DOCTORAL EDUCATION:
COMPARING BOLOGNA AND RUSSIAN ISSUES

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Abstract
In this paper authors make an attempt to compare the formal aspects of the post-graduate education concept of the Bologna declaration with the current Russian system and express their point of view on the post-graduate aspect of higher education within the Bologna process. Russian system of the doctoral studies contains two significantly different levels: Candidate of Science (an equivalent to the Bologna’s PhD/Doctor) and Doctor of Science (there is no equivalent in the Bologna declaration, but there is one in some European countries – for example, in Germany – Habilitation). The authors express their opinion on the consequences of introducing one-level doctorate researches in Russia and summarize their experience gained during the participation in the TEMPUS SEKTANT project and other mobility activities.

INTRODUCTION
We consider the degree structure described in the Bologna declaration and compare it to the current Russian system. It is worth pointing out that nowadays the degree classification of Russian higher-educational institutions is contentiously changing towards the unified educational environment with the European Union and other countries that signed the Bologna declaration, but many high-rated universities and academies in Russia still offer a “non-Bologna’s” degree – Specialist. According to the Declaration, Doctorate studies could be undertaken only after obtaining a Master of Science degree, while in Russia you can possess either a Master or a Specialist degree. This may be recognized as an inconsistency and a problem for introducing a new degree system in Russia. Further in the paper the authors will give their answer to the question: isn’t it this fact that crucial?
The paper is structured as follows. First section describes and analyses the key issues of the Bologna process that are relative to the pre- and post-graduate degrees; and the resulting changes of applying these issues. In the second section the authors compare the Bologna and Russian issues relevant to the doctorate studies. The third section concludes the paper.

I. DEGREE AND CURRICULUM REFORMS
The key formulation in relation to degree structures is found in the Bologna Declaration (1999): member states would adopt ‘a system essentially based on two main cycles, undergraduate and graduate’; ‘access to the second cycle shall require successful completion of first cycle studies’; the first cycle should last ‘a minimum of three years’; ‘the degree awarded after the first cycle shall also be relevant to the European labor market as an appropriate level of qualification’; and ‘the second cycle should lead to the master and/or doctorate degree as in many European countries.’

In Berlin (2003), doctoral studies were included as the third cycle in the reforms. In Bergen (2005), with the qualifications framework for the European higher education area (QF-EHEA), degree lengths were specified in terms of credits in the European Credit Transfer and Accumulation System (ECTS) to ‘typically include 180 to 240’ credits for the first and ‘typically 90 to 120’ credits ‘with a minimum of 60 credits’ for the second degree.

No further standardization of these aspects of degrees was aimed at. Degree titles were not specified either, although the term ‘master’ does appear in the Bologna Declaration (but not ‘bachelor’).

The Bologna Declaration further called for ‘the adoption of a system of easily readable and comparable degrees’. The term ‘comparable’ has two possible meanings: (1) possible/easy to compare, and (2) similar; and the combination with ‘readable’ as well as the reference to the Diploma Supplement later in the sentence suggest that the former is intended – the aim was that it should be possible to compare degrees, but similarity was not explicitly formulated as an aim. Comparability is traded off against the value of diversity (Witte, 2008), and the balance between the two in the case of degrees was defined in the QF-EHEA as a bandwidth of credits volumes. Short-cycle degrees were endorsed in the QF-EHEA as an option, but common standards were not formulated: the degree structure would be ‘comprising three cycles (including, within national contexts, the possibility of intermediate qualifications)’.

**a. Pre-Bologna Degree Structures**

Before the Bologna Process, degree structures were a completely national matter, the spectrum of national models and their internal logics was immense, and convergence across Europe was not a goal of national policies. While 30 of the Bologna participating systems report that they had some form of two-cycle, or rather tiered, structure in place before the Bologna Process (see Table 1 below), the logic of these systems was often different from what was later perceived as ‘Bologna principles’, for a variety of reasons, e.g. because of longer first cycles or because they lacked possibilities for transition between cycles or institutional types. Accordingly, many tiered systems were adapted in the context of the Bologna Process (e.g. France, Norway, Portugal, Serbia) or their patterns of student enrolment were changed (e.g. Spain).
According to table 1, the Russian degree structure got only formal interpretation. The ‘Specialist’ degree, which was (and in many universities still is) an equivalent of a ‘higher education degree’, or a ‘university degree’, is not taken into account. Bachelors and masters existed only in a small part of universities and/or faculties, and were implemented artificially: bachelor education wasn’t recognized as a higher degree (only as a professional secondary), and students who completed bachelor were automatically subscribed for master. From the other side, it took 5 or 6 years to obtain a Specialist degree; the final thesis was called ‘a diploma project’. There were no intermediate degrees within the Specialist program, but the 3rd, 4th (and 5th in case of a 6-year study) ended with a ‘year project’ – a theoretical and practical thesis on a particular problem. By the quality and contribution two (or even three) ‘year theses’ and a ‘diploma project’ may be considered as equivalents to bachelor and master theses respectively.

It means, that the two-cycle system is included in the Specialist degree, but in the implicit way. It seems reasonable to analyze the Russian ‘professional secondary education’ degree provided by colleges. According to the Bologna classification, this degree is very similar to a professional bachelor – a 3-year study for obtaining a professional qualification. The difference is in recognition – unlike the Bologna countries, Russia doesn’t recognize this type of degree as a higher education. This makes it less attractive for students and their parents, and, globally, results in ‘too many people with higher education’ in the Russian Federation.

This brief analysis may be summarized in the following open question: is it really necessary to reform the Russian educational system globally, or may be it is possible to adapt it to satisfy the formal conditions stated in the Bologna declarations?

b. Most Commonly Adopted Models for the First Two Cycles

### Table 1. Two-cycle type degree structures before start of the Bologna Process (1999)

<table>
<thead>
<tr>
<th>Degree structure</th>
<th>Countries</th>
<th>Number of countries</th>
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<tbody>
<tr>
<td>Two-cycle type degree structure existing before 1999</td>
<td>Albania, Armenia, Bosnia and Herzegovina, Bulgaria, Cyprus, Czech Republic, Denmark, France, Georgia, Greece, Holy See, Iceland, Ireland, Latvia, Lithuania, Malta, Moldova, Montenegro, Norway, Poland, Portugal, Russia, Serbia, Slovakia, Slovenia, Spain, Turkey, UK-EWNI, UK-Scotland, Ukraine.</td>
<td>30</td>
</tr>
<tr>
<td>Two-cycle type degree structure not existing before 1999</td>
<td>Andorra, Austria, Azerbaijan, Belgium-Flanders, Belgium-French, Croatia, Estonia, Finland, Germany, Hungary, Italy, Liechtenstein, Luxembourg, The Netherlands, Romania, Sweden, Switzerland, ‘the Former Yugoslav Republic of Macedonia’.</td>
<td>18</td>
</tr>
</tbody>
</table>

Notes: 1 Czech Republic: Two-cycle structure existed in parallel with the traditional long one-cycle programmes but was not mainstreamed before Bologna. 2 Portugal: two-cycle structure existed in the polytechnic sector. 3 Russia: two-cycle structure was introduced in 1992 alongside the long cycles, implementation was and is voluntary. 4 Spain: two-cycle structure existed, but about half the students followed integrated programmes.

A single model for Bologna-type degree structures, such as the so-called 3+2 model, was never formulated in any official Bologna Process document, a spectrum of credits volumes being given for each cycle in the QF-EHEA. Since no single prescribed model exists, a question that arises concerns the degree lengths that were chosen by the member states. All higher education systems in the EHEA today display some form of two-cycle structure. According to the expert data (see table 2), 20 higher education systems reported that they allow various combinations and did not indicate a single most commonly adopted one in practice.

Table 2. Two-cycle structure models

The single model most commonly adopted in practice in 19 higher education systems is a first degree of 180 credits and a second degree of 120 credits (180+120 credits, or 3+2 years of full-time study). However, in these systems other combinations are often legally possible. Five countries mainly use 240+120 credits, totalling six years of full-time study up to the Master’s level, and two more systems have unique dominant models, respectively 180+90 credits and 240+60 credits, various combinations are possible in these systems.

Slovenia: information reflects situation in 2009/10. Source: Eurydice (2009) checked by national experts. In all systems, first degrees fall in the credit range of 180-240 credits and, with the exception of some Master’s degrees in the Czech Republic, all second degrees fall in the range of 60-120 credits.

What does not become visible from these tables is that there are systems like the Netherlands and the UK-England/Northern Ireland/Wales, where a total of four years of full-time study to the Master’s level (180+60/90 credits) is common. To the extent that recognition practice is still based on length of full-time study rather than competences, these differences constitute an important issue. Taking into account the diversity within national legal frameworks, the spectrum of possible models is much wider than the table suggests.

Also, if we did not count by country, but numbers of study programmes or student numbers per course, another picture would emerge: larger higher education systems with more programmes and more students would gain more weight. For
instance, the 240+120 credits model would then look much more prominent because it is applied in around 1,000 Russian higher education institutions. Moreover, programmes of lengths which are not dominant in a particular country but do exist (e.g. 240+60 credits in a country where 180+120 credits is the normal model), would become visible. And if student numbers were counted, we might show that the vast majority of students are in programmes for humanities, while different degree structure models for, e.g., natural sciences, would appear much less prominent because there are few students in them.
And again we see the numerical comparisons – the Russian system offers the most number of credits.

c. Doctorate Degree
Now we try and compare the doctorate degrees in the Russian system and in other Bologna countries which represent the three-cycle idea of the Bologna declaration: ‘bachelor-master-doctor’.
For this, we take the Netherlands case, the graduate school aspect.

d. The Nederlands Post-graduate
A new phenomenon in Dutch higher education was the establishment of graduate schools. Graduate schools were primarily meant for Doctoral education as the third cycle, but some universities incorporate their research Master programmes into these schools as well. Such a close link between the second and third cycles will be stimulated particularly for those students who intend to pursue a research career. Sometimes the connection becomes so tight that alternative durations have been introduced, for example the 2+3 model (whereas the standard Doctoral training is a four-year period, which would mean 1+4 or 2+4).
For Dutch institutions the goal is to go ahead with the formal separation between the two cycles and, as some higher education institutions have already done, to set clear admission criteria and selection procedures. A further profiling of institutions involves responsiveness to the diversity of students including non-traditional groups and adult learners.
A further profiling of universities would be a major challenge, differentiating between Masters in close connection with Doctoral programmes in the context of graduate schools and others of a more general nature. Questions arise such as: how can they distinguish themselves from others? Are they prepared to set selective admission standards in the context of a demographic downturn? Do they develop highly demanding Master courses that are attractive for highly talented students nationally and internationally, or do they cater for a much wider student population? Are institutions prepared to create distinctive profiles both with the university and UAS sector and across the binary divide, and where can they seek collaboration?
For students the challenge is to move away from seeing the Master as an automatic continuation of their Bachelor study in the same field and institution, and to make conscious decisions about their further steps in higher education. Such a change in attitude is already impacting on the overall mobility of students. A basic condition
for this mobility is that information services should be well developed and reliable, giving insight and guidance in course options.

For higher education policy the major challenge as formulated in the Strategic Agenda for Higher Education, Research and Science (Ministerie OCW, 2007/8) is to build up a higher education system that is internationally attractive and competitive, that has an international reputation and appearance, and is closely connected to modern societal needs. The Minister advocates an ‘ambitious learning culture in terms of motivation, effort, and attitude’. This challenges institutions to provide more than just the basic quality and students to develop their talents in an optimal way. The National Qualifications Framework for Higher Education has been self-certified against the QF-EHEA in January 2009. The outcomes of the self-certification review have been published at www.nvao.net. Self-certifying the entire education system against the EQF-LLL is in progress.

In order to finalize the initial Bologna Process the following short-term issues are on the policy agenda:

- Full implementation within all the higher education institutions.
- Legalizing the possibility of joint degrees.
- Ensuring the standard use of Diploma Supplement in European format.

For doctoral studies, major aims and principles were outlined (Bologna Seminar on “Doctoral Programmes for the European Knowledge Society”, 2005) but ministers did not specify a desired length or credits volume, reflecting both the intention to maintain diversity of provision and the conviction that it would be inadequate to express doctoral education in terms of credits. And indeed, a diversity of models continues to be found, with three years nominal duration up to the award of the doctoral degree being most frequently mentioned (16 countries).

<table>
<thead>
<tr>
<th>Number of years</th>
<th>Countries</th>
<th>Number of countries</th>
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<tbody>
<tr>
<td>3 years</td>
<td>Austria, Belgium, Bulgaria, Croatia, Denmark, France, Georgia, Greece, Hungary, Italy, Moldova, Montenegro, Norway, Romania, Slovenia</td>
<td>16</td>
</tr>
<tr>
<td>3-4 years</td>
<td>Bosnia and Herzegovina, Czech Republic, Ireland, Latvia, Poland, Portugal, Slovakia, UK-EWNI, UK-Scotland</td>
<td>9</td>
</tr>
<tr>
<td>4 years</td>
<td>Armenia, Estonia, Finland, The Netherlands, Sweden, Turkey</td>
<td>6</td>
</tr>
<tr>
<td>3-5 years</td>
<td>Albania, Germany, Iceland, Malta, Serbia, Switzerland</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>Cyprus (3-8 years), Holy See (2-4 years), Lithuania (2-6 years), Russia (3-3 years), Spain (4-5 years), the Former Yugoslav Republic of Macedonia (min. 2 years)</td>
<td>6</td>
</tr>
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</table>

Table 3 shows that most of the Bologna process countries support doctorate degree only as one-level studies and researches. Moreover, the recommended number of years is 4, which is the case of the Russian ‘half-distant’ doctorate studies represented by the ‘Candidate of Science’ degree.

II. COMPARING BOLOGNA AND RUSSIAN DOCTORATE STUDIES
The Russian system of the doctoral studies contains two significantly different levels: Candidate of Science (an equivalent to the Bologna’s PhD/Doctor) and Doctor of Science (there is no equivalent in the Bologna declaration, but there is one in some European countries – for example, Germany – and is called Habilitation there).

Bologna experts specified the proper period of doctorate studies for both Russian levels (see table 3) – 3+3 years, but what is behind these two periods?

For the first level, which we can call PhD, graduate students can apply right after obtained either a ‘specialist’ or ‘master’ degree, and from 3 to 4 years write and defend the PhD thesis in order to become ‘doctors’.

For the second level – the Doctor of Science (similar to German ‘Habilitation’) – it is possible to apply a year after obtaining a PhD degree – officially. But in practice some rules make it almost impossible to apply quickly – an applicant (who is already a ‘doctor’ according to the Bologna declaration) must prove that the scientific work in the area of the proposed second-level doctorate degree researches has been carried out for the recent period of time and significant results were obtained. That must be proved – by a certain (minimum) number of widely recognized publications: A1, A2 or A3 journal publications, international conferences, symposiums, monographs, textbooks.

The Doctor of Science degree is characterized by a significantly higher research level. The thesis should describe and solve not a particular problem or a subproblem in this or that field or theory, but to provide the results that open a new branch in a theory, solve the problems of a wide research direction. It’s really difficult to carry out a research on such a level without having a strong research experience. Depending on the research area the thesis can be 300-600 pages long and represent a fundamental work. Besides the thesis, the following materials must be published before the applicant becomes eligible to defend for the Doctor of Science degree: at least 10 papers relevant to the thesis topic either in A1, A2 or A3 journals, 3 monographs and textbooks, participation and papers in widely-recognized conferences, symposiums, seminars. For some fields the results of the research must be implemented, tested and verified in a legal entity – a private company, university, production plant, etc. An example of such a situation could be a thesis on the engineering sciences that develops a new production technology. The technology should be implemented on a production facility, tested and the results should conclude that it works better in reality than the known before technologies in the field.

Fulfilling these rules takes much time and effort and leads to the longer period necessary for obtaining such a high degree.

The standard case is that after obtaining a PhD the person continues working in the same research field, publishes his/her results and after some time (it could be from 3-5 to 10-30 years) the scope of a general problem that can be solved by that research is clarified and its becoming possible to put all the things together in a thesis. And it is possible to do that final stage – the thesis – in 3 or 4 years.

Like in Germany, there is also another form of obtaining Doctor of Science – a so-called scientific report. It works as follows: when you have the necessary number
of published papers, monographs, textbooks and these materials together may cover one general topic, it is possible to describe it in a ‘short thesis’ – 30-60 pages that is called a ‘scientific report’.

As already mentioned, this second doctoral level doesn’t have an equivalent in the Bologna declaration. A most close rough equivalent is a university professor – to become a professor, you need to go through some academic stages, prove the significance of your research results by publications and continuous research work. Though professor is a position but not a degree and once you decided to change the job – you’re not a professor any more. In Russia getting a position of a professor requires the degree of Doctor of Science (there are few exceptions).

Also when there is an official second stage of the doctoral studies, the wage for a person with the second stage degree is also higher. This doesn’t have a formal reflection in Bologna’s statements.

According to our opinion, a Bologna university professor can reach an equivalent of the Russian ‘Doctor of Science’ only after 5-8 years of work staring from the post-doctorate studies.

III. CONCLUSION

So, we still can conclude that Doctor of Science in the Russian degree structure expresses one of the highest scientific levels and doesn’t have a similar equivalent in the Bologna declaration.

There are discussions in the Russian government regarding the possibility of removing this second doctorate level in order to fulfill the Bologna process degree structure.

But we want to express different opinion – this level provides a very high standard for the research – both scientific theoretical and practical, which covers wide area of a science.

And due to the globalization and integration processes which are supported by the mobility and interaction between all developed and developing countries, it may be fruitful to promote the Russian ‘Doctor of Science’ degree in order to be included into the Bologna degree level as an additional ‘optional’ step.

This can conclude in a better science development all over the world and faster progress in economical and social global development.

REFERENCES


(3) Official Bologna process website hosted by the European Commission http://ec.europa.eu/education/higher-education/doc1290_en.htm