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PROSPECTS OF USING BEST EUROPEAN PRACTICES FOR MODERNIZING DOCTORAL EDUCATION IN RUSSIA

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Abstract

Throughout its history, doctoral education has always experienced significant changes due to arising challenges and shifts in higher education. Due to the changes in academic and non-academic career opportunities for doctoral school graduates, there is a growing need for the changes in the pathways towards a doctoral degree. Doctoral education in Russia is currently going through the reformation process with changes in the state educational standards and cancellation of state accreditation procedures. Recent European experience of doctoral education reforms can help Russian universities in shaping the new infrastructure and contents of PhD studies. The paper aims at studying the best European practices of modernizing doctoral education and developing possible solutions for the Russian universities in reformation of their doctoral schools. The authors analyze the current state and trends in EU doctoral education based on recent research publications, reports of European Universities Association and involved observation in the framework of Erasmus+ joint CBHE MODEST project. The results show that the best European practices include Doctoral Training Centers as a new model of doctoral education management. Creating such centers at Russian universities could improve international networking cooperation, quality assurance, collaboration with non-academic sector, and development of doctoral students' soft skills, namely, leadership, teamwork, academic writing, etc. Further research could support the set-up of regulatory documents and development of teaching and learning materials for such centers.

Keywords: Doctoral education, DTC, european practices

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1. Introduction

Throughout its history, doctoral education has always experienced significant changes due to arising challenges and shifts in higher education. In most European countries, the past decade has seen a drastic increase in the number of PhD students and doctorate holders in both academic and non-academic careers (Hasgall, 2019). The latter are related to highly-qualified staff necessary for the knowledge-driven society, where, according to some researchers (Kehm, 2020), around 80% of doctoral school graduates find employment opportunities.

In Russia, however, the majority of doctoral school graduates still prefer academic careers (Bednyi & Sapunov, 2019). At the same time, there is a growing pool of research and development positions in industry for doctoral degree holders, first of all, in engineering and science (Bednyi et al., 2014) where knowledge is considered as a strategic resource for further developments and gaining income.

The growing demand for doctoral degree holders in industry urges the universities to adapt doctoral-level skills to the needs of industrial employers (Germain-Alamartine & Moghadam-Saman, 2020) by setting priorities for soft skills together with the job-specific skills (Bednyi & Sapunov, 2019) and by changing the pathways towards doctoral degrees (Bao et al., 2018) thus leading to different types of doctoral programs and doctoral supervision modes (Schneijderberg, 2019).

Globalization of economy and international industrial collaborations in huge companies resulted in similar changes in educational priorities in different countries (Valeeva & Kraysman, 2014) thus setting similar requirements to doctoral-level skills in all educational systems, especially in engineering education (Bezrukov & Ziyatdinova, 2014). All these trends have an impact on Russia where doctoral education is currently going through the reformation process with changes in the state educational standards and cancellation of state accreditation procedures (Nefedova & Dyachenko, 2019).

These reforms aim to bridge the gap between the needs of the knowledge-driven society in doctoral graduates and the current state of the art of doctoral education at the universities. Doctoral education in Russia can benefit from these reforms in case universities take into account the international and, in particular, European experience of recent doctoral education reforms in shaping the new infrastructure and contents of PhD studies (Bekova & Terentev, 2020).

2. Problem Statement

Today, doctoral education in Russia is subject to change due to cancellation of state educational standards together with state accreditation procedures, and introduction of new regulations and criteria for doctoral school graduates. The universities have to take measures and introduce infrastructural and content-specific changes into the doctoral programs.

One of the focuses in these changes is international competitiveness of doctoral programs in the global academic environment. This competitiveness can be achieved in case Russian universities take into account the experience of European universities where doctoral education has undergone significant changes during the last decade. The paper aspires to explore the best European practices in doctoral education and their application in Russian universities. To do this, the international team of authors will

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analyze a pool of recent research in this topic, and their hands-on experience in Russian and European universities.

3. Research Questions

The issues of modernizing doctoral education in Russian universities using the best European practices lead to the following research questions:

- What are the modern trends in doctoral education in the EU universities during the last decade?
- What effect have recent doctoral education reforms in EU countries had on career development of doctoral graduates?
- What are the similarities and differences in doctoral education reforms in the experience of different EU countries?
- What were the most effective infrastructural changes in doctoral education organization at EU universities?
- What were the most significant changes in the contents of doctoral education programs at the EU universities and what specific skills of doctoral students are in the focus today?
- How can the best European practices be used in modernizing doctoral education in Russia under the current reforms?

4. Purpose of the Study

The purpose of this study is to distinguish the best European practices of modernizing doctoral education and to develop possible solutions for the Russian universities in reformation of their doctoral schools. The authors analyze the current state and trends in EU doctoral education based on recent research publications, reports of European Universities Association and involved observation in the framework of Erasmus+ joint CBHE MODEST project.

5. Research Methods

The authors use problem-oriented research focusing on the best European practices in doctoral education modernization in the last decade and their application in Russian universities. The authors analyze current research literature on EU reforms comparing and contrasting them to the current changes in Russian doctoral education.

The research is multidisciplinary as it implies the analysis of various countries and different PhD degree programs in science and engineering. The strategies used in research intend to address distinct learning needs of doctoral students. Thus, the authors focus on student-centered research.

The authors use qualitative research methods such as hands-on experience, observing and comparing both positive and negative practices of the EU universities, identifying the best practices, describing them and finding their applications in Russia for doctoral education in science and engineering in different universities.

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6. Findings

Doctoral education implies both educational and research problems, therefore, two types of challenges shape the format and contents of doctoral programs at universities. Moreover, recent development in knowledge driven economy set new goals for doctoral graduates who can be further employed for non-academic positions.

In regard to these developments, the current trends in EU doctoral education include:

- university-business cooperation in career development;
- societal engagement of PhD students and PhD holders;
- focus on innovation and entrepreneurship;
- priority of soft and transferrable skills;
- internal quality assurance approaches;
- establishing doctoral schools or centres as independents structural units.

The recent reforms in EU doctoral education allow for new types of doctorates including professional, industrial and European doctorates. Most of the EU universities have autonomy in developing their PhD degree programs in cooperation with research intensive or applied industries. All these paths open new career opportunities for PhD holders in non-academic spheres.

Although every EU country has its own legislation for higher education and research, there are certain similarities between them. In EU, doctoral programs serve as a link between the European Higher Education Area (EHEA) and European Research Area, and are in general brought together by the Council for Doctoral Education which was created within the European Universities Association. The consensus reached by all stakeholders is that original research remains the main component of all doctoral programs. At the same time, there is a diversity of doctoral programs in different countries and universities, and this fact reflects their autonomy.

At the same time, there is a common trend of creating Doctoral Training Centers (DTCs) or doctoral schools at the EU universities. They are independent structural units, often focused on a certain field of science funded from different sources including the university support, different grants and donations. In different cases, DTCs can be either within one university, or they can unite several research and even industrial organizations. DTCs aim at managing the degree programs providing different types of guidance for the students.

DTCs are supported by the idea of student-centered learning where well-being of doctoral students is considered one of the main issues contributing to the successful research (Bekova, 2020). Therefore, they can offer different modes of supervision for doctoral students including contracts between PhD students and their supervisors, multiple supervision, other forms of transparent supervision (Robertson, 2017). The roles of supervisors are changing, and there is a growing need for professional development or training of supervisors themselves including their digital skills and soft skills. The latter include intercultural competencies which are crucial for the modern world where foreign languages are an important condition for your future success (Kraysman et al., 2015).

Doctoral programs in EU universities encourage students to participate in international academic mobility exchanges which are recognized as an added value for career development (Bezrukov et al., 2018).

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DTCs can support mobility through providing grants and involving students in cooperation with other countries where the centers already have reliable partnerships (Kraysman & Valeeva, 2014). Successful mobility leads to brain circulation, not brain drain and is strongly supported by the universities and prospective employers.

Apart from academic mobility, universities practice intersectoral mobility when doctoral programs are implemented in collaboration with industrial partners who provide temporary placement for doctoral students in applied research programs. Thus, they can participate in real world experiential projects (Sanger & Ziyatdinova, 2014).

In regard of doctoral education content, as stated above, original research as a hard and subject-specific skill is mandatory for any program. At the same time, there is a stronger focus on transferrable skills as a means to improve further career development of doctoral graduates within academia and beyond. These skills include but are not limited to leadership, teamwork, and academic writing. In many cases these skills are to be developed through research and other subject-related activities.

Thus, analysis of publications and hands-on observation experience show that Doctoral Training Centers can be considered as a new model of doctoral education management. Creating such centers at Russian universities could improve international networking cooperation, quality assurance, collaboration with non-academic sector, and development of doctoral students' soft skills. These centers could make doctoral education programs and management system in Russia more comparable with the European best practices for sustainability of cooperation capacities.

The current Erasmus+ CBHE MODEST project implies the creation of such centers at Russian universities participating in in it, namely, Moscow Institute of Physics and Technology, Kazan National Research Technological University, Moscow State University of Geodesy and Cartography, Russian State Vocational Pedagogical University.

Further research could support the set-up of regulatory documents and development of teaching and learning materials for such centers.

7. Conclusion

Doctoral education is a dynamic and challenging field which has always been full of debates as for its implementation procedures, infrastructural support and contents. Today, Russia is stepping into new reforms aimed at upgrading and modernizing PhD degree programs. There many challenges related to these reforms, and it is important to use the best practices of our European partners who have recently experiences a series of reforms in their doctoral education.

The best practice in infrastructural support of doctoral education is creation of Doctoral Training Centers as independent structural units within one university or in cooperation between universities, research institutions and industrial enterprises.

The current trend in reforming the contents of doctoral education is the focus on soft skills including but not limited to leadership, teamwork, and academic writing. These skills can be effectively developed within the training and seminars organized by doctoral training centers.

The creation of such centers in Russian universities could contribute to developing academic mobility, international networking, cooperation with non-academic sector and quality assurance.

Today, several Russian universities are implementing the idea of DTCs under the Erasmus+ joint CBHE MODEST project. Further development implies the set-up of regulatory documents and teaching and learning materials.

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References

Bao, Y., Kehm, B. M., & Ma, Y. (2018). From Product to Process. The Reform of Doctoral Education in Europe and China. *Studies in Higher Education, 43*(3), 524-541. https://doi.org/10.1080/03075079.2016.1182481

Bednyi, B. I., Ostapenko, L. A., & Serova, T. V. (2014). Graduates of PhD programs in natural sciences in the labor market. *University Management: Practice and Analysis, 3,* 67-73.

Bednyi, B. I., & Sapunov, M. B. (2019). A New Model of Russian Doctoral Education: Problems and Prospects (Round Table). *Vysshee obrazovanie v Rossii [Higher Education in Russia]*, *28*(1), 130-146.

Bekova, S. K. (2020). Well-being of doctoral students: A review of studies and practices. *Monitoring Obshchestvennogo Mneniya: Ekonomicheskie i Sotsial'nye Peremeny, 3,* 422-442. https://doi.org/10.14515/monitoring.2020.3.1635

Bekova, S. K., & Terentev, E. A. (2020). Doctoral education: International experience and opportunities for its implementation in Russia. *Vysshee Obrazovanie v Rossii, 29*(6), 51-64. https://doi.org/10.31992/0869-3617-2020-6-51-64

Bezrukov, A., & Ziyatdinova, J. (2014). Internationalizing engineering education: A language learning approach. *2014 International Conference on Interactive Collaborative Learning (ICL)*, 299-302. https://doi.org/10.1109/ICL.2014.7017788

Bezrukov, A., Ziyatdinova, J., Ivanov, V., & Zolotareva, N. (2018). Inbound International Faculty Mobility Programs in Russia: Best Practices. *Advances in Intelligent Systems and Computing, 715,* 260-265. https://doi.org/10.1007/978-3-319-73210-7_31

Germain-Alamartine, E., & Moghadam-Saman, S. (2020). Aligning doctoral education with local industrial employers' needs: a comparative case study. *European Planning Studies*, *28*(2), 234-254. https://doi.org/10.1080/09654313.2019.1637401

Hasgall, A., Saenen, B., & Borrell-Damian, L. (2019). Doctoral education in Europe today: approaches and institutional structures. Retrieved from https://eua.eu/downloads/publications/-online%20eua%20cde%20survey%2016.01.2019.pdf

Kehm, B. M. (2020). Reforms of Doctoral Education in Europe and Diversification of Types. *In book: Structural and Institutional Transformations in Doctoral Education*, 85-104. https://doi.org/10.1007/978-3-030-38046-5_4

Kraysman, N. V., & Valeeva, E. E. (2014). Integration of KNRTU into the world community as an example of cooperation with France. *2014 International Conference on Interactive Collaborative Learning (ICL)*, Dubai, United Arab Emirates, 862-863. https://doi.org/10.1109/ICL.2014.7017886

Kraysman, N. V., Ziyatdinova, Y. N., & Valeeva, E. E. (2015). Advanced training in French with practical application in professional and scientific activities at KNRTU. *2015 International Conference on Interactive Collaborative Learning (ICL)*, 1091-1092. https://doi.org/10.1109/ICL.2015.7318183

Nefedova, A., & Dyachenko, E. (2019). The Reform of Postgraduate Education in Russia in the Context of Global Trends. *Mir Rossii, 28*(4), 92-111. https://doi.org/10.17323/1811-038X-2019-28-4-92-111

Robertson, M. J. (2017). Team Modes and Power: Supervision of Doctoral Students. *Higher Education Research & Development, 36*(2), 358-371. https://doi.org/10.1080/07294360.2016.1208157

Sanger, P. A., & Ziyatdinova, J. (2014). Project based learning: Real world experiential projects creating the 21st century engineer. *2014 International Conference on Interactive Collaborative Learning (ICL)*, 541-544. https://doi.org/10.1109/ICL.2014.7017830

Schneijderberg, C. (2019) Supervision practices of doctoral education and training. *Studies in Higher Education.* https://doi.org/10.1080/03075079.2019.1689384

Valeeva, E. E., & Kraysman, N. V. (2014). The impact of globalization on changing roles of university professors. *2014 International Conference on Interactive Collaborative Learning (ICL)*, 934-935. https://doi.org/10.1109/ICL.2014.7017901