

FEATURES OF INNOVATIVE DOCTORAL TRAINING AT PRESENT STAGE

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Abstract. *This paper aims to contribute to the analysis of the phenomenon of doctoral education reforming. It focuses on recent changes in PhD training that can be observed in Europe since the inclusion of doctoral studies as the third cycle in a three-cycle higher education system with the aim to create stronger synergy between the European Research Area and the European Higher Education Area. Special attention is given to the regulatory framework governing the doctoral education that consists of the most important strategic documents on PhD studies, which make the process of reforming streamlined. The author has compiled a non-exhaustive list of possible reform triggers that includes the emergence of new types of PhD students, development of structured doctoral programs, research careers inside and outside of academia, critical importance of searching for a new funding model, mobility, internalization, provision of a full range of generic and transferable skills essential for PhD students, application of transdisciplinary research integrating knowledge across academic disciplines, increasing concern about the genuineness of research, professional excellence of supervisors and increase in the scope of their liability, enhancement of the quality of research environment, etc. The article highlights the creation of the EUA Council for Doctoral Education (EUA-CDE) in 2008 that has taken over a steering role in this process as one of the milestones in the reforming of doctoral studies. It focuses on the EUA-CDE Annual Meetings as a universal platform covering different aspect beginning from presentation of the platform, vision, mission and goals of the EUA-CDE and ending with impact of digitalization and COVID pandemic on doctoral education. The upskilling and professional development of supervisors as an institutional responsibility and its specifics are further described from the perspective of PhD reforming.*

Key words: *reforming, doctoral training, doctoral studies, doctoral program, doctoral supervision, PhD student, modern directorate, quality assurance.*

Introduction. Undoubtedly, doctoral training has undergone the substantial modifications since the inclusion of doctoral and postdoctoral levels in the Bologna Process as the third cycle by the 2003 Berlin Communiqué. Doctoral training is recognized to be instrumental in forging connections between the European Research Area (ERA) and the European Higher Education Area (EHEA). The EHEA and the ERA as the European initiatives and principal constituents of the knowledge-based society have put their heads together to ensure a rigorous criterion in higher education and improve the framework of research across the globe. This implies the need of training a new diversified pool of PhD holders who will be able to respond to current and future obstacles and challenges while converting knowledge, innovative ideas and solutions into intellectual output that can add a new dimension to the economic and social benefits.

To consider this issue in all its aspects we need to focus on reforms of doctoral studies targeted at achieving excellence in modern doctorate, strengthening research capability through the application of a structured approach to doctoral programs converting scientific PhD programs into educational and scientific, ensuring for researchers the career development beyond academia through equipping them with transferable skills, etc. A plenty of stakeholders are interested in doctorate reforming, but it is the European University Association (EUA) and universities that have become the key drivers of the doctoral reforming aimed at training a new generation of early-stage researchers (ESRs) thinking outside the box and providing them with perspectives through international, interdisciplinary and inter-sectoral mobility (Hasgall, et al., 2019).

In this landscape, the efficient process of PhD student training is impossible without ongoing improvement in the supervisory practice that helps reinterpret and rethink the supervisors' responsibilities and competences, enhance the quality of supervisory experiences since a supervisor at present stage should be able to supervise a PhD student through high-quality experience during the whole period involving

knowledge accumulation through education and knowledge generation through research.

The reforming process has resulted in the introduction of a model, where institutions, not individual supervisors, are assigned a key responsibility area for doctoral training.

Literature review. The scale of reforming PhD training is analyzed to a greater or lesser extent by both Ukrainian and foreign researchers. An in-depth review of domestic and foreign literature on specifics of doctoral training and education demonstrates that despite certain gaps in the scientific literature data or controversies over the nation-building role of the preparation of current and future generations of PhD holders, we can ascertain a comprehensive understanding of the current state of knowledge about the problem under study. The studies of Cardoso, S., Carvalho, T., Santos, S., Diogo, S., Soares, D. focus on the transformation of doctoral education by proposing conceptual analysis of different ideas or concepts of doctoral education, fundamental pillars related to foundations, objectives, methods, expertise, organization and process of modern doctorate, through a highly rigorous and systematic review process. The Ukrainian scientists such as Boichenko, M., Sbruieva, A., Talanova, Zh., got an insight into the regulatory, organizational, procedural, methodological background of reforming doctoral education in the European Higher Education Area and Ukraine. In particular, Talanova, Zh. analyzed the organizational and development trends in doctoral training in terms of individual regions, countries, and universities, and made methodological recommendations on the refinement of modern doctorate in Ukraine along the path towards European integration. Gibbons, M., Green, H., Limoges, C., McCarney, P., Nowotny, H., Schwartzman, S., Scott, P., Trow, M., Powell, S., Wolfe, D. et al. place emphasis on the revisiting of doctoral education and a new doctorate landscape, analysis of the problem points faced by PhD holders in the process of reorganization of doctoral training and supervision. Walker, G., Golde, C., Jones, L., Hutchings, P. et al. turn the spotlight on the rethinking of doctoral education and the formation of a new generation of researchers. Lee, A. and Danby, S. made an in-depth analysis of the new doctorate environment and the challenges it faced in the

process of doctoral education evolution. Borrell-Damian, L., Morais R., Smith, J. et al. direct attention to research projects and scientific endeavor within the confines of doctoral education. Boberg, I. and Devine N. elucidated the developmental patterns of doctorateness while creating a new form of an understanding of research.

But despite a considerable amount of research on doctoral education, the issue on reforming the doctoral training and supervision to increase the quality of the professional training of PhD students is still underserved.

The goal of this paper is to study the specifics of innovative PhD training from the perspective of the reforming of doctoral studies.

Methods. The goal to be sought is implemented by applying the following groups of methods:

- general scientific (analysis, synthesis, comparison, generalization and systematization, which made it possible to clarify the theoretical approaches that form the basis for doctoral education and training);

- specific scientific (method of genetic analysis, method of structural and logical analysis; method of structural and functional analysis);

- empirical (analysis of projects, codes of practice, guidelines of international organizations, universities and research institutions on the issue of doctoral education, regulatory documents in the field of PhD training and supervision).

Results. The process of reforming PhD studies has shifted the main area of responsibility from the individual responsibility of a certain supervisor to the joint and several responsibility of both supervisors and institutions for doctoral training. This shift has obliged universities to institutionalise their organizational structures that can incorporate the doctorate pillar into the university conceptual framework. To have a good thing going, most universities have abandoned the traditional, person-to-person relationship between a supervisor and a supervisee in favor of a more structured and regulated training procedure and established research or graduate schools to accommodate the most demanding needs of different stakeholders and parties concerned. Insuring job opportunities of researchers outside of academia is currently a matter of considerable interest of universities providing doctoral studies.

A non-exhaustive list of possible reform triggers includes, but not limited to, the emergence of new types of PhD students and development of structured doctoral programs, research careers inside and outside of academia, critical importance of searching for a new funding model, mobility, internalization, provision of a full range of generic and transferable skills essential for PhD students, application of transdisciplinary research integrating knowledge across academic disciplines; increasing concern about the genuineness of research; professional excellence of supervisors and increase in the scope of their liability; enhancement of the quality of research environment, etc. (Hasgall & Peneoasu, 2022).

The regulatory framework governing the doctoral education consists of the most important strategic documents on PhD studies, which make the process of reforming streamlined: the Salzburg Principles (2005), European Charter for Researcher. The Code of Conduct for the Recruitment of Researcher (2005), Principles for Innovative Doctoral Training (European Commission 2011), Salzburg Recommendations (2010), Good Practice Elements in Doctoral Training (2014), PRIDE - Professionals in Doctoral Education (2016) etc.

It is worth pointing out that one of the major milestones in the doctoral training in Europe has become the development of the Salzburg Principles (2005) in the Bologna Process, since they provide a common-sense baseline for a diversity of reforms introduced in European countries. The above Principles make specific reference to the areas of concern as follows:

i. The major constituent of doctoral training is the pursuit and advancement of knowledge through original research that produces new knowledge. Along with this, doctoral training should respond to needs of a job market requiring PhD holders to be equipped with skills and career competencies for within and outside academia.

ii. Incorporating in strategies and policies at the institutional level: universities should be held liable for ensuring that the doctoral programmes and research training implemented by them are tailored to provide new levels of professionalism.

iii. Diversity as a significant element: as diversified doctoral programmes including the opportunity to obtain a joint doctoral degree or multiple doctoral degrees

awarded by the participating institutions, is an edge and area of strength conditional upon quality and sound practice.

iv. PhD holders as early stage researchers: should be recognized as professionals contributing very valuable insights into various aspects while producing and disseminating new knowledge.

v. Supervision and assessment as a critical path: should be based on a transparent contractual framework of shared responsibilities between supervisees, supervisors and the institution.

vi. Achieving critical mass: ensuring a requisite number of PhD holders under diversified doctoral programmes and resting upon different types of innovative practice implemented at the institutional level across Europe.

vii. Duration of PhD training cycle: doctoral programmes introduced by universities and other institutions should be for an appropriate period (usually 3 or 4 years in the equivalent of full-time training).

viii. Innovative doctoral structures: to address the challenge of researchers' developing transferable skills and expanding interdisciplinary experience.

ix. Improving mobility: Doctoral programmes should be aimed to improve the implementation and recognition of interdisciplinary and intersectoral mobility for PhD candidates and international collaboration between universities and other partners.

x. Ensuring adequate and sustainable funding: financial flows are critical to the development of quality doctoral programmes and responding to the growing needs of doctoral candidates (Doctoral Education - Taking Salzburg Forward: Implementation and new challenges, 2016).

The Salzburg Principles are aimed to assist universities by bringing more coherence to their doctoral education system and providing a unified framework for the entire process of PhD studies while preserving to some extent university autonomy.

Furthermore, experts engaged by the European Commission have determined the seven Principles of Innovative Doctoral Training as an instrument for directing the process of PhD reforming in Europe:

- research excellence that is fundamental to all doctoral studies;

- attractive institutional environment that includes career development opportunities in line with the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers;

- interdisciplinary research options that insure an open research environment and culture through application of an interdisciplinary approach;

- exposure to industry and other relevant employment sectors that ensures placements during research training; shared funding; involvement of non-academics from relevant industry in training and supervision;

- international networking that enshrines collaborative research, dual and joint degrees;

- transferable skills training that provides researchers with the skills demanded by the knowledge based economy, such as communication, teamwork, entrepreneurship, project management, IPR, ethics, standardisation etc.;

- quality assurance on an ongoing basis from recruitment to graduation (Seven Principles for Innovative Doctoral Training, 2011).

A subsequent course of action providing for a common framework of doctoral training involves the development of the “Salzburg Recommendations” (2010), which are the roadmap for reforming doctoral education and solving crucial issues. Their key insight is as follows:

1. Doctoral studies lie at the core of the European Research Area (ERA) and the European Higher Education Area (EHEA) underpinned by the research practice.

2. PhD candidates should be independent and flexible to be able to develop. Doctoral education is based on original research. The path of progress of the individual is unique in terms of the research project as well as the individual professional development.

3. Doctoral studies should be implemented by autonomous and accountable institutions taking responsibility to cultivate the research mindset. Institutions need flexible regulation to create special structures and instruments and continue advancing European doctoral education (Salzburg II Recommendations, 2010).

One of the milestones in the reforming of doctoral studies is the creation of the EUA Council for Doctoral Education (EUA-CDE) in 2008 that has taken over a steering role in this process. The EUA-CDE has changed to a significant degree the basic functions and scope of doctoral training. It is a structural arrangement that fosters the mechanisms of collaboration and exchange of best practice among EU universities, the alliance of professionals from more than 260 institutions. To meet these objectives, the Council for Doctoral Education arranges annually meetings, which focus on considering the most pressing issues, which include, inter alia, the quality enhancement of doctoral supervision, doctoral program development, provision of PhD holders with the opportunity to find employment outside the academic sphere, implementation of the best practices in doctoral training, research funding, research career development, etc. These meetings are targeted at different parties concerned: academic leaders, doctoral education professionals, supervisors, postdoctoral researchers, doctoral candidates and other stakeholders interested in outcomes of the PhD reforming. Since its launch the EUA-CDE has held the 15 Annual Meetings covering different aspect beginning from presentation of the platform, vision, mission and goals of the EUA-CDE, supervision, research careers, internationalization, research assessment, networks in European doctoral education, major changes in doctoral education in Europe since the anniversary of the Salzburg Principles, transition to the community model with individual and collective responsibilities, global trends in doctoral education reforming and their potential consequences at the institutional level, developments in doctoral training in the future and ending with impact of digitalization and COVID pandemic on doctoral education. It should be noted that the 16 EUA-CDE Annual Meeting is scheduled for June 2023 and will focus on different communication vehicles in doctoral education and developing comprehensive approaches to communication under doctoral strategy and practices as an integral part of the PhD student's journey, discuss communication skills as valuable assets for career paths inside and outside of academia (The EUA Council for Doctoral Education: A Welcome Word, 2008).

Since the fifth Salzburg Principle emphasized in 2005 the importance of supervisory practice, the process of supervision has become a consolidated effort with the unambiguously determined and assigned liability of the principal supervisor, supervisory team, PhD candidate, doctoral school and the university, foreseeing the possibility of the individual development of the doctorate degree holder. The upskilling and professional development of supervisors have become an institutional responsibility. One of the priorities of doctoral schools and other research institutions is building a common supervision culture shared by supervisors, governing bodies of doctoral school and PhD students. Supervisors must be active researchers.

One of the decisions of major importance for improvement in the supervisory practice made by European universities is the introduction of multiple supervision models: double, joint or panel supervision, which are more transparent and efficient. The prerequisites of the high-quality supervisory practice include, inter alia, the training and professional development of supervisors. In this regard, an important issue to be addressed by universities has become the arrangement of professional development courses and workshops for new and experienced doctoral supervisors in all areas of expertise. The PhD supervision training programs are tailored to equip supervisors with a new set of skills and competencies and to foster the exchange between supervisors on an ongoing basis. Most reputable universities such as Imperial College London, Oxford University, University of Edinburgh, offer courses of fundamentals of PhD supervision including the following blocks: recruitment and induction of doctoral students; supervisor responsibilities and building effective relationships; managing supervisory progress; supporting PhD students through completion and final examination; supporting wellbeing, and professional and career development etc.

Discussion. The ongoing process of the reforming of doctoral studies covers all areas of expertise and obliges all parties concerned and stakeholders to strive for excellence in professional doctorate only through joint efforts. Much has done in this direction. The study notes that Europe has already made significant progress over the past two decades in terms of doctoral studies transformation and re-organization to

meet the demands of a global, knowledge-based economy and labour-market requirements. One of the outcomes of reforming observed at the institutional level are the mandatory training of transversal skills offered to PhD students, which include research ethics and integrity, research methodology, research data management, thesis writing, scientific communication, proposal writing, responsible research and innovation, open science, project management, career development, time management, patents and knowledge valuation, public engagement, conflict management, leadership, intercultural competences, entrepreneurship etc. The above measures facilitate the process of preparing a variety of career steps for doctorate holders within and outside of academia. Through the application of a structured approach, European universities and other research institutions have managed to bring their doctoral practice into line with the European standards in doctoral education and bring into clear view the roles, duties and status of all participants in the PhD training process. Quality assurance throughout the reforming of PhD studies is a systematic process, which helps determine whether the university procedures and activities meet specified requirements and find the opportunities for improvement.

Conclusion. Summarizing the above it should be mentioned that doctoral training is constantly evolving, and strategic priorities as part of a university's core culture with its purpose and philosophy need to be adapted to the current needs and requirements of doctorate holders at present stage.

The reputable European universities with their best practices in doctoral studies should be considered as an example to emulate for most Ukrainian institutions offering doctoral studies. The Ukraine's participation in the European integration processes requires a significant transformation to follow global trends and meet the European requirements and standards in the area of concern. The most significant differences are: weak research and innovation context; lack of effective structured research educational training programs; inconsistency in doctoral training procedures; low competitiveness, and therefore unsatisfactory selection process for PhD candidates; weak integration of national universities etc. Further studies should be conducted to characterize trends in the modernization of doctoral training in Ukraine.

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