader with the European doctoral education system and present its main characteristics, which will then be compared to the Uzbek system in the following sections.

Chapter 2 focuses on analysis of the current doctoral education system in Uzbekistan, emphasising the changes prompted by the introduction of the new Doctoral Education Act in 2013. The aim of this chapter is to present the results of the UZDOC project's stocktaking phase and prepare the reader for the following chapters.

Chapter 3 is a central part of this publication, providing an overview of the European framework contrasted with analysis of the Uzbek system and bringing the reader possible solutions to the identified issues. The chapter focuses on pinpointing the most challenging aspect of Uzbek doctoral education which should be improved in order to enhance the overall quality of the system. It is built on the following three-part structure: (1) short analysis of the key elements of Uzbek doctoral education, (2) comparison with the European framework, and (3) recommendations on how to advance each area,

taking into account the specificity of the Uzbek context.

Chapter 4 offers the reader general guidelines for the organisation of doctoral education, drawing on analysis of the current situation and discussions with all the key stakeholders in Uzbekistan. Unlike the more case-specific recommendations given in Chapter 3, the guidelines in this chapter are more strategy-oriented and aim to assist the implementation of profound structural changes to the whole system.

The second section of the publication, *Recommendations for quality assurance in doctoral education in Uzbekistan*, addresses the most important aspect of doctoral education: quality. Based on analysis of the Uzbek system in the first part of the publication, we make seven recommendations on how to raise the overall standard of doctoral education in Uzbekistan.

# ACKNOWLEDGMENTS

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The UZDOC is the first Tempus project to examine doctoral education in Uzbekistan specifically, and as such makes an important contribution to the process of modernising and aligning it with the recent developments in doctoral education in Europe.

This publication would not have been possible without the constant and coordinated effort of all UZDOC project consortium members from both Uzbekistan and Europe.

We extend our sincere appreciation to our project's Uzbek partners: our colleagues from the Tashkent Financial Institute, Uzbekistan State Institute of Arts and Culture, Samarkand Institute of Economics and Service, Karakalpak State University and Karshi State University, who completed the survey on Uzbek higher education institutions, actively participated in analysis of the doctoral education system in Uzbekistan and contributed enormously to understanding of the Uzbek

system's inner workings during site visits, roundtables and informal discussions. In Europe, we would like to thank our colleagues from Sapienza University of Rome for their excellent analysis of the legal framework governing higher education in Uzbekistan and the survey on Uzbek higher education institutions conducted in the first, stock-taking phase of the UZDOC project. The invaluable information collected in this phase was key to further implementation of the project. Our warm thanks also go to our partners from the University of Granada and the University of Zagreb, the hosts and organisers of European study visits, as well as partners from Athens University of Economics and Business and Comenius University in Bratislava for their invaluable input, examples of good practice and ongoing feedback in the process of writing this publication.

Our sincerest thanks and appreciation go to the Ministry of Higher and Specialised Secondary Education of the Republic of Uzbekistan (MHSSERUz), another partner to the project, for its pivotal role in coordinating communication with all Uzbek HEIs and ensuring the involvement of other key stakeholders in the country: we are most grateful for your unwavering support.

It is not just a convention to thank all the other participants of the UZDOC project who selflessly offered their time and exper-

tise during the study visits and dissemination meetings in Tashkent, Samarkand, Zagreb and Granada, and actively participated in discussions during the roundtables held in Samarkand and Tashkent. Their insights, thoughts, ideas and thorough understanding of the system helped shape this publication.

We wish to give special thanks to the Supreme Attestation Committee (SAC), Committee for the Coordination of Science and Technology, and Higher Education Reform Experts (HEREs) from Uzbekistan, who devoted their precious time and shared their vision of the Uzbek doctoral education system with us.

Our gratitude is also extended to the National Erasmus+ Agency in Uzbekistan, particularly its coordinator Ms Aziza Abdurakhmanova for her invaluable assistance and ongoing interest in the UZDOC project.

Last but certainly not least, it would be remiss not to thank the Uzbek doctoral candidates who participated in the discussions in Tashkent during the UZDOC dissemination visit in June 2015, shared their views on current developments to the Uzbek system and offered important insights into the experiences and challenges faced by doctoral candidates in the country.

# DEFINITIONS OF KEY TERMS AND ABBREVIATIONS USED HEREIN



**Critical mass:** in doctoral education, the size and number of resources (equipment, facilities, students, teachers, supervisors, etc.) needed to produce top-quality research

**Doctoral (PhD) candidate:** a person enrolled on a doctoral programme, conducting research and aiming to defend a thesis and to be awarded a doctorate

**Doctor of Philosophy (PhD):** type of doctorate, and the highest academic degree, awarded by universities and a minimum requirement for starting an academic career or becoming a researcher in various scientific fields

**Doctoral school:** an institutional structure within a HEI with its own resources allocated to the management of graduate/doctoral

education. They are organised into different models, from small institutional entities with a few doctoral programmes to huge inter-institutional structures under national umbrellas. They incorporate doctoral candidates into research teams, projects, centres of excellence and clusters, as well as providing a research environment with a common code of practice for all candidates, which helps create similar quality requirements.

**Doctoral programme:** an organised set of possible courses and research opportunities within one or more disciplines (e.g. an inter-disciplinary doctoral programme in computer linguistics or a single-discipline programme in early modern literature)

**Graduate school:** an institutional structure within a HEI that grants academic degrees —

master's degrees, doctorates or both. They are typically found in North America, the Netherlands and the United Kingdom. Unlike doctoral schools, graduate schools are not limited to doctoral level but also include master's degree programmes. Therefore, the requirements for enrolment differ. In some cases, master's degree programmes in graduate schools allow successful students to continue working towards a doctorate degree.

**Higher Education Institution (HEI):** institutions that train and educate highly qualified specialists in various branches of the sciences and arts, and conduct theoretical and applied scientific research. HEIs include universities, polytechnics, industrial institutes, various specialist institutes (e.g. engineering, agriculture, medicine, education, the arts and economics), and military educational institutions.

**Supreme Attestation Committee (SAC):** the Uzbek national government agency that oversees the awarding of advanced academic degrees

**Quality Assurance (QA):** in higher education, quality assurance includes all activities related to defining, maintaining and enhancing the quality of an HEI

**Quality culture:** organisational culture focused on constantly improving quality, formed by shared values, beliefs, expectations and commitments together with defined processes that enhance quality and aim to coordinate individual efforts to achieve quality

**Research Institution (RI):** institution established for research purposes. Research in-

stitutes may specialise in basic or applied research. Unlike HEIs, they do not provide teaching or enrol students.

**Supervision:** interaction in the form of coaching, monitoring and support between the responsible supervisor(s) and doctoral candidate on the thesis, as opposed to taught courses or technical activities

**Transferable skills:** skills learned in one context (e.g. research) that are useful in another, such as future employment in research or business, etc.. They make it possible to apply and develop subject- and research-related skills effectively.

# INTRODUCTION

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*UZDOC: Enhancing the quality of doctoral education at higher education institutions in Uzbekistan*, is a project funded by the Tempus programme of the European Union. Since 1994, more than 80 projects (for a total value of €30 million) have been launched with the aim of contributing to modernisation of the education system in Uzbekistan. UZDOC seeks to enhance the quality of doctoral education within higher education institutions in Uzbekistan, in line

with the principles of the European Higher Education Area (EHEA).

The project began in December 2013 and ends in November 2016. It involves five European universities — University of Zagreb, Sapienza University of Rome, University of Granada, Comenius University Bratislava, Athens University of Economics and Business — and five Uzbek universities: Tashkent Financial Institute, Uzbekistan State Institute of Arts and

Culture, Samarkand Institute of Economics and Service, Karakalpak State University and Karshi State University. The project is coordinated by UNICA, the Network of Universities from the Capitals of Europe, and strongly supported by the Ministry of Higher and Secondary Specialised Education of the Republic of Uzbekistan.

To achieve its overall objective, four specific targets were set:

- understanding the legal and regulatory framework of doctoral education in Uzbekistan,
- informing Uzbek HEIs of the organisation of doctoral education within the EHEA,
- developing the principles for organising doctoral programmes,
- devising national standards for quality assurance in doctoral education.

The project was divided into three main phases:

In the first phase, the legal and regulatory framework governing doctoral education in Uzbekistan was studied and compared with the EHEA framework.

In the second phase, Uzbek participants in the project were given information on the organisation of doctoral education in the EHEA and European Research Area (ERA) through the organisation of three study visits (one in Uzbekistan and two in Europe, held at the University of Zagreb and the University of Granada), where experts in doctoral education from European HEIs shared their experiences with their Uzbek peers.

In the third and final phase, an action plan for the development of doctoral education and recommended national standards for

quality assurance in doctoral education were devised. This publication, *Further development of doctoral education in Uzbekistan*, the outcome of the UZDOC project, together with the *Recommendations for quality assurance in doctoral education in Uzbekistan*, aims to increase the attractiveness, quality and competitiveness of Uzbekistan's doctoral education system.

The examples of good practice given here do not tend to present the best and only way of organising doctoral education, nor do we attempt to present education in Europe as a homogenised system. Quite the opposite in fact: doctoral education at European universities is characterised by a mix of approaches, strategies and policies, with significant differences not only across regions in Europe, but

also across countries and even between universities in the same country. In such a diverse context, the good practices have been selected based on their relevance to the issues facing the Uzbek doctoral education system.

The complex issues of quality in doctoral education, although inseparable from the first section, are the focus of the second part of this publication, *Recommendations for quality assurance in doctoral education in Uzbekistan*.



# CHAPTER 1.

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## STRUCTURE OF DOCTORAL EDUCATION IN EUROPE

The European higher education system has been experiencing major structural changes for almost two decades. The majority of European countries have joined the reform known as the Bologna Process. Never before in recent history has there been such an important higher education reform crossing national borders and bringing together policy- and decision-makers, academics and students. The Bologna Process was unprecedented, triggering changes at very different levels and for different stakeholders. Initially a political decision with a top-down approach, it soon became an academic movement with many supporters and, as is usual with reforms, opponents. Interestingly, the changes introduced by the Bologna Process have also been implemented in various parts of world outside Europe. One of the Process's main aims was to make the education system more responsive to societal needs, as well as structurally more comparable across Europe.

The Bologna Process was focused on significant structural changes preparing HE institutions to meet other objectives relevant to European society, such as employability, student mobility and professional efficiency. The goal that gained a lot of attention, and still does, was to better prepare students for their career development.

Interestingly, the reform also brought together higher education experts who made a significant contribution to developing the system further by exchanging information, sharing their own experiences and boosting systems that were experiencing change. At the beginning, meaning for almost the first decade, the system was focused on the first two degrees, bachelor's and master's. Doctoral education first received political attention with the 2003 Berlin Communiqué, which urged it to be seen as a continuation of the earlier two cycles. Following this political decision, doctoral education was for many

years positioned as a vital part of universities, particularly those that want to be known as research intensive. It should be remembered that doctoral education was a bridge between education and research, perceived as an elite option for a very limited number of students, and so enjoyed a certain amount of autonomy within the university system. It belonged to the best professors, researchers and students, and as such was 'protected' within academia.

2005 saw what is now known as the Salzburg Conference, after which doctoral education in Europe was never the same again. It initiated many changes and identified various requirements in order to further develop and improve the system in place until that time. The Salzburg Conference, organised as a joint event of the Bologna Process and EUA, focused solely on doctoral education. The major result was the so-called Salzburg Principles, which are still seen as standard

guidelines for all those involved in doctoral education, particularly policymakers, university leaders and all stakeholders inside and outside academia who have a vested interest in improving doctoral education. Discussions over doctoral education remain ongoing, and although many changes have been made, there are still new challenges to be faced. Policymakers, university leaders and academics are exploring how to prepare for and respond to new demands from both society and universities.

The European University Association (EUA), a leading university association with nearly 900 members and one of the two organisers of the Salzburg Conference, established the Council for Doctoral Education (EUA CDE) a few years later. Today, the CDE has almost 250 European research universities among its members. It is in constant contact with them, organises many different activities relating to doctoral education, liaises with all relevant

stakeholders and develops recommendations and policies. In 2010, another relevant document was issued, the Salzburg II Recommendations. Together with the Salzburg Principles and the latest recommendations Taking Salzburg Forward (2016), the three documents are essential reading for those responsible for doctoral education at institutional level and authorities making decisions, producing strategic documents or developing policies related to doctoral education.

Doctoral education's reform in Europe has been described as a 'quiet revolution', spreading across many regions and involving all parties. It became clear that there was a need for institutions to take on a new role, which has lost none of its importance but is now defined and perceived differently. The need for university autonomy and adequate

leadership, along with sufficient research funding, also became clear. It was acknowledged that in a new context, universities need a new type of professional administrative staff who can meet the needs of a modern university system and new structure for doctoral education. In addition, it became obvious that what was happening in doctoral education in Europe would become a global endeavour.

An adequate form of doctoral education, which is fully incorporated into the system, seeks to produce a new doctor, not just a good doctoral thesis. A new doctor who has what is known as a PhD, the highest academic degree, is equally prepared for various professional careers, in both research and academia and within different sectors in today's knowledge society.

**CONCLUSIONS AND RECOMMENDATIONS  
FROM THE BOLOGNA SEMINAR  
“DOCTORAL PROGRAMMES FOR THE  
EUROPEAN KNOWLEDGE SOCIETY”,  
SALZBURG, 3-5 FEBRUARY 2005**

- i. The core component of doctoral training is the advancement of knowledge through original research. At the same time it is recognised that doctoral training must increasingly meet the needs of an employment market that is wider than academia.
- ii. Embedding in institutional strategies and policies: universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.
- iii. The importance of diversity: the rich diversity of doctoral programmes in Europe — including joint doctorates — is a strength which has to be underpinned by quality and sound practice.

- iv.** Doctoral candidates as early-stage researchers: should be recognised as professionals – with commensurate rights – who make a key contribution to the creation of new knowledge.
- v.** The crucial role of supervision and assessment: in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).
- vi.** Achieving critical mass: doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities.
- vii.** Duration: doctoral programmes should operate within an appropriate time duration (three to four years full-time as a rule).
- viii.** The promotion of innovative structures: to meet the challenge of interdisciplinary training and the development of transferable skills.
- ix.** Increasing mobility: doctoral programmes should seek to offer geographical as well as interdisciplinary and inter-sectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.
- x.** Ensuring appropriate funding: the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding

## MATT HENN: DOCTORATE PROGRAMMES AND GRADUATE SCHOOLS IN THE UK: A CASE STUDY OF NOTTINGHAM TRENT UNIVERSITY, UK

The UK doctorate system has undergone significant transformations over the last twenty years. In particular, key changes include: a shift from the supervisor-apprentice model of supervision, in which students previously received only limited support outside of the very personal and individualised relationship with their supervisors. Nowadays students are supported by a team of supervisors, by other employees at universities with specialised and technical research skills, and by oth-

er students. Single discipline orientation has shifted towards a mix of core disciplines and interdisciplinary orientation, contact with other research students has improved, more attention is dedicated to ethical, health and safety matters, and finally, completion rates have increased.

A new achievement in the UK higher education system is the introduction of the "Graduate School", which provides research

training to support the doctorate as well as to prepare people for careers outside the higher education sector. Graduate schools tend to promote interdisciplinarity and to expose students to paradigms and perspectives outside of their natural discipline, and in doing so, to promote creativity and a more rounded and holistic approach to the research problem. Graduate schools also tend to serve as centres for the development of professional skills and training of academic staff and supervisors. Moreover, they also strive toward increasing mobility across Europe for research students, and international collaboration between universities and other partners. Such graduate schools were also established at Nottingham Trent University. In order to provide a high-quality research and learning experience for doctoral students, a Programme of Supporting Studies — in the form of research methods mod-

ules, research and transferable skills training workshops, and multidisciplinary conferences — has been established. This training programme has the aim to support PhD research and provide high-level research skills and competencies training for later careers.

*Excerpt from the Proceedings of the 1st UNICA MASTER CLASS on doctoral supervision (Dubrovnik, 2009)*



# CHAPTER 2.

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CURRENT DOCTORAL  
EDUCATION SYSTEM IN  
UZBEKISTAN: STRENGTHS

Until the end of 2012, doctoral education in Uzbekistan was still heavily influenced by the former Soviet system, consisting of two stages: postgraduate studies to obtain a Candidate of Science degree (*Fan Nomzodi*) and a doctorate with the aim of receiving a Doctor of Science degree (*Fan Doctori*). According to the World Bank report, “as a member of the Soviet Union’s centrally planned economy, the Uzbek higher education system operated under the direct control of Moscow, which took complete ownership of all aspects of academic programs at the universities, including the quality of graduates and the quality of doctoral education” (Naqvi and Kheyfets 2014, p. 66). To redress the situation after gaining independence, the Uzbekistan Government started a series of reforms. The reform of the Uzbek higher education sector is an ongoing process that began in 1997 with the adoption of the Education Act and the National Programme for Personnel Training.

Doctoral education has become the focus of the reforms only recently. Analysis of Uzbek legislation on doctoral education as part of the UZDOC project revealed

that this area of higher education was reformed in 2013, although the necessary legislative acts were adopted in late 2012. The reform can be summarised as a shift from the previous two-tier system of doctoral education inherited from the Soviet era to the one-tier system of defending and obtaining the Doctor of Science degree. Under the new legislation, the “Doctor of Science” qualification can now be obtained after three years of doctoral education. It is worth noting that it could previously be obtained only after completing the full doctoral programme (six years), whereas an intermediate “Candidate of Science” qualification could be obtained after three years. Therefore, researchers who have followed two different pathways (in both the former and current Uzbek system of doctoral education) can now have the same title of Doctor of Science.

One of the aims of moving to the new system is to encourage young people to pursue doctoral degrees. To achieve that aim, the Uzbekistan Government offers a much higher allowance to the candidates than in the previous system. As well as a relatively high income

(compared to the average wage in Uzbekistan), doctoral candidates receive additional benefits. The government plans to invest considerable resources into creating student campuses with excellent working conditions for doctoral candidates in order to improve the practice of research. As regards the geographical spread of universities, the majority of HEIs in Uzbekistan are centrally located in the country's capital Tashkent.

The UZDOC project has identified a number of strengths in the current doctoral education system in Uzbekistan. It is clear that the government is trying to increase the resources allocated to reforming the system, backed by legislative support and enthusiastic academics. It claims that scientific research and innovation are the most valuable and important ways of further modernising higher education. It is also stressing the need for better collaboration with industry through cooperation agreements. This presents a first critical step in the process of modernising the system and the Uzbekistan Government's long-term plans reveal its determination to take the process to the next

stage. Within specific higher education institutions in Uzbekistan, there is much evidence that academic leaders were open to change, supporting the government's efforts and expressing the need to align Uzbek doctoral education with European trends. During the field visits to Uzbek HEIs, UZDOC consortium members also had an opportunity to meet Uzbek doctoral candidates and hear their views on the current system's challenges and opportunities. The candidates appeared to be highly motivated to finish their doctoral education and pursue an academic career, while contributing to their country's economic prosperity.

We believe that a firm commitment from stakeholders is a prerequisite for any additional improvement initiatives. There is sufficient support in Uzbekistan for further reforming the system and raising standards in doctoral education. Nevertheless, there are still challenges facing the modernisation of the Uzbek doctoral education system, which were identified during the UZDOC project and may hinder full realisation of the potential that the system undoubtedly has.

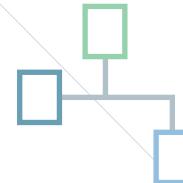


# CHAPTER 3.

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CHALLENGES TO  
MODERNISING THE UZBEK  
DOCTORAL EDUCATION  
SYSTEM

# STRUCTURE OF DOCTORAL EDUCATION



## CURRENT SITUATION

The structure of doctoral education at HEIs in Uzbekistan is highly individualised, and the whole process is focused on writing a doctoral thesis under the supervision of one person — the supervisor. After enrolling in the system and passing the entry exams, the candidate works with the proposed supervisor to develop an individual plan for preparation of the doctoral thesis, which is approved by the HEI board. In the first year of study, the pair develops a curriculum of theoretical and methodological subjects

for the candidate in his/her chosen specialisation, which include the general scientific concepts, methodological issues, theoretical foundations and research methods in that discipline. Doctoral candidates then complete programmes on subjects determined by the Supreme Attestation Committee, depending on the area of science and focus of the research, to further their expertise. Doctoral education lasts three years, after which time candidates are required to follow procedures to defend their thesis.

## GOOD PRACTICE

In most cases, the European system is organised around research-oriented and research-intensive structured doctoral programmes, integrated into a particular form of doctoral education — university or inter-university graduate or doctoral schools — which provides a stimulating research environment and supports doctoral candidates in their effort to obtain a doctorate. The main organisational principle is train for research by doing research.

Structured doctorates are subject-specific or thematic, tailor-made, research-led, supervised and time-bound study programmes used to develop specialised knowledge through the teaching of mandatory and/or

optional modules or courses, which are supplemented by various additional courses for development of doctoral candidates' personal and professional skills. Doctoral schools (and/or graduate schools) place students in a broader research environment while creating links with society and the economy. At the same time, responsibility for the quality of the final product of doctoral education is shared by all the stakeholders in the process — the candidate, supervisor(s) and institution.

This structure of doctoral education aims to educate researchers and experts in the chosen scientific area, generate new and relevant knowledge, and ensure that the knowledge is applied.



## HOW TO PROCEED?

The current organisation of doctoral education in Uzbekistan lacks a joint institutional structure working to support doctoral education, doctoral candidates and supervisors. Furthermore, doctoral candidates largely work on their own and are not well integrated into the broader Uzbek or international research community. Responsibility for the quality of the thesis lies purely with the supervisor and candidate, while the institution provides little to no support to the candidate and supervisor in matters strictly related to research.

It would be very beneficial for Uzbek HEIs to structure doctoral education, i.e. to establish doctoral programmes with specific support structures similar to those in doc-

toral schools in Europe. The type of structure needs to be adjusted to the needs, resources and capacity of each HEI, but the principle should be the same: to support the doctoral candidate and supervisor in the process of conducting research, developing personal and professional skills and writing a doctoral thesis. The support structures that a doctoral school can offer provide a number of benefits to the whole system and not just the individual, whilst the organisation of such structures is very flexible and can be adapted to each specific HEI or RI in Uzbekistan. At the same time, it is possible to network among doctoral schools at different universities or establish joint doctoral programmes in order to generate a bigger critical mass of doctoral candidates, supervisors and research resources.

## **EXPERIENCE WITH STARTING DOCTORAL SCHOOLS – UNIVERSITY OF GRANADA, SPAIN**

The University of Granada decided to establish three Doctoral Schools, following a thematic approach to grouping programmes together:

- Doctoral School of Health Sciences
- Doctoral School of Science, Technology and Engineering
- Doctoral School of Humanities, Social Sciences and Law

This decision was based on the vast potential of doctoral programmes and existing re-

search groups at the university, which made it possible to form large programmes within each school with sufficient critical mass of doctoral candidates and supervisors.

To launch these doctoral schools, the University began with an analysis of pre-existing doctoral programmes in order to identify vigorous research lines and groups with good records of outstanding research and supervision. The basic requirements were that the programmes should include prestigious research groups (using an objective

criterion such as publications in refereed journals, research projects, patents, etc.) and have an appropriate critical mass of doctoral students and supervisors.

After the doctoral programmes were launched and thematically grouped into schools representing broad knowledge areas, a second important aspect was to provide them with adequately trained staff. The administrative staff in doctoral schools and programmes need to have extensive knowledge of the doctoral regulations, special methodological training and research facilities required for doctoral candidates, grant opportunities and mobility programmes, as well as the steps and processes finally leading to defence of the doctoral thesis. For this reason, it seemed more efficient to offer a single administrative structure with special-

ised staff than to provide each school with its own administration. Although academically each doctoral school differs in contents, lines and scientific criteria, therefore, the administrative structure is shared by the three doctoral schools.

The benefits of this type of mixed organisation have not yet been fully disclosed, but the main expected advantage is offering efficient administrative support to doctoral candidates and thesis supervisors, who will focus on developing the research associated with the doctoral thesis and not on administrative matters, while enabling each school to address the peculiarities of their field and take specific decisions in relation to admission criteria, ways of assessing research quality, collaboration with companies and other academic issues.

# ADMISSION



## CURRENT SITUATION

The requirements for enrolling in the doctoral system are standardised and mandatory for all higher education and research institutes in Uzbekistan, and are under the responsibility of the Cabinet of the Ministers, which issues a resolution each year providing detailed information on the procedure for admission requirements for enrolment at higher education institutions in the country. Access to the Uzbek doctoral education is limited to candidates who have a master's degree or equivalent, a diploma of higher military education, a Candidate of Science degree (previous system) or a bachelor's de-

gree with at least five years of practical experience plus certain achievements.

Depending on their status, candidates need to have at least two years of previous scientific or education experience (senior researchers) or at least five years of practical experience (independent researchers) and at least three scientific articles published.

To be accepted into the system, applicants must pass entrance examinations on the modern history of Uzbekistan, a foreign language and the chosen thesis topic. Depend-

ing on the scientific field, candidates are also required to complete additional qualification examinations in topics such as the ideology of independence and economics before defending their thesis, as well as the public, political, spiritual and scientific foundations underpinning the development of democratic society. These oral exams are assessed by a committee comprising the university rector, five professors (appointed by the rector) and external members, if necessary. Candidates of Science are appointed Senior Research Scientists with no examinations.

The selection of candidates is based on the results of the entrance exams and made by a special committee formed by members of the HEI or RI. With the entrance exams passed, applicants are allowed to choose a research topic from a national database (managed by the Uzbek Supreme Attesta-

tation Commission) or propose one themselves. All topics are discussed and, with the Scientific Council's approval, submitted to the national database.

### GOOD PRACTICE

As a rule, all doctoral programmes in Europe have admission procedures, which vary from country to country, university to university or doctoral school to doctoral school. However, they all share some components and are equally concerned with attracting and selecting top talent. They assess the candidates' pre-enrolment academic achievements, general interests and readiness for research, discuss their possible research topic and ascertain their knowledge of a foreign language (mostly English). The number of open positions (enrolment quota) for doctor-

al candidates depends on the available funds if the candidates are financed by the institution. HEIs may also admit doctoral candidates who are self- or employer-financed. The total number of open positions each year is flexible but primarily depends on the capacity of the given HEI (ongoing research, number of supervisors, etc.). The overall intention is to have doctoral candidates working full time on research.

The general idea is to treat the enrolment process in the same way as competitive recruitment, admitting the best candidates with clear and transparent procedures at both doctoral programme/school and research-group level. Face-to-face interview(s) between the candidates and admissions committee is the best way to evaluate the candidates' qualities and motives, while their past performance provides useful information but is not the most important factor in the assessment. Some countries and HEIs require a draft of a research proposal to gauge the candidates' potential for scientific work at that institution as part of the en-

rolment process. The topic for the doctoral thesis is either proposed by the candidates, depending on their scientific interest and background, or chosen from the topics offered by the HEI.

Often the state simply sets the minimum requirements for entry into the doctoral system, e.g. a master's degree or equivalent, or in some cases a bachelor's degree. At the same time, HEIs have the flexibility to set their own admission criteria (It is usually the responsibility of an institutional body, e.g. the admissions committee), which are often more demanding and more specific than those of the state. Assessment of the candidate is the sole responsibility of the HEI and relies on the doctoral programme or school criteria. The assessment procedure is individualised and includes an in-depth interview with the candidates. The composition of the selection committee is often very diverse, including members from different disciplines and, in some cases, other countries to ensure the objectivity of assessment.



## HOW TO PROCEED?

The number of open positions for doctoral candidates (as with all positions in the higher education sector) in Uzbekistan is decided annually by the Cabinet of Ministers, based on the analysis of demand by each ministry. The Ministry of Economy, in consultation with the Ministry of Labour and Social Protection, plays a leading role in determining the student enrolment quota proposal each year. What this effectively means is that the enrolment quota is artificially limited and the system is not based on the research capacity and current needs, as is common in Europe. In some areas, e.g. the education sector, the number of enrolled doctoral candidates is disproportionately high when compared to science and technology. In addition, the enrolment quota for higher education have

stayed the same since 2012 and are to remain at the same level (10%) until 2017 (Uzbekistan Education Sector Plan 2013–2017). At the same time, it is expected that the number of potential doctoral candidates will grow, as will demand from the Uzbek business and industry sectors for a highly skilled and qualified workforce.

The recommendation is that the enrolment quota be better aligned with demand from different sectors of the Uzbek economy and based on the needs analysis and long-term forecasts on Uzbek society's absorption capacity, which would entail analysis, assessment and improvement of the HEI resources' ability to handle the increased number of doctoral candidates.

Furthermore, the enrolment criteria should focus more on the candidates' research potential, assessed in the interview process or by reviewing the preliminary research project, and less on their performance in the earlier phases of the educational system.

The enrolment requirement of at least five years of practical work for candidates who have only completed their education to bachelor level could lengthen their studies due to the extended preparation period (time spent acquiring theoretical and methodological knowledge required for doctoral theses) and result in an increased dropout rate of doctoral candidates.

The enrolment criteria, which include a previous PhD obtained abroad as one of the potential prerequisites for entering the Uzbek doctoral education system, should be seriously reconsidered and adapted to reflect the common recognition of academic titles in Europe and beyond (we will return to this issue later in the text).

## ENROLMENT PROCEDURES AND CRITERIA FOR THE SELECTION OF CANDIDATES: GOOD PRACTICE IN DOCTORAL EDUCATION AT THE ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS, GREECE

1. Each year, professors are invited to propose topics within their research interests, which they would be willing to supervise. Proposing a topic each year is discretionary, but professors are expected to propose topics every three years.
2. A call for applications is issued, stating the research topics proposed by the professors. The application deadline is set for approximately two months after the launch of the call for applications.
3. Applicants are expected to provide evidence of the following:
  - a. Bachelor's and master's degree
  - b. Fluency in English as a foreign language (GMAT score of at least 500)
  - c. A text (application form) explaining their interest in the research topic that they wish to work on and why they feel that they would be able to complete the research project.

4. The committee for doctoral studies checks the collected applications and rates them based on minimum criteria (pass/ fail).
5. Applicants who have passed the evaluation (step 4) join the pre-doctoral programme, a two-semester-long curriculum of four courses which they need to pass in order to enrol as doctoral candidates:

  - a. Research methodology
  - b. Quantitative research methods
  - c. Qualitative research methods
  - d. Research theories in economics and business
6. After passing all four introductory courses, pre-doctoral candidates are expected to submit their research proposal, which they develop together with their supervisor (the professor who had originally proposed the research area).
7. The research proposal is announced at the department's general assembly, which, once agreed, grants the status of doctoral candidate to the applicant.

# WORKLOAD

## CURRENT SITUATION

The workload of candidates in Uzbekistan during their three years of doctoral education depends on their status and differs between senior and independent researchers. For a senior researcher, the expected workload is 36 hours a week, with no more than 12 hours of teaching per week (in total, 300 hours of teaching is expected during the whole study period). For an independent researcher, the workload is lighter — 12 hours per week of research work with no more than 4 hours per week of teaching. Doctoral candidates also have to pass exams in their area of specialisation and present the results of their research at national and international conferences.



## GOOD PRACTICE

The workload of doctoral candidates in Europe during their doctoral education varies significantly across countries and HEIs depending on the organisation of a given doctoral programme or doctoral school. Typically, doctoral candidates are expected to complete mandatory or optional courses, write and publish articles in internationally reviewed journals, attend international conferences and, most importantly, conduct the research required for the thesis. At some universities, the workload is measured using a credit system whilst others have no such system.

The general trend in Europe is to reduce the coursework insofar as possible and simply provide the essential mandatory or optional courses and modules required for successful completion of the doctoral thesis. In some cases, only a small amount of the candidates' workload involves attending courses, while most of the time is spent on research. In contrast, some universities require candidates to pass a number of courses before he/she can begin working on their thesis. The courses are usually included in the programme of the first year of study and only upon successful completion of the courses is the candidate allowed to proceed with work on their doctoral thesis.

In most cases, the curriculum of doctoral programmes is set in such a way as to provide

the methodological and theoretical support needed for researching and writing the thesis, while some time is allocated to honing the candidates' personal and professional skills as part of their career development. Doctoral candidates have the freedom to choose which courses are needed to fulfil their personal development plan, which is designed together with the supervisor at the start of the study period. Doctoral schools often have a range of courses from which candidates can choose, based on their interests and abilities.

Teaching is often compulsory for doctoral candidates who are enrolled full time and financed by the HEI, with the number of teaching hours varying significantly among HEI and countries.



## HOW TO PROCEED?

The candidates' workload should serve two purposes – producing an excellent doctoral thesis and supporting candidates' personal and professional growth by providing the skills needed for successful completion of the thesis and career development. In other words, the workload during the doctorate should not necessarily be a goal in itself but instead planned in such a way as to maximise the effectiveness of the doctoral programme and the candidates' development.

Workload in the form of courses or modules should only contribute to furthering the candidates' knowledge and skills , and relate to the subject of the doctoral thesis. Doctoral candidates should have the freedom to

choose from the range of available courses, in liaison with the supervisor.

It is our belief that doctoral candidates should be allowed to acquire teaching experience and even encouraged to do so (in the form of teacher training). Nevertheless, a heavy teaching load can have a negative effect on the quality of the doctoral thesis and lead to unnecessarily long study periods. Therefore, doctoral candidates' teaching load should be determined with that in mind. It is also important to note that teaching assignments given to doctoral candidates should serve their personal development and not be used as a solution for understaffing problems.



# PUBLISHING

## CURRENT SITUATION

The number of papers that must be published during doctoral studies in Uzbekistan is rather high. Candidates have to publish at least fifteen research papers on the main scientific findings of their thesis, of which at least ten must be published in national scientific journals selected and approved by the Higher Attestation Committee. At least two papers

must also be published in foreign specialised scientific journals, determined by the Higher Attestation Committee, and two proceedings of international scientific conferences. It is worth noting that this number was higher before 2013 when the new regulations were introduced. All the papers must relate to the research conducted for the doctoral thesis.

## GOOD PRACTICE

The minimum number of publications required for the completion of doctoral education varies among European HEIs and among the disciplines. In some disciplines, e.g. humanities, it is even possible to finish the doctorate without publishing a single article, but instead focus on writing the thesis and then publish a monograph (book). In other disciplines, the number varies from one to three or even more publications, either published or accepted for publishing. In a recent study on doctoral candidates (Ates, Holländer, Koltcheva, Krstic, & Parada, 2011), the average number of publications published during the doctoral study period ranged from one to two (this includes articles in national/international journals with/without peer re-

view, articles in proceedings, online articles, monographs and books).

In most cases, the HEI sets the criteria on the number of required publications and the quality of the journals. Usually, they expect articles to be published in internationally reviewed journals listed in one of the international databases relevant to the discipline (Web of Science, Scopus, SCImago, Google Scholar, etc.).

There is also the possibility of completing a doctoral thesis through publications alone: The so-called “thesis by publication” is a collection of articles (three or more) with an introductory chapter.



## HOW TO PROCEED?

Doctoral candidates in Uzbekistan have limited information about scientific journals outside the country and the possibility of submitting articles to international journals is also very limited. This limitation is due to lack of practical knowledge on how to find and access the journals, resulting from insufficient institutional support and training, poor command of English, or in some cases financial obstacles. Another hurdle is that the list of available journals is strictly limited, contrasting with the free access to all journals via on-line databases in Europe and internationally.

The current situation is a huge hindrance to the candidates (and the whole system) as

publishing such a high number of publications takes time and increases the workload, prolonging the study period. The distinction should be made between the requirements for doctoral degrees and for academic positions within the university. The quality of the published papers is also questionable as the majority are not internationally peer-reviewed and assessed. A major advantage for doctoral candidates during the study period is outside confirmation that the obtained results are new, relevant and significant. Such confirmation can be obtained through the peer-review process involving independent editors and reviewers, which critically assesses the candidate's contribution to science.

A major effort should be made to improve the visibility of Uzbek journals in international bibliographic databases like Thomson Reuters' ISI Web of Knowledge or Elsevier's SCOPUS. That could significantly improve the visibility of research conducted by Uzbekistan doctoral candidates and scientists.

It is our recommendation that efforts should be directed towards improving the quality of the published papers, while lowering the required quantity. This will reduce the workload generated by writing huge numbers of papers and give the candidates more time to work on their research.

A very important tool for improving doctoral candidates' writing skills and increas-

ing their chances of having their articles published are specialised workshops/training programmes focused on the entire process of academic writing and publishing in English, including searching online journal databases. It is our recommendation that the Uzbekistan Government and HEIs start organising and offering such workshops to doctoral candidates as soon as possible, including them in their personal development plan. Attending such workshops should also count towards a doctoral candidate's total workload and not present an additional burden during their study period. This step must involve granting the candidates open access to the online journal databases for HEIs, which could be backed by national and international projects and funds.

## PUBLICATION REQUIREMENTS – UNIVERSITY OF GRANADA, SPAIN

The doctorate regulation of the University of Granada makes it mandatory to publish a paper dealing with a scientific issue addressed in the thesis before the thesis is submitted for approval and oral defence. The article should contain at least part of the main results of the thesis. This requirement is perhaps the most important prerequisite regarding the pre-defence quality assessment. The general criterion for papers is that they must be published (or accepted for publication) in an international scientific journal indexed in the Journal Citation Reports. However, in those areas where this criterion cannot be easily fulfilled (see below), other databases are allowed. The paper should be authored by the doctoral student and can only be used to qualify one PhD thesis. In the case of co-authorship by more than one PhD student, PhD student co-authors would provide waiv-

ers stating that they will not present this particular publication as part of their PhD theses. Other co-authors must also provide certifications that the paper is part of the candidate's PhD thesis and that he/she has led (at least a significant part of) the research.

There is no general regulation concerning other co-authors and positions in the list of co-authors. However, insofar as doctoral studies at the University of Granada are organised into three doctoral schools (Doctoral School of Health Sciences, Doctoral School of Science, Technology and Engineering, and Doctoral School of Humanities, Social Sciences and Law), specific regulations have been developed to adapt the general criteria to each Doctoral School. In particular, the regulation of the Doctoral School of Health Sciences is:

1. At least one paper published in a journal included in the JCR Science Citation Index. The journal should be ranked in the first or second terciles in the JCR Category, or at least two papers published in a journal ranked in the third tercile in the JCR Category.
2. The doctoral students must be first author in the list of co-authors, listed after their PhD advisor, or the corresponding author.

The regulation of the Doctoral School of Science, Technology and Engineering is:

1. At least one paper published in a journal included in the JCR Science Citation Index ranked in a relevant position in the JCR Category. The Academic Commissions of the Doctoral Programmes (10) will regulate the details of quantification of the relevant position in the category.
2. As a transitory provision, indexed journals in the Avery Index Architectural Periodicals (Avery Library,

Columbia University) and Architectural Publications Index (Royal Institute of British Architects) are also permitted for PhD students presenting a thesis in the area of Architecture.

3. The doctoral student must be the sole author, first author in the list of co-authors, or in a relevant position in the list of co-authors. The Academic Commissions of the Doctoral Programmes (10) will regulate the details of quantification of the relevant position in the co-authors list, taking into consideration the ordinary practice for the diffusion of scientific results in their research areas.

Finally, the Doctoral School of Humanities, Social Sciences and Law has adopted the general University regulation indicated above, but also considers as evidence quality databases and indexes that include editorials and journals specialised in humanities and social sciences (creative work in art collections or expositions might also be considered as evidence of thesis quality for research in the arts).

# SUPERVISION



## CURRENT SITUATION

In Uzbekistan, supervision is mostly based on a traditional, one-to-one relationship between the candidate and supervisor. Double supervision is allowed, but only when approved by the Supreme Attestation Committee (no approval is needed for an interdisciplinary thesis). The supervisor is required to work with the candidate within the pre-determined number of hours per year — 100 hours for senior researchers and 50 hours for independent researchers.

Any experienced figure with a Doctor of Science degree (the second most advanced research degree) can be selected as a supervisor. One supervisor cannot simultane-

ously lead more than three doctoral candidates. The supervisor's role is monitored by the Ministry, Academy of Sciences and HEI. If the doctoral candidates do not successfully submit their thesis, the supervisor is held responsible and can be barred from supervising for up to three years.

## GOOD PRACTICE

European universities have several supervision models with different numbers of supervisors, albeit with the option of having only one supervisor. Others include double supervision, supervision teams (three or more supervisors) and joint supervision with supervisors from different universities.

Non-academic supervisors can also be included in the process.

In most, if not all, European universities, a supervisor must be an active researcher and usually a professor (with some exceptions). The optimal number of candidates who can be supervised by one supervisor varies significantly among countries and disciplines, with some countries limiting the figure and others not (again there are differences even among HEIs). What is more important than the number of doctoral candidates per supervisor is the supervisor's ability and success in working with doctoral candidates.

Supervision of doctoral candidates is considered the most important factor for the

success or failure of the doctoral education process. European HEIs are increasingly aware of institutional responsibility for the quality of supervision, and are introducing measures to prepare new supervisors for the challenging task of leading the doctoral candidate.

The evaluation of the supervisor's work is the responsibility of the HEI, and there are different mechanisms through which this is achieved. Usually, this is done through annual appraisals of the supervisor and assessments of his/her work by the doctoral candidate via surveys. Based on the results of the evaluations, correctional and advisory measures can be taken to remedy any potential problems.



## HOW TO PROCEED?

Supervision in the Uzbek system of doctoral education is provided in the traditional manner with one supervisor, while in Europe it is increasingly being replaced by collaborative supervision and backed by institutional support structures aimed at professionalising and broadening the supervision process. As stated in the Salzburg II Recommendations, “Supervision should be a collective effort with clearly defined and written responsibilities of the main supervisor, the supervisory team, the doctoral candidate, the doctoral school, the research group and the institution” (EUA, 2010a). One option would be to allow and support co-supervision by foreign professors who are experts in the field.

We highly recommend offering institutional support to new supervisors in the form of training programmes offered by external

experts or senior, more experienced supervisors (or both). This will better prepare new supervisors to deal with complex supervision issues and raise overall satisfaction with the supervision process.

The current prescribed limit of three candidates per supervisor should be reconsidered and possibly softened since it does not take into account the differences between scientific disciplines or the capacity of different supervisors, leading to very limited number of available supervisors. Moreover, the consequences for unsuccessful supervision should be a stimulus for improving the quality of supervision and considering every aspect that led to the failure. The reasons for the failure should be analysed case by case, as they can be numerous and not solely the responsibility of the supervisor.

**THE ART OF SELECTING  
PHD CANDIDATES -  
HANS SONNEVELD,  
NETHERLANDS**

The selection of the right doctoral candidates and the proper matching between candidate and supervisor/s are crucial for a successful completion of a PhD study. This will avoid frustration of both supervisors and doctoral candidates when realising that the research project is stagnating or lacking the expected quality. In addition, wrong selection decisions may also have financial consequences and furthermore it is difficult to make amends. Therefore, the importance of professional selection procedures can hardly be overestimated. For instance, inviting candidates to display their ideas about new projects during interviews allows testing their creative potential. Studying examples of written works could help to get an impression about the applicants' writing abilities. It is equally important to get an idea

about the applicants' motivation of doing a PhD and their ability to work independently, which can be achieved by studying the applicant's CV and asking for motivation letters. Transparent criteria and decisions based on discussions between colleagues are certainly an asset for successful recruitment procedures. As one approach to solve the problem of insufficiently prepared PhD candidates is the Dutch model of the Research Master programme where the first phase of the PhD trajectory is shifted into the final stage of the master programme. There are several characteristics of this programme which influences the new PhD culture in the Netherlands: on the one hand, creating a talent pool is recognised to be of utmost importance and scouting of talents starts already on the Bachelor

level. In addition, a rigorous selection to the Master programme with clear selection criteria, including grades, CV, motivation letter, prior training in research skills and methods, and proficiency in English serves as pre-selection to the PhD programme. On the other hand, sufficient freedom of topic choice on the candidate's side is enhanced. This helps to avoid a tunnel vision on research possibilities. Reflecting the nature of a doctorate, the development of a research proposal is already at the heart of the programme and provides a start with a fly for successful candidates.

*Excerpt from the Proceedings of the  
4th UNICA MASTER CLASS (Dubrovnik 2013)*

# APPLICABILITY OF RESEARCH AND THE RELATIONSHIP WITH BUSINESS AND INDUSTRY



## CURRENT SITUATION

One of the criteria for accepting the doctoral thesis proposal and defending the completed thesis in Uzbekistan is the applicability of the research to science, business or industry. This applicability has to be approved by the head of the higher education institution awarding the degree (Decree of the Supreme Council of the Higher Attestation Commission (HAC) under the Cabinet of Ministers

(No. 2441, registered on 25.03.2013). This means that a doctoral candidate has to present some kind of formal assurance that the doctoral research can be used to solve or improve current problems in society, e.g. economy or politics. To strengthen the relationships between academia and business, cooperation has been established between HEIs and some areas of industry (mainly gas and automotive).

## GOOD PRACTICE

The economic applicability of research is gaining importance within European HEIs, with the demand for universities to become the engines of the knowledge economy. Co-operation between HEIs and the economic sector is encouraged and fostered, representing as it does a sizable part of the income given to HEIs. Although doctoral research's benefits to wider society are welcomed and included in a number of fundamental documents as a desired outcome of doctoral education, European HEIs do not require any kind of formal assurance that the results will actually be used for any such purpose. Instead doctoral candidates have the freedom to choose topics that may or may not have any application to societal problems.

The situation is different in some special cases, e.g. in industrial doctorates, which present a specific way of obtaining a doctoral degree through planned cooperation with the economic sector, and where a doctoral topic is connected to research identifying potential solutions to concrete problems in industry. Even in those cases, industry's expectations are sometimes too high and it is not always possible to generate the short-term results.



## HOW TO PROCEED?

It is our belief that doctoral education (and higher education in general) should be free from any requirements in terms of applicability of the research, which could limit the academic freedom to choose topics of personal interest. Another question that arises is the direct applicability of research in disciplines such as humanities, social sciences or the arts, which is traditionally very difficult to categorize as "applicable". Instead of requiring the applicability of research results from the doctoral candidate, the doctoral thesis should be assessed on its theoretical and practical value, with its contribution to contemporary societal, economic or political problems not a prerequisite for completion of the study or acceptance of the proposal. Otherwise, it will present an unnecessary obstacle to the doctoral candidate and supervisor, leaving the process open to manipulation.

Although Uzbek HEIs are moving towards greater interaction with industry, collaboration between doctoral education and the business sector in Uzbekistan is still at its beginnings as most doctoral graduates find positions in the higher education system; the situation will inevitably change in the near future. The current doctoral education system should be adequately prepared for the shift to cooperation with the non-academic sector. The formal requirement for the applicability of research is not in itself adequate to establish better cooperation with business and industry. To achieve this, a different approach is needed, one that will genuinely include stakeholders from different economic sectors in doctoral education through, for example, collaborative doctoral projects, joint supervision with supervisors from business and industry, and through the establishment of support services as in technology transfer and career development.

# TRANSFERABLE SKILLS TRAINING AND CAREER DEVELOPMENT OF DOCTORAL CANDIDATES



## CURRENT SITUATION

Training in doctoral candidates' transferable/transversal skills has not yet been developed in Uzbekistan and is not part of the strategic development goals for doctoral education or the strategies of HEIs. The reasons for this lie in the basic concept of doctoral education in Uzbekistan, which is more focused on providing replacements for current academic staff than producing a highly qualified and skilled workforce for positions outside academia. This is part of a much broader skills deficit among Uzbek university graduates and not limited to doctoral education (see for example Work Bank Report, p. 34). Currently, doctoral education in Uzbekistan is focused on developing doctoral candidates' academic skills, over-

looking the fact that they might continue their career in different sectors that require different skill sets.

Moreover, doctoral candidates themselves are not fully aware of the importance of developing transferable or transversal skills, or of early career development and planning. This is because most candidates intend to stay in academia while some plan a career in government or governmental agencies. The Uzbek economic sector has a limited absorption capacity for doctoral candidates, especially due to the misalignment of the disciplines favoured by doctoral candidates and needed by the economic sector.

## WHAT ARE TRANSFERABLE SKILLS?

Transferable skills (also known as generic skills) are skills learned in one context (for example research) that are useful in another (for example future employment whether that is in research, business. etc.). They enable subject- and research-related skills to be applied and developed effectively. Transferable skills are directly linked to the employability of PhD holders for academic and non-academic careers. PhD candidates, holders, supervisors and employers should have a high degree of awareness of the transferable skills acquired during a thesis run as a professional experience.

PhD programmes should offer (not impose) a positive environment to develop transferable skills for both academic and non-academic careers.

Transferable skills include, but are not limited to, professional effectiveness skills (e.g. creativity, problem solving and intellectual inquiry, innovation, entrepreneurship, understanding IPR and copyright), self-management skills (e.g. self-management, project management, time management), leadership skills (e.g. effective communication, teamwork, people management, leadership and

influence) and career-building skills (e.g. career management, identifying career opportunities, developing a professional network and networking skills, interview skills, business awareness).

Transferable skills may be acquired through ‘training’ or through work experience methods. Doctoral candidates with transferable skills and practical research will be more competitive in the labour market in academic and non-academic sectors and better equipped for self-employment.

## GOOD PRACTICE

In Europe, doctoral education provides not only new academic staff (which is just a small proportion of graduates), but also contributes to the development of a workforce able to pursue a career outside academia, whether in research, the public sector, administration, etc. Doctoral candidates are increasingly embarking on a career outside academia, and this is a trend that will be even more pronounced in the near future due to the growing number of doctoral candidates enrolled in the system and the academic sector’s inability to absorb such a huge number of graduates. This implies that doctoral students need to acquire a wide range of professional and personal skills as a prerequisite for better employability prospects.



## HOW TO PROCEED?

There is a gap in Uzbekistan between the skills acquired by graduates and sought by employers, particularly “soft skills” (World Bank Report).

It is therefore recommended that doctoral candidates should not be left to their own devices in this process — universities need to provide opportunities for doctoral candidates to develop the skill sets needed to take up future responsibilities in their career. Adequate career guidance or counselling is crucial for doctoral candidates who may wish to pursue an academic or non-academic career. While doctoral candidates are responsible for their career choices, given the challenging labour market it is the institution’s responsibility to provide support structures for professional

development. Central to an effective process for training doctoral candidates in transferable skills is the requirement for candidates to start by identifying their own training needs in consultation with the supervisor — a process of self-assessment and self-awareness which reflects their preferences and career plans. The individual curriculum should be created for doctoral candidates in such a way that it provides adequate training opportunities during the study period and the development of skills that the candidates have identified as crucial for career advancement. The institution should provide the right training opportunities for the candidates, usually through a series of workshops on different topics, e.g. leadership skills, communication skills, project management, etc.

## PROFESSIONAL AND PERSONAL DEVELOPMENT OF DOCTORAL CANDIDATES: PRINCIPLES AND ACTIONS AT UPMC, PAULE BIUDET, FRANCE

As any professional experience, the doctorate should provide the opportunity for the doctoral candidates to develop or reinforce their skills and should be an asset for their career. But to achieve these goals, appropriate conditions are required. At UPMC, we strongly believe that doctoral education allows the development of a specific mindset and set of skills which can be beneficially used in different types of jobs within and besides Research and Higher Education. Therefore, in addition to high-quality research, professional project and appropriate training are the basis of our action.

The training offer is organised into three main fields:

- “Pure” scientific training deals with disciplinary concepts and contents; specific methods, techniques, software or procedures. It is under the responsibility of doctoral schools,
- “Transferable skills” training covers topics such as: communication; project, team or information management; intellectual property and commercialisation of research; innovation and entrepreneurship; languages,

- Career development training supports doctoral candidates in designing their professional project, enlarging their knowledge about employers' needs and expectations, marketing themselves, preparing for competitions and interviews, developing professional networks.

Transferable skills and career development trainings are essentially provided by the Training and Career Department since 2002. Associated to the trainings, the department also proposes a dedicated documentation centre where doctoral candidates and supervisors can find documents about researchers' employment and organisations who will be

likely to need and hire them. Besides, based on a long tradition of sustainable relationships with companies, the department organises regularly events during which, businesses present their research organisation and policy and express their needs and expectations in front of young researchers they consider as potential employees. These events are completed by roundtables, organised in partnership with UPMC young researchers' associations, where UPMC doctorate holders come to share their experience with doctoral candidates.

*Excerpt from the Proceedings of the 3rd UNICA PhD MASTER CLASS (Dubrovnik 2011)*

# COMPATIBILITY BETWEEN EUROPEAN AND UZBEK DOCTORAL DEGREES



## CURRENT SITUATION

As stated in Uzbek law, a PhD obtained abroad is one of the prerequisites for enrolling in the doctoral education system. Furthermore, the PhD degree was awarded in the previous Uzbek system of doctoral education at the first level, the Candidate of Science. This defunct degree is one of the possible requirements for entry into the doctoral education system.

## GOOD PRACTICE

The practice of awarding a PhD (or Doctor of Philosophy) was made more consistent with the introduction of the Bologna system of higher education and the European Qualification Framework (EQF), although there are still many differences between countries and higher education systems in Europe. Despite the wide-ranging academic qualifications used to designate the award given after the third cycle of higher education, a PhD is considered the highest level research and academic degree achievable through the higher education system and cannot be surpassed.



## HOW TO PROCEED?

There is a discrepancy between the understanding of a PhD degree in Uzbekistan and Europe, which is the result of the previous two-tier doctoral education system.

As a result of changes in the system, the entry requirements for doctoral education include a “PhD obtained in a foreign country” which leads to the “Doctor of Science” qualification in Uzbekistan. This requirement creates a rather strange situation where graduates who have already obtained a PhD within European universities are considered only as doctoral candidates in Uzbekistan.

To avoid the discrepancy between PhD degrees in Uzbekistan and Europe, it is important to improve the understanding and recognition of different foreign doctorates using the guiding principle of the degree's applicability — the European Qualification Framework (European Commission, 2008) or the International Standard Classification of Education - ISCED (UNESCO, 2013) can be used as a reference point. If the foreign doctorate (PhD or equivalent) is the highest achievable research degree, the result of doctoral study, and a prerequisite for a teaching and research career in the country where it is awarded, then it should be made comparable to the Uzbek research degree with the same applicability.

# RESEARCH FREEDOM AND THE AUTONOMY OF HIGHER EDUCATION INSTITUTIONS



## CURRENT SITUATION

The topics of doctoral theses in Uzbekistan can be selected in one of two ways. Candidates can either choose it from a national database (managed by the Uzbek State Committee of Science and Technology) or propose the topic themselves, which has to undergo a two-stage approval process (first step at local HEI level; second step at state level). All topics must pass through the councils of HEIs and scientific research institutes, the Ministry and finally expert evaluation by the State Committee of Science and Technology, after which it is entered into the national database. The topic of the doctoral thesis should also

be connected with the main priorities for developing science and technology in the Republic of Uzbekistan, which are set by the Supreme Committee.

While the doctoral thesis is defended at the higher education institution in front of the scientific council for the corresponding scientific area, the Higher Attestation Committee under the Cabinet of Ministers is the highest government body responsible for final approval of the doctoral thesis after the defence. The Higher Attestation Committee also has the power to create scientific councils responsible for thesis defence.

**GOOD PRACTICE**

In European universities, the principles of research freedom are protected by law, usually in the country's constitution and the higher education institutions' statutes. The HEI is the body responsible for the outcomes of doctoral education, while external institutions, organisations and agencies play a role in the quality assurance and quality control procedures (e.g. accreditation of the HEIs or doctoral schools) but are not directly involved in the creation and implementation of internal practices aiming to ensure the quality of doctoral education within HEIs. Universities have the autonomy to establish their own procedures and criteria, e.g. for defence of the doctoral thesis, depending on their institutional strategies, goals, priorities, resources etc., while at the same time being most accountable for the results.

**HOW TO PROCEED?**

The procedure for choosing the topics of doctoral theses in Uzbekistan is top-down and strongly centralised, reducing the candidates' freedom to determine the focus of their work. It is our understanding that selection of the research and stakeholders involved in the defence procedures is a remnant of the previous doctoral education system that forced candidates to choose specific topics reflecting Uzbekistan's science and technology development priorities. Although independent researchers can propose their own topics, the proposals are evaluated by experts

outside the university, and neither the candidate nor the potential supervisor can influence the decision to accept or refuse the topic, or communicate and discuss with the evaluators.

It is highly recommended that significant work is carried out towards increasing universities' role in the process of creating the proposed list of research topics, granting them more autonomy and responsibility. From the European perspective, universities' autonomy has many benefits for research excellence by creating healthy competition between HEIs, which ultimately improves the results of the research and the research capacity.

# INTERNATIONALISATION



## CURRENT SITUATION

The internationalisation of doctoral education in Uzbekistan is part of a wider initiative triggered by reform of the education sector in Uzbekistan, which began in 1997 with the adoption of the Education Act and the National Programme for Personnel Training (NPPT). This legal background makes it possible to foster international cooperation, including creating joint higher education institutions, exchanging staff and students and conducting joint research activities.

## GOOD PRACTICE

Internationalisation is seen as a means to an end — as stated in the Salzburg recommendations, internationalisation strategies should be a tool for increasing the quality of doctoral education and developing the institutional research capacity. European universities are using a number of different approaches and tools to increase the international dimension of doctoral education, e.g. mobility of doctoral students, mobility of academic staff, joint programmes with other universities and more.



## HOW TO PROCEED?

International cooperation is essential for high-quality doctoral research. It is vital that the international dimension is fully incorporated into the doctoral programme and consistent with institutional research and quality goals. For doctoral candidates, the international dimension should facilitate conducting research and writing a doctoral thesis, as well as establishing contacts and creating networks. It should also be consistent with the individual needs and personal development plans of doctoral candidates.

Furthermore, higher education institutions can and should support internationalisation through organisational structures as doctoral schools are very effective at dealing with internationalisation issues (integrating doctoral students into broader environments, for example).



# CHAPTER 4.

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CONCLUSION – MOVING  
FORWARD: FUTURE  
ORGANISATION OF  
DOCTORAL EDUCATION  
IN UZBEKISTAN

Uzbek doctoral education is presently positioned between the previous two-tier centralised system and the European model, which is not yet fully implemented but formally serves as a model for the whole system. In the last few years, the system has seen the introduction of a number of new elements borrowed from Europe and North America in an attempt to modernise Uzbek doctoral education and make it more comparable with the Western systems. The result is a current system combining both old, e.g. centralised enrolment criteria and procedures, top-down topic selection, demands that the research should have a practical use, huge number of publications, and new, e.g. single-stage progression and studies lengthened to three years.

We assume that the main issues within Uzbek doctoral education stem from incom-

plete understanding of the purpose, role and importance of the (new) system introduced to Uzbekistan. The welcome reforms, which began in 2013 in the aim of harmonising Uzbek doctoral education with the main trends in Europe, overlooked the fact that the European framework has evolved into its current form due to a number of external and internal factors. The European doctoral education system, as it currently stands with all its differences between countries and universities, is a complex result of a changing environment and a series of determining factors — political, social and economic. It has been shaped by institutional responses to the complex new demands that were (and still are) made of universities, and is connected to changes in knowledge production, economic requirements, globalisation and, most importantly, political decisions seeking to consolidate Europe's leading position in

a globalised world. To adapt to this new role, European doctoral education has introduced a number of innovations that were not part of the traditional systems, including structured doctoral programmes, support services for doctoral candidates, personal and professional development of doctoral candidates, mobility of doctoral candidates, quality assurance and assessment mechanisms, and institutional responsibility for doctoral education outcomes. The doctoral education that has emerged in Europe in the last ten to fifteen years is tailored to this new environment, and presents an interconnected and interdependent sum of different parts.

Since Uzbekistan has had a different historical and economical trajectory to Western Europe, the process of moving towards European-style doctoral education is much more difficult and requires much more con-

sideration for possible clashes between the old and new systems. But more importantly, it requires understanding and affirmation of doctoral education's new role in society. Uzbekistan's efforts to modernise its doctoral education failed to realise that the European framework is much more than just a third stage of higher education lasting 3-4 years, after which the candidate is awarded a doctoral degree. The role of doctoral education is no longer limited to training academic staff – its purpose is now much varied and socially responsible. We feel that the new Uzbek doctoral education system incorporates elements from other systems (mainly European and American) whilst leaving some parts from the previous system largely unchanged. This has created a situation where the new, progressive elements of doctoral education come in conflict with the more traditional aspects, hindering the modernisation process

and slowing the change momentum. It has also created new issues for the doctoral education system. For example, unprepared candidates entering the doctoral system due to the abolishment of the two-tier system (this is also a common issue in the European framework), or the very high number of publications compared to the limited timescale for completing the studies.

To overcome the issues in Uzbek doctoral education, we believe that a number of structural steps should be taken to increase the system's overall quality, attractiveness and competitiveness.

These steps include, but are not limited to:

**1.** Opening up the educational system and allowing a higher number of enrolled doctoral candidates, whilst ensuring that the en-

rolment criteria and assessment procedures provide the highest quality of enrolled candidates;

**2.** Moving towards the organisation of doctoral education based on structured doctoral programmes embedded into a stimulating research environment, e.g. doctoral schools or similar;

**3.** The curriculum for doctoral candidates should include familiarisation with and proficiency in using online journal databases to make the process of publishing papers more efficient;

**4.** Additionally, doctoral candidates should have the opportunity to attend specialised courses to learn how to write scientific articles in English; these courses should be organised by the HEI, present an additional

benefit rather than an obstacle to doctoral education and form part of every curriculum;

**5.** Including aspects of career development and career awareness for doctoral candidates during their study period, giving them the opportunity to continue their career outside academia and stimulating opportunities for entrepreneurship and self-employment;

**6.** Investing more resources into the design and implementation of the transferable skills development programme for doctoral candidates and developing the network of qualified trainers;

**7.** HEIs should strive for more autonomy in the quality assurance of doctoral education, such as determining the enrolment

quota, processes and criteria for selecting the candidates, but also in the area of curriculum development and assessment procedures; HEIs should have the autonomy in developing their doctoral programmes as they see fit, following national quality guidelines;

**8.** HEIs should work towards creating a critical mass of doctoral candidates by promoting cooperation and the interdisciplinary of research; organisational support should be provided in the form of joint doctoral studies and supervision teams to compensate for the lack of resources;

**9.** The mobility of doctoral candidates should be encouraged and supported, removing obstacles to international study periods (we recommend using tried-and-tested forms of cotutelle de these); financ-

ing should be offered to doctoral candidates who want to spend time at international institutions;

**10.** Cooperation with the business sector should be strengthened via collaborative doctoral projects, focused on the applicability of the research and offering placement opportunities to doctoral candidates; business and industry should also be included in the transferable skills development programme for doctoral candidates, either as trainers or mentors;

**11.** Uzbek HEIs should work on identifying gaps between the skills acquired during doctoral education and required by business and industry; steps should be taken to reduce this gap insofar as possible by incorporating new elements into the existing curriculums and using innovative approaches to doctoral

education (see for example European Commission 2011);

**12.** HEIs should invest resources into professionalization of staff working in doctoral education, contributing to their professional development and providing the knowledge and skills needed to run support services.

## TESTIMONIAL - SLOVAKIA: COMPARISON BETWEEN THE “OLD” AND “NEW” SYSTEMS AND MAIN CHALLENGES, ALEXANDRA BITUSIKOVA

From the description and comparison of the two systems of scientific education in Slovakia (the communist one and the post-1989 one), we can say that there are no significant differences in terms of scientific rigour, and that might be the reason why there were no major problems in implementing the new Bologna system in the third cycle. The transition from CSc to PhD (CSc (candidatus scientiarum, Candidate of Sciences > PhD, philosophiae doctor, Doctor of Philosophy) was introduced by the Ministry of Education (now the Ministry of Education, Science, Research and Sport) by law (Higher Education Act 131/2002). No major academic debate

about the transformation of doctoral education was part of the top-down process. The main reason for this “easy” transition was probably the fact that at that time there was much more focus on a radical transformation of university education and introduction of the first two cycles (the division of the previous 4–6 years of university studies into the new bachelor’s and master’s degrees).

The Slovak experience since 1997, when doctoral education replaced aspirantura, and 2002 when it was defined as the third cycle, demonstrates that despite all changes, original research was and has remained the key

feature of old and new doctoral education. A doctorate is (and was) considered the highest and most important scientific degree (despite the continuing existence of Dr.Sc., which is higher in the hierarchy but based on what can be a subjective assessment of all scientific achievements).

Nearly fifteen years after the transition from CSc to PhD, there is however much criticism from the professors, scientists and supervisors involved in the “new” doctoral education in Slovakia. All of them talk about the fall in quality compared to the “old” aspirantura system, mainly because of the in-

roduction of mandatory courses, teaching obligations and ECTS credits. During the three-year period of full-time doctoral education (which is covered by a state-provided stipend in Slovakia), it is almost impossible to carry out excellent original research, participate in courses, teach and act as “dogs-bodies” within departments (often far exceeding four hours a week), be published in leading international peer-reviewed journals and write a top-quality doctoral dissertation. Every supervisor admits that this is an impossible task for any doctoral candidate and that the “old” system was better because it allowed much more time for research.



## SECTION 2

# RECOMMENDATIONS FOR QUALITY ASSURANCE IN DOCTORAL EDUCATION IN UZBEKISTAN

# INTRODUCTION – DEFINITION AND KEY ELEMENTS OF QUALITY IN DOCTORAL EDUCATION

As with many aspects of higher education, the quality of doctoral education in Europe varies widely across universities and countries. The quality assurance and quality control systems of European HEIs are determined by the quality tradition to which they belong, the universities' size and ability to implement certain measures, the age of the institution, geographic location, type of organisational culture and the general orientation of the university (whether the emphasis is on research

or teaching students). Yet one aspect of the quality of doctoral education is common to all European HEIs and that is the understanding that the quality of doctoral education is inextricably linked to the quality of research and the research environment in which it is embedded, and should therefore be based on a different set of criteria and methodology to teaching quality, which is characteristic of the bachelor's or master's degree level of higher education. The quality of doctoral ed-

ucation is also linked to the mission and strategy of the university, which shape its focus on research excellence and determination to achieve high quality standards.

As doctoral education has increased in importance for universities and changed its position towards society by preparing new doctors of science to participate in all aspects of social and economic development — not just academic life — so has the requirement for accountability of doctoral education to the different stakeholders grown. The demand for accountability from universities is proportional to the rise in their autonomy — responsibility for quality lies increasingly with each institution and less on the state. In this context, it is difficult to give a precise definition of what exactly quality in doctoral education is. Instead, the fundamental European documents addressing quality (e.g. “Standards and Guidelines for Quality Assurance in the European Higher Education Area” or ESG) try to outline what could be described as quality processes, e.g. admission or supervision. In a way, quality is best defined through examples of best practice.

In European frameworks of doctoral education, quality assurance can either be external or internal.

***External quality assurance*** (or quality management/enhancement) is the responsibility of different national quality assurance agencies and international quality assurance associations responsible for the accreditation, evaluation and audit of higher education institutions (e.g. ENQA or EUA), which play an important role in assessing the evaluations and accreditations of doctoral programmes and institutions. The role of external evaluation should primarily be “to check if an institution’s own quality assurance system is in place, thus respecting the university’s academic autonomy” (Byrne, Jørgensen, & Loukkola, 2013, p. 22). ***Internal quality assurance*** is entirely the responsibility of the institutions and based on self-assessment and institutional audits. It can be very diverse in form, depending on the institutional strategies, priorities and goals (much more than external quality assurance measures, which are more uniform). Usually, quality assurance consists of two phases, internal self-assessment followed by external peer-review. External and internal quality as-

surance should be interconnected in such a way that “External quality frameworks must support the development of a variety of internal quality processes in order to fit the diversity of institutional profiles. The role of external quality is to review these internal processes while respecting and promoting the primary responsibility of HEIs in designing them” (EUA, 2010, p. 64).

Each higher education institution’s approach to the complex issue of quality in doctoral education is, ultimately, determined by that institution, but most of these approaches are built on these three components: peer review, the use of indicators and benchmarking.

The **peer-review** process includes evaluation of the quality of doctoral education via assessment by external experts, usually university professors or HEI specialists from international universities or independent autonomous agencies.

The quality assurance of doctoral education in most European universities is quite different to the bachelor’s and master’s degree level of higher education,

where quality assurance procedures and mechanisms are focused on teaching rather than the research component. To achieve high-quality doctoral education, universities are using **indicators** for quality assessment, e.g. time to completion, career tracking, impact of the research results obtained when writing the thesis, satisfaction with the supervision, etc. The use of indicators includes the systematic and precise measurement of these outputs.

The **benchmarking process** can be defined “as a systematic and continuous process to identify, determine, measure, compare, learn, adopt and implement the best practice obtained through internal and external evaluation of an organisation so that performance of a higher standard can be achieved and improved. Benchmarking helps HEIs to understand their strengths and weaknesses so that quality improvement can be implemented effectively” (Wan Endut, Abdullah, & Husain, 2000, p. 796).

But the development of good quality assurance measures should never be a goal in itself for the uni-

versity. It should serve as a tool for developing and raising the ***quality culture***, which is far more important and long-lasting. Quality culture can be defined as “an organisational culture that intends to enhance quality permanently and is characterised by two distinct elements: on the one hand, a cultural/psychological element of shared values, beliefs, expectations and commitment towards quality and, on the other hand, a structural/managerial element with defined processes that enhance quality and aim at coordinating individual efforts” (European University Association, 2006, p. 10). It is the overreaching link that connects all other aspects of the QA system and justifies its very existence beyond the mere bureaucratic and formal levels, which are often seen as more of a burden than benefit to the HEIs.

Further to the components and recommendations discussed here, which form the quality assurance system, there are some aspects that are not strictly related to QA but are an integral part of all high-quality doctoral education. These aspects, e.g. clearly defined admission, recruitment and selection procedures,

guidelines and regulations for various aspects of training doctoral candidates, transparent and pre-defined assessment criteria, development of internal regulations and codes of practice, transversal skills development, internal seminars where research projects and ideas are discussed, ensuring the high standard of the thesis defence process, etc., are vital for the high quality of doctoral education, and including them in any doctoral education system will increase overall quality. Analysis of these components and recommendations on how to include them are given in the first part of this publication, ***Further development of doctoral education in Uzbekistan***.

# RECOMMENDATIONS FOR MOVING FORWARD

## RECOMMENDATION 1

### FOSTER THE QUALITY CULTURE IN HIGHER EDUCATION INSTITUTIONS

Quality culture can be best understood as the development of and compliance with internal quality assurance processes — it lays the foundation for any successful university quality policy. While quality assurance is a tangible part of the quality process, quality

culture is an intangible part with shared values, beliefs, expectations and commitments from all stakeholders. This means that developing quality assurance procedures alone is not enough if this process is not backed by an equally developed quality culture.

A quality culture is much more difficult to develop and adopt than formal measures for, for example, monitoring or selecting candidates. Nevertheless, it is crucial that institutions work to establish a quality culture, and here are some suggestions on how to achieve this:

- **Involving the academic community in establishing measures for quality assurance** will lead to better acceptance of those measures, supplementing the top-down approach with bottom-up engagement as the top-down approach alone is not sufficient; the notion of **shared values, beliefs** and **commitments** implies the participation of the whole community.
- Ensure that the information obtained through monitoring and evaluation processes is used for **actual improvements** (the so-called “**closing the feedback loop**” **effect**) and shared with stakeholders within the institution so that those involved, such as doctoral candidates and staff working in doctoral education, are aware of how this information is being processed and used, and the consequences of the evaluation.
- **Ensure a clear division of roles and responsibilities** in relation to solving problems and improving procedures. There should be a named person or body in charge of quality at the university with clear responsibilities and delegated authority.

- **Strategic planning** is a vital step in establishing the quality culture at every university. As stated in the European Standards and Guidelines for Quality Assurance in the Higher Education Area, the key document for quality assurance at European universities, higher education institutions “should have a policy and associated procedures for the assurance of quality”
- **Institutional leaders and institutional leadership have a crucial role** in demonstrating an institutional commitment to quality, thereby laying the groundwork for implementation of the quality culture.
- Quality assurance measures need to be supported by **transparent and efficient administrative procedures** and built into **processes across structures**. They also need to encourage the **involvement of all stakeholders** within the institution, making them responsible for quality assurance in their area of work and empowering them to introduce quality initiatives.
- Avoid relying solely on organisational structures to implement quality assurance measures, as this can lead to **bureaucratic exercises** that take place in a vacuum with no follow-up activities and no real effect on the quality of institution

**RECOMMENDATION 2****DEVELOP A STRATEGY TO  
ENSURE THE QUALITY OF  
DOCTORAL EDUCATION**

The quality of doctoral education cannot be assured, nor can the quality assurance system be implemented, if it is not rooted in the mission, strategy and long-term planning of every HEI with the ambition of developing a quality assurance system for doctoral education. As we stated earlier, the quality of doctoral education is linked to the quality of research, since doctoral education represents a large part of the research output of any university. Furthermore, the quality assurance system has to have an integrated feedback loop mechanism, in other words

the results of the quality assessment process — self-evaluation, external evaluations, monitoring and tracking procedures, etc. — must have an impact on the HEI and academic personnel. To have an effective quality assurance system for doctoral education, HEIs need a clear research strategy with precise goals, criteria and feedback measures on which to base it. Without this, the quality strategy will fail in its goal and have no impact on the situation in the field, turning into another bureaucratic procedure which leads to unnecessary workload. In practical terms, a doctoral education quality strategy means that internal quality assurance should cover all steps from planning, implementing and assessing the programme using various indicators to correcting and improving it based on the feedback received in previous stages.

### RECOMMENDATION 3

## ESTABLISH INSTITUTIONAL SUPPORT STRUCTURES IN DOCTORAL EDUCATION

In contemporary doctoral education, organisational support structures, e.g. doctoral school or support centres/offices, play a huge role in establishing the quality culture and measuring quality assurance as they provide the staff and resources coordinating management efforts to implement the quality assurance strategy. At the same time, they provide a central place for collecting and analysing the data obtained via indicators, but also through the regular monitoring of each doctoral candidate's progress, including time to degree and

completion rates, and tracking doctoral graduates after they leave university. The support structures can have an allocated number of doctoral education manager(s) and should be separated from the quality assurance departments responsible for the bachelor's and master's degree levels of education, not only due to the high workload but also because of the different approaches and mechanisms used.

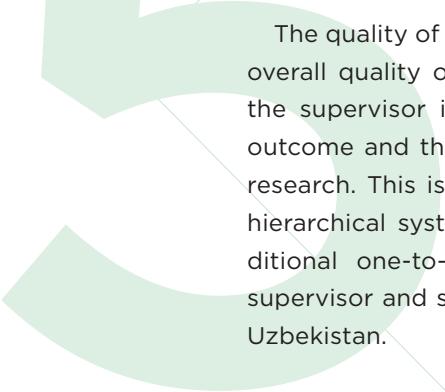
It is critically important that Uzbek universities work towards developing and establishing support structures for doctoral education, which can take different forms depending on the available resources, capacities and institutional goals: doctoral education units, offices, joint inter-university doctoral centres, etc.

**RECOMMENDATION 4****ENSURE THE FURTHER DEVELOPMENT OF QUALITY ASSURANCE AGENCIES**

The external aspect of quality assurance can only be successful if the responsible QA agency or national body is independent in its work and above any influence or manipulation. This is critical for the quality assurance system. The peer-review system used in external evaluations can be only effective if the autonomy of the individuals performing the reviews and the objectivity and impartiality of the results is maintained. This can be achieved by incorporating the authority of external QA agencies into national laws and the legal framework on quality in higher education. Therefore, the national quality assurance agency or body can be further strengthened through participation in some kind of supra-national quality assurance organisation, as is the case in Europe, where national QA agencies can be listed if they adhere to a common set of principles (see the European Quality Assurance Register for Higher Education or EQAR for more information).

#### RECOMMENDATION 5

## STRENGTHEN SUPERVISION



The quality of supervision is crucial to the overall quality of doctoral education since the supervisor is responsible for the final outcome and the quality of the conducted research. This is even more pronounced in hierarchical systems dominated by the traditional one-to-one relationship between supervisor and supervisee, as is the case in Uzbekistan.

To raise the quality of supervision, a number of methods can be used, for example:

"student satisfaction surveys, exit surveys and outcomes analyses can be carried out and the analysis of these data should be circulated widely across the university, along with the supervision policy and responsibilities, to increase understanding and inform improvement; a trend exists within HEI's of increasing internal requirements for some kind of supervisor training, which is often mandatory for new supervisors, with special topic workshops and master classes for others."

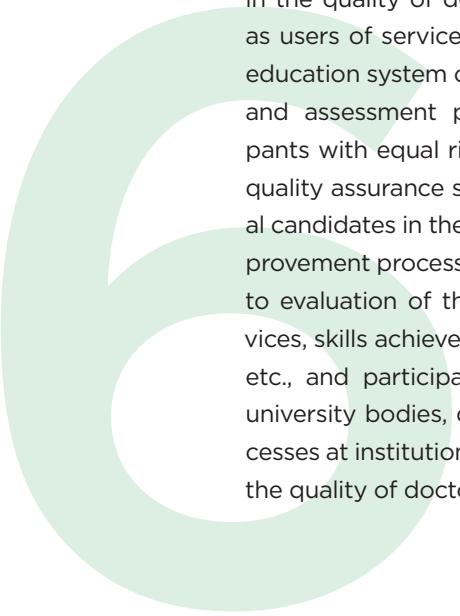
*Barbara Evans, Proceedings of the 2nd UNICA MASTER CLASS (2011)*

Another method for improving the quality of supervision is the introduction of new supervision models, e.g. team supervision, which provide wider expertise and access to networks whilst giving junior staff (co-supervisors) an opportunity to learn how to supervise.

A further very important step in ensuring the quality of supervision is to move from the private and individual mode of supervision to a more institutionally responsible style where the relationship between doctoral candidate and supervisor is more open, transparent, influenced by the institution, and open for evaluation and assessment with consequences.

## RECOMMENDATION 6

### INVOLVE DOCTORAL CANDIDATES IN THE QUALITY ASSURANCE SYSTEM



Doctoral candidates play an important role in the quality of doctoral education, not only as users of services provided by the doctoral education system or as subjects of monitoring and assessment procedures, but as participants with equal rights and responsibilities. A quality assurance system must include doctoral candidates in the quality assessment and improvement process by having them contribute to evaluation of the supervision, support services, skills achieved during the doctoral study, etc., and participate in the decision-making university bodies, discussions and reform processes at institutional level, directly influencing the quality of doctoral education.

Some European universities have a practice of signing agreements between the doctoral candidate, supervisor and institution, further formalising the relationships and clearly defining the expectations, rights and obligations between all parties.

Another available option is to form an association of doctoral candidates in Uzbekistan, which can be used for experience and knowledge sharing among the students. Online tools for creating virtual spaces for meeting, sharing and exchanging between association members makes this option inexpensive and accessible.

**RECOMMENDATION 7****IMPROVE THE AUTONOMY  
AND ACCOUNTABILITY  
OF HEIS IN QUALITY  
ASSURANCE AND QUALITY  
CONTROL MATTERS**

One of the findings of the UZDOC project is that the current quality system for doctoral education in Uzbekistan is in transition (as is the whole doctoral education system). As with many other aspects of doctoral education in Uzbekistan, the current system is defined by the former Soviet approach to quality assurance, which is heavily centralised, controlled and based on the national set of standards applicable to all Uzbek HEIs.

The quality standards that determine the requirements for awarding doctoral degrees are set by the Cabinet of Ministers of the Republic of Uzbekistan and the Higher Attestation Centre. They are mandatory for every HEI in Uzbekistan. The results of monitoring doctoral candidates are considered at the councils of HEI or scientific councils of research institutes. The monitoring of the doctoral candidates (both senior and independent researchers) is performed on the

level of HEI, but it is ultimately the responsibility of the Ministry of Higher and Secondary Specialised Education, together with the Committee for Coordination of Science and Technology.

A higher degree of autonomy of HEIs is a prerequisite for overall improvement of the quality of doctoral education. As good practice has shown, the high quality and effectiveness of any quality assurance system relies on the autonomy and internal quality assurance system of the HEI, and on the independence and impartiality of external

quality assurance agencies or bodies. Autonomy leads to HEI accountability, or responsibility for the outputs of doctoral education. The autonomy of Uzbek HEIs in choosing the approach to quality of doctoral education is limited, which is a step away from European practice. More work should be done with regard to this issue, since “the institutions with the most systematic approach to quality are also those that benefit from the greatest institutional autonomy. Conversely, the institutions with the lowest degree of autonomy have not started to develop a systematic approach to quality.” (EUA, 2010b, p. 32)

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“The only way to achieve a functional quality culture is by convincing the members of the high education institution that they have something to gain by analysing the qualitative processes of their day-to-day work.”

*Respondent to the survey, “Quality Culture in European Universities: A Bottom-Up Approach”, EUA 2006*

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# RECENTLY COMPLETED AND ONGOING EUROPEAN PROJECTS IN DOCTORAL EDUCATION



## **Cooperation on Doctoral Education between Africa, Asia, Latin America and Europe (CODOC)**

The CODOC project (2010–2012) examined doctoral education through the lens of a more balanced development in global knowledge and the role that Europe has to play in this.

More information: <http://www.eua.be/activities-services/projects/past-projects/internationalisation/codoc.aspx>



## **Framework for the Internationalisation of Doctoral Education (FRINDOC)**

FRINDOC aims at providing a comprehensive overview of good practices and valuable experiences for universities. The project will develop a framework containing a statement of good practice on internationalisation and an online tool for universities to aid planning and implementation of internationalisation strategies for doctoral education.

More information: <http://www.eua.be/activities-services/projects/past-projects/internationalisation/FRINDOC.aspx>



### **Professionals in Doctoral Education (PRIDE)**

The overall aim of this project is to contribute to the professionalization of administrative staff in the field of European doctoral education, in order to provide better support to PhD supervisors, PhD candidates and external stakeholders.

More information: <http://www.pride-project.eu/Home>



### **EU-China DOC project (EUCNDOC)**

Enhancing the visibility of European Higher education and strengthening the dialogue and cooperation with Chinese stakeholders in the field of doctoral education is an Erasmus Mundus Action 3 project selected by the European Commission in July 2013.

More information: <http://www.euchinadoc.com/project-group/about/>

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