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Doctoral Schools at the University of Latvia: Sharing Experience and Looking Ahead

Abstract

Multi- and inter-disciplinary approach in studies is an important trend towards strengthening research in Europe and in the world. The article examines a concept of doctoral schools contributing a trans- and inter-disciplinary dimension to postgraduate education. It discusses how educational institutions have to respond to the challenges of providing a high-quality research training environment. The authors show, by using the example of the University of Latvia, that the establishment of doctoral schools at university level is a worthy strategy for higher education institutions as it will give doctoral and master students an opportunity to acquire solid knowledge about subject matters and it will contribute to the creation of a stimulating research environment. The development of analytical skills and specialist knowledge promoted by doctoral schools is a valuable asset in areas where in-depth knowledge of the trans- and inter-disciplinary approach is at the centre of research.

Key words: doctoral schools, trans- and inter-disciplinarily research, universities.

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Introduction

In the contemporary world human societies exhibiting diverse and complex cultural identities and different beliefs interact very closely. To describe the transformation of the 21st century's societies with words such as complexity, interdependence and interaction of various processes is to indicate clearly that the problems of these societies are increasingly complex and interdependent. Moreover, the same problems are not limited to single sectors or disciplines, and they are not easily predictable. Reality is a nexus of interrelated phenomena that cannot be reduced to a single dimension (e.g. Muravska 2011, 8). Currently important challenges are ahead of the European economy and politics as well as European integration. The EU is facing both a major wave of “brain drain”, seriously impacting its economy, as well as a serious “refugee crisis”. Shortage of labour and highly skilled professionals is recognized as an important constraint standing in the way of dynamic economic development in the EU and it is one of the main concerns for politicians and intellectuals.

Thus, the institutions dealing with higher education and research are facing new challenges and must respond to the new processes that strengthen the mutual ties between international communities. Interrelation and interaction of political, economic, social and other dimensions leads to the interdependence of studies and the demand for integrated comparative educational settings that offer an inter-disciplinary approach to the development of generic and specific knowledge, skills and competences.

The main objective of the article is to examine a concept of *doctoral schools* as a trans- and inter-disciplinary dimension of post -graduate education while, at the same time, discussing how educational institutions must respond to the challenge of providing a high-quality research training environment. The methodology of this contribution is based on the trans- and interdisciplinary approach as a tool in the assessment of analytical skills and specialist knowledge development promoted by *doctoral schools*. It is a strong asset in areas, where in-depth knowledge of trans- and inter-disciplinary approach is the focus of research. The authors show, by using the example of the University of Latvia, that the establishment of *doctoral schools* at university level is a valuable strategy for higher education institutions. They argue that it will give doctoral and master students and opportunity to acquire solid knowledge about subject matters by applying an inter-disciplinary approach and that it will contribute to the creation of a stimulating research environment.

Different factors have impact on the educational and research environment, i.e. the changes in the international division of “intellectual” labour (Singh, Han 2017, 57) and the corresponding financial resources as well as a number of economic growth factors,

such as the period of the recent economic and social turmoil started in 2008 and its ramifications for education and research. These changes are reshaping global markets and, at the same time, impacting education systems, research, innovation and knowledge development. Such transformation processes lead to intriguing research questions such as: how are universities adjusting to these new market demands and, specifically, how are universities creating a brand? What are the implications of the “university brand” and the introduction of a “brand society” in the field of higher education?

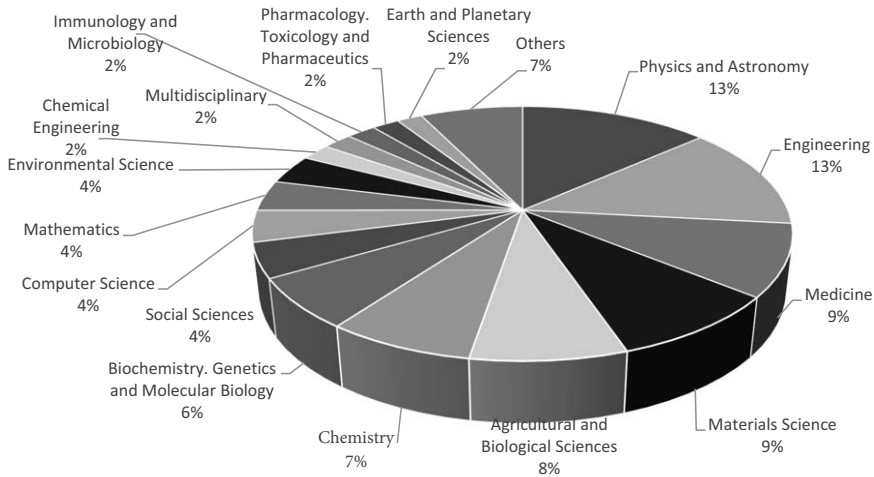
Universities worldwide are in the midst of a dramatic transformation of their administrative and scholarly goals. Such reforms are driven by a sense of global competition among higher education institutions, now forcing universities to set strategic plans for growth and excellence. These strategies join the already established practices of outlining financial solvency, global ranking, and curricula. Universities also approach their identity in a strategic manner and increasingly concentrate their efforts on branding. While still being “Republics of Scholars”, in today’s economic and political environment universities often perform as “Organisations” (e.g. Muravska, 2011). This is a new trend in the transformation of our societies which is also true in Latvia.

1. Situation in Latvia: Maturity in Relations to Postdoctoral Studies

The modifications in the Latvian higher-education system that followed the national implementation of the Bologna process had a domain-specific impact within the whole Latvian academic community. While the legislative changes equally affected all disciplines, for example, the transition to the three-cycle structure Bachelor-Master-PhD, the efficiency of the quality assurance policies and mechanisms depended strongly on the maturity of each academic community in charge of their implementation, internationalization and the ability to publish research results at the doctoral level and beyond.

As it is shown in Figure 1, there is a large imbalance in a number of research papers published in various fields. For example, in social sciences the share of publications is only 4% while in engineering as well as in physics and astronomy it is 13%. It is clear, that in many subject areas the number of research publications should be increased (e.g. Muižnieks 2016).

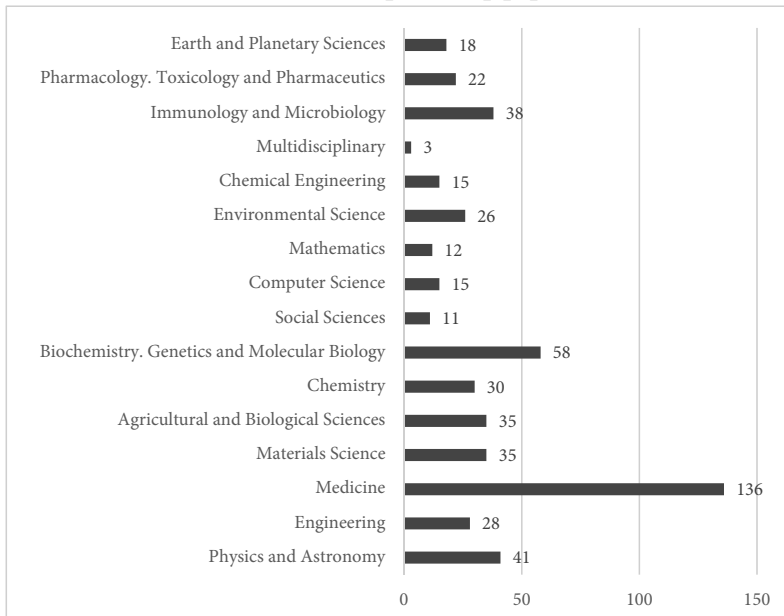
Figure 1: Research papers published by subject areas in Latvia 2005–2015 in percentage



Data source: Latvian Academy of Sciences; N=6743.

Figure 2 shows that the most cited research papers are in biochemistry, genetics and molecular biology as well as, by far, in medicine. The least cited are research papers are in mathematics, computer and social sciences and multidisciplinary (e.g. Muiznieks 2016).

Figure 2: Research papers published in Latvia 2005–2015. Median citation number per 50 top papers



Source: Scopus, N=6743.

The above information demonstrates that serious consideration should be given to further development of research in, for example, social sciences. However, attention should be devoted also to humanities and cultural sciences.

To improve the situation there is a need to further develop different forms and methods of education at the third level of studies – doctoral studies. One of the instruments in implementation of this task is the establishment of doctoral schools, methodological seminars with participation of professors and experts from partner universities and research institutions, who advise students and supervise doctoral study processes in one or more study areas. The harmonious approach in maintaining the development of different fields should not be forgotten. The number of doctoral graduates should increase proportionally in humanities, social sciences and natural sciences (e.g. Muiznieks 2011).

To ensure the maintenance of the Latvian “academic society” Latvia needs 100–120 new doctoral degree holders every year. During 2008–2010 there were on average around 130 graduates per year. In 2008 a doctoral degree was obtained by 139 graduates, in 2009 by 174 graduates and in 2010 by 132 graduates. However, to reach a qualitative change in the state of research and development in Latvia there is a need for 300 new doctoral degree holders every year. Such an increase is not an easy task, especially while keeping high standards for degree recipients. Thus, what follows is that doctoral degree funding should be increased by three to four folds (e.g. Muiznieks 2011).

In 2009 a European Social Fund (ESF) was implemented in Latvia with an aim to support doctoral studies. To a large extent the €15.5-million programme helped in modernizing doctoral studies in all subject areas. It was very important due the severe public debt crisis in 2008 and the resulting reductions of funds available for doctoral studies and research (e.g. Deloitte 2013).

The academic community at the University of Latvia is among the most internationalized ones in the country, with long-standing scientific collaborations both at European level and worldwide, and research output of the highest quality. This, in turn, ensures the quality of the doctoral studies in the University’s education system, which, for the past few years has been competitive worldwide.

To promote further academic development and interdisciplinary research, the University of Latvia implemented a concept of interdisciplinary, topic-oriented doctoral and master studies, in which a special role is assigned to Doctoral Schools (DS).

2. The Concept of Doctoral Schools and Their Role in Strengthening Interdisciplinary Research

Interest in the interdisciplinary approach has a long history and it sparked a lot of debates in the recent years. While academics tend to conclude that a deep understanding of contemporary society requires an interdisciplinary approach, the application of this approach in higher education and sciences is still complex. The present-day complexity, volatility and diversity of the globalised world demand changes and a response to new challenges in higher education and research. In this context, V.B. Mansilla (2005) concludes that a deep understanding of contemporary life requires an interdisciplinary approach. There is a growing need for the involvement of experts in different disciplines to handle the complex issues of the contemporary society and to carry out interdisciplinary research related to various topical problems. Meanwhile, higher education needs a new approach that can give students generic knowledge, wide outlook, professional skills and competences which in these circumstances can be a challenge. Educators and researchers agree that the debates about disciplinarily and interdisciplinarity are complex as they “directly challenge nothing less than the way the understanding, production and dissemination of knowledge are structured within the academy” (e.g. Shailer 2005). Also, interdisciplinary approach raises questions about how and to what extent university researchers and educators should collaborate with other parties involved in the new knowledge development (private research centers, industrial laboratories, business and commercial organizations, etc.).

Doctoral School at the University of Latvia were launched in 2009 as projects with an aim to promote trans- and interdisciplinary research of young scholars and to increase the quality and efficiency of research done by young researchers. Most of these young scholars are Doctoral and Master’s students who will continue their doctoral studies. Currently the 19 DS at the University are as follows: Research, Modelling and Mathematical Methodology Improvement for Atomic and Continuous Media Physical Processes; Study for Sustainable Use of Plant and Soil, Biological Resources European Integration and Baltic Sea Region Studies; The Baltic Doctoral School named after Wladimir Admoni; Doctoral School of Biomedical Research and Novel Technologies; Human Capacity and Learning for Life Wide Learning in Inclusive Context of Diversity; Computer Science and its Interdisciplinary Applications in Natural and Social

Science; Doctoral School in Translational Medicine, Animal Diversity and Quality of Environment; Physics and Chemistry of Interaction between Electromagnetic Radiation and Materials, Functional Materials and Nanotechnology; The Development of Individuals, Groups and Organizations under the Influence of Interactions of Psychological, Educational and Social Factors; Lettonica and Intercultural Studies; The Analysis of Social and Political Processes in the Post-Soviet Area; Doctoral School in the Vision Research; Current Issues of Theology and Religious Studies; Insuring International Competitiveness of the National Economy; Environmentally Friendly Organic Synthesis; Earth Resources and their Sustainable Use.

The tasks of the doctoral schools are diverse. The schools should reflect on and define their research topics based on what is relevant for the needs of society. They should focus on problems from multiple points of view of different disciplines, offering the views of academia, practitioners from a variety of disciplines, expert areas and countries. The main tasks of DS are to combine various fields of science, academic and research work to solve scientifically and socially important issues; to promote the exchange of ideas and information, including the creation of innovative projects by encouraging the use of doctoral studies' results in the process of fostering innovation, to attract foreign partners and experts, to promote publication of research results in international scientific journals.

The DS have to implement research on the basis of cooperation with different departments, research centres and institutes at their own University, as well as in cooperation with research organisations, universities and think tanks outside of their University, to promote new innovative methods of conducting doctoral studies in the design and implementation of research projects.

A number of doctoral programmes can be involved in each doctoral school. Doctoral School are also eligible to perform activities up to four years with the right to extend the deadline. A four-year period could be extended two times on the basis of repeated application followed by a positive decision from the Academic Advisory Council of the University and the University leadership support.

The process of establishing a DS and reviewing its application consist of different stages.

1. The Advisory Councils of the University have to consider the following criteria: scientific and practical significance of the DS subject, novelty and interdisciplinary, cooperation potential, the possible value added that might result from collaboration, as well as suggestions by the DS Executive Board.
2. After the DS application is reviewed, Advisory Councils makes recommendations to the University leadership.

3. The University leadership establishes the Commission that evaluates the DS conformity with the development strategy of the University as well as with the interests of social partners and the University image.

To establish a DS an applicant needs to fulfil the following criteria and administrative requirements:

- to cooperate with at least three different doctoral programmes from three different fields of science;
- to submit three letters of support from institutions involved in DS;
- to establish an Executive Board, consisting of at least 10 scientists (50% of which must be from the University staff, a least 3 board members must be scholars attracted from abroad and at least two members must be scholars from Latvia, but not the University staff).

It is also stated that there must have been at least one dissertation supervised (with doctoral degree obtained as a result) on average per one Executive Board member of the University over the past three years.

The necessary documents for establishing the DS include an application, an action plan, the applicant's evaluation form, letters of support, a list of declared members with attached CVs and proofs of participation in different doctoral programmes, as well as the list of doctoral theses defined under the supervision of University academic staff included in the Executive Board of the DS. The participants of the DS are masters and doctoral students, their academic supervisors, the Executive Board, including its chairment and technical secretary.

The DS work is organised as follows: scientific colloquia, seminars, methodological training and other related activities. DS activities aim to improve the scientific performance of their participants, analyse research theories, research methods, learning, identification of innovation and knowledge transfer opportunities, publishing opportunities of research results, etc. The Executive Board makes decisions on cooperation with different study programmes, research subject areas, involvement of new participants and partner institutions, etc.

During 2009–2015 doctoral students had the opportunity to apply for grants to carry out research projects, defend their PhDs, get additional skills, acquire cross-disciplinary experience and boost their career. The number of publications in recognized journals has significantly increased. All this was possible due to the implementation of EU ESF project "Support for doctoral studies in University of Latvia". It was initiated in 2009 and by the end of 2015 had a budget of €22.2 million (European Commission 2011). From the start of the project, 541 doctoral theses have been submitted to the Doctoral Council, 527 of them have been successfully defended

(University of Latvia 2015). Five competitions for scholarships were announced for about 600 doctoral students and doctoral degree candidates.

This was a vital incentive for young researchers to undertake doctoral studies. The implementation of the ESF helped increase the number of specialists with doctoral degrees, and improve the knowledge potential of the country with high added value in promoting economic development on the basis of innovation and development of high-technology sectors. Apart from funding students, the ESF provided support for guest lecturers and seminars to encourage the adoption of new research methods. Most of these activities have been implemented through the activities of the doctoral schools.

Currently there are 19 Doctoral schools operating as interdisciplinary, based on interdisciplinary approach to research in social, natural sciences and humanities.

3. Methodology of Interdisciplinary Research Implementation: The Example of the Doctoral School on European and Baltic Sea Region Studies

Interdisciplinarity and an integrated scientific approach is viewed by scholars as research to serve society. Much of the global literature on interdisciplinarity argues that it has a key role to play in addressing the grand challenges that society faces. Moreover, it has a catalytic role in encouraging interdisciplinary research by defining and describing the ‘grand challenges’ that require interdisciplinary solutions. The increased complexity associated with interdisciplinary research means that appropriate timescales for funding are an important consideration (Global Research Council 2016). However, a recently published book, “Rethinking Interdisciplinarity Across The Social Sciences And Neurosciences (2015)”, suggests “less focus on structures and funding for interdisciplinarity, and more on the everyday highs and lows of collaboration”.

An eclectic approach has been selected by the University of Latvia when a Doctoral School for European Integration and Baltic Sea Region Studies (EIBSRS) was launched at the University in 2009 by decision of the Rector of the University of Latvia on November 2009 to support young scholars during their research training (University of Latvia 2009). It is also important to understand that doctoral schools are complimentary to the doctoral programmes and doctoral programmes remain responsible for academic admission of a PhD proposal, regular doctoral studies and the preparation of the PhD theses for their defence.

The doctoral school carries out activities related to the international dimension of the doctoral degree and helps to increase the value of the graduate on the job market, in the society and in their personal careers as researchers. Most of doctoral students at the School gathered “real” research experience by contributing to research projects implemented at the Centre for European and Transition Studies funded through the European Commission (Box 1).

Box 1

The EBSRS School covers the following research dimensions:

- Northern dimension – Baltic Sea Region development strategy – Baltic Sea Region: Integration and cooperation, competitiveness, business development, marketing and clusters
- Macroeconomic and financial stability
- Common foreign and energy security policy
- Social and demographic Dimensions in the EU policies
- Migration and asylum problems in the EU
- Good governance and public communication in the EU
- Interdisciplinary research and education in European Integration Studies
- Creative economy and innovation development in the Baltic Sea Region
- Political and social dimension in the process of democratization in the newer EU member states and candidate countries
- EU legal regulation in the areas of cooperation
- Recognition of national interests within the EU
- Baltic sea region in the EU: cultural and historical dimension in the EU
- Territorial cohesion in the Baltic Sea Region countries and EU
- Comparative law issues in the EU

Source: Authors' own elaboration based on the University of Latvia Senate Decision No 169; European Commission, DG Education and Culture Grant Jean Monnet Centre of Excellence, No.199871-LLP-1-LV-AJM-PO; Regulations on Promotion Councils and Promotion at the University of Latvia, No. 1/995 dated 12.04.2006, amended No. 1/335, dated 15.11.2011.

Research training at the school is associated with deepening and widening knowledge about the process of integration in Europe. Special attention is given to integration of the Baltic States in the EU, regional cooperation and socio-economic development in the Baltic Sea area. Participation in the School activities helps to improve skills in trans- and interdisciplinary research.

The School cooperates with different research structures at the University of Latvia and other educational and research establishments in the country, as well as partners from the EU and non-EU countries. This cooperation provides a solid platform for advanced studies that offers added value within and outside the discipline of young researchers. Doctoral as well as Master students from different subject areas and study programmes such as economics, law, politics, communication, management, culture, geography, European Studies and Baltic Sea Region Studies are welcome there.

The doctoral school organizes guest lectures, seminars, regular discussions and Jean Monnet doctoral colloquia, as a part of the European Commission Jean

Monnet Programme. In addition, working groups are arranged to facilitate research-related activities. The DS also arranges information sessions, promotional events and interaction with industry, keeping up with the needs of external stakeholders.

To facilitate the operation of the School an Executive Board of the DS was set up, which consists of 8 professors from the University of Latvia and two members from partner institutions from abroad. The Executive Board is responsible for admission of doctoral students. Applicants from the University of Latvia, higher educational institutions in Latvia and other countries are welcome to apply. Furthermore, the Executive Board suggests research themes and approves activities.

All the Conferences and roundtable discussions were directed at facilitating further trans-disciplinary research on topics related to the assessment of complex and interrelated processes of legal, cultural and socio-economic integration in Europe and the Baltic Sea Region. The first conference organised by the School in cooperation with a number of Latvian and international partners was held in 2011 (Box 2).

Box 2

<p>International Conference “European Integration and Baltic Sea Region: Diversity and Perspectives”, September 26–27, 2011</p>
<p>Doctoral School “European Integration and Baltic Sea Region Studies (EIBSRS)” University of Latvia, Centre for European and Transition Studies, Wismar Business School – University of Applied Sciences Technology, Business and Design Canadian Embassy to Estonia, Latvian and Lithuania</p>
<p>The conference is supported by the European Commission, the Latvian Embassy of Finland, the Nordic Council of Latvian office of the Canadian Embassy to Estonia, Latvian and Lithuania, the Baltic-German University Liason Office with Funds the German Academic Exchange Service (DAAD)</p>
<p>Themes of the Conference: Globalisation and the Future of the State Legal and Historical Aspects of European Integration University – Business Cooperation: Infrastructure and Environment EU Internal Market and Social Dimension Macro Regions, Territorial and special Development EU Internal Market Development and Trends Culture, Arts and Education Research, Innovation and Competitiveness University – Business Cooperation: Promotion of Entrepreneurship and Innovation</p>
<p>ROUNDTABLE DISCUSSION: <i>European Union External Relations with Focus on the Eastern Partnership and Russia</i></p>
<p>THE LATVIA–CANADA PANEL DISCUSSION: <i>Latvia & Canada: Socio-Economic Dimensions within the European Context</i></p>
<p>ROUNDTABLE DEBATE: <i>University – Business partnership through the *triple helix* approach</i></p>

Source: Authors’ own elaboration based on the University of Latvia Senate Decision No 169; Regulations on Promotion Councils and Promotion at the University of Latvia, No.1/995 dated 12.04.2006, amended No. 1/335 dated 15.11.2011; European Commission DG Education and Culture Grant Jean Monnet Centre of Excellence No.199871-LLP-1-LV-AJM-PO; Conference Programme <http://www.lu.lv/fileadmin/user_upload/lu_portal/projekti/eibsrsl/EIBSRS__Final_Programme_01.pdf>

Since 2011 many regions and countries in the World are affected by the changing of the geo-political agenda which has an impact on the society, education and research. In the 2014 the Executive Board of the School suggested the organisation of a conference in cooperation with other DS that was held in 2015 (Box 3).

Box 3

International Conference
“European Integration and Baltic Sea Region: Diversity and Perspectives – 2015”
 (Devoted to the Latvian Presidency of the European Union Council)
 June 11–13, 2015

Doctoral School “European Integration and Baltic Sea Region Studies (EIBSRS)”
 Doctoral School “Political, Social and Economic Process Analysis in Post-Soviet Area”
 Doctoral School “Current Issues of Theology and Religious Studies”
 Doctoral School “Insuring International Competitiveness of National Economy”
 Doctoral School “Lettonica and Intercultural Studies”
 Baltic Rea Region University Network
<http://www.lu.lv/eibsr2015/>
 Themes of the conference:

- Challenges of Population Development and Migration
- Cognitive Sciences and Communication
- Education and Language Policy
- Management and Organisations
- Knowledge Triangle and Competitiveness
- The Baltic Sea Region and the Impact of International and European Law
- Political Development and Governances
- Territorial Cohesion and Regional Innovation
- Security and Religion
- Through the centuries: European Dimension of Latvian History

Source: Authors’ own elaboration based on the University of Latvia Senate Decision No 169; Regulations on Promotion Councils and Promotion at the University of Latvia, No.1/995 dated 12.04.2006, amended No. 1/335 dated 15.11.2011. European Commission Grant No. LLP-No. 2014–2634. European Integration and Baltic Sea Region: Diversity and Perspectives – 2015, Riga, Latvia, University of Latvia organized by Doctoral Schools of the University of Latvia. Conference Programme <<http://www.lu.lv/eibsr2015/programme/>>

The conferences’ aim was to bring together participants from different fields of social sciences and humanities such as: economics, management science, law, political science, sociology, regional, social sciences and humanities. The conferences provided opportunities for tightening international cooperation in the area of education and research and inspired early carrier researchers to join research groups and networks.

Another important activity of the DS is the publication of research carried out within the framework of the school by staff members, doctoral students, visiting scholars, EC experts and think tanks representatives (Box 4).

Box 4

Publications
All publications comprise of research results, opinions and information that can be of value to practitioners, academics, and students.
2011, the first volume of the book collecting research papers. This publication presents research papers in conjunction with the international conference “ <i>European Integration and Baltic Sea Region: Diversity and Perspectives</i> ”, University of Latvia Press, Riga – 640 p. Research papers have been presented at the conference hosted by the Jean Monnet Centre of Excellence at the Centre for European and Transition Studies (CETS) and the publication is supported by Jean Monnet Centre of Excellence at the University of Latvia in the framework of the European Commission, Jean Monnet Programme.
2013, the second volume of the book <i>European Integration and Baltic Sea Studies: University-Business Partnership through the Triple Helix Approach</i> , Berliner Wissenschaftsverlag, Berlin – 336 p.
2014, the third volume <i>EU Eastern Partnership: From Capacities to Excellence Strengthening Research, Regional and Innovation Policies in the Context of Horizon 2020</i> , University of Latvia Press, Riga, Latvia – 180 p. Research papers have been presented at the conference hosted by the Jean Monnet Centre of Excellence at the Centre for European and Transition Studies (CETS) and the publication is supported by Jean Monnet Centre of Excellence at the University of Latvia in the framework of the European Commission, Jean Monnet Programme.
2015, <i>EU Social Dimension. An Innovative and Reflective Society</i> , eds. Muravska, T., Sloka, B. Riga: LU Publishing House. Research papers have been submitted by post-doc researcher and doctoral students.
2016, the contribution to the publication “ <i>Handbook on Cohesion Policy in the EU</i> ”, Piattoni, S., Polverari, L. (ed.) Cheltenham: Elgar Publishing, by Muravska, T., Aprāns, J. & Dahs, A.

Source: *Publications. LU Centre for European and Transition Studies*, <https://www.lu.lv/cets/publications/>

These publications enhance the synergy between young and senior scholars, at the same time improving the research potential of the country.

Conclusions

The DS platform, which emerged in early 2010, played a paramount role in consolidating doctoral research at the University of Latvia. This concept should be evaluated in depth and, if found appropriate, developed further. On the basis of the current limited experience it seems to be effective.

Interdependence of studies, for example in areas such as international relations, governance, corporate and social responsibility is an obvious trend in the modern university education and research. The experience of conducting research in DS confirmed that integrated and interdisciplinary research is not a substitute for mono-disciplinary research, nor is it a competitor – this approach is supplementary.

In many cases, strong mono-disciplinary knowledge is the precondition for new cross-cutting knowledge. Meanwhile, interdisciplinary knowledge can contribute to creating the necessary dynamics of transferable skills within the individual fields through R&D activities.

The experience of DS also confirmed that internationalisation, including international and inter-sectorial mobility of the staff and doctoral students, has positive impact on building a stimulating research environment.

Looking ahead, it is necessary to reassess the support needed for doctoral studies and research in the country. The experience of the support of the ESF was very beneficial for the country in general, and for the University of Latvia in particular. It helped to significantly increase the number of doctoral graduates. There is a need to ensure that the momentum gained by the extension of doctoral studies through ESF can be maintained through the use of government funds and innovative approaches, for example such as independent sponsored research.

All of the above-mentioned aspects are currently a subject of intensive studies, which have to answer a number of questions:

How inter- and trans-disciplinarily in doctoral studies and science contribute to challenges of the 21st century and consequences of the currently evolving social and economic situation in Europe and in the World?

How the curriculum of the doctoral schools should be adopted and developed and what are the results of the doctoral schools' function in relation to their supplementary role to the doctoral programmes?

What are the major priorities for the universities, doctoral and master's programmes, doctoral schools in their delivery of methods of training that are most effective, efficient and fair?

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