

## **AIMING AT ACADEMIC EXCELLENCE, OR LEARNING FOR EMPLOYMENT (A CASE STUDY OF A DOCTORAL SCHOOL)**

**Prof. Dr. Dana Hanesová, PhD<sup>1</sup>**

**Dr.h.c. Prof. Dr. Beata Kosová, PhD<sup>2</sup>**

<sup>1,2</sup> Matej Bel University, Slovakia

### **ABSTRACT**

At present, there are an animated discussion in the well-known universities offering doctoral (PhD) studies about the future of their graduates. What kind of a job should they be prepared for? Should PhD studies continue to develop the academic excellence of their graduates and thus to prepare them for an academic career? Or should the universities re-orientate their PhD study aims to prepare the students for employment in jobs outside academia? Should the PhD studies have a broad aim or be narrowly specialized? What is the most appropriate response to these questions in case of PhD studies in educational sciences? The authors of this article argue for retaining a high quality of academic and methodological approach, and developing the thinking and research skills of PhD students. On the other hand, they suggest that, at the same time, such focus of the PhD education should be combined with enhancing carefully selected generic skills that can be useful for the PhD graduates to be able to find (predominantly educational) jobs outside academia. The study presents a process of projecting a new doctoral school at the Faculty of Education, Matej Bel University in Slovakia, implementing a combined-aims approach in educational sciences.

***Keywords: doctoral school, research, academy, university, employment***

### **INTRODUCTION**

Until 2005, a doctoral study in Slovakia and other Central European countries was considered to be a preparation for future scientists going to work in the relevant branch of science. In the last decade, the character and conditions of PhD studies have been radically changing under the influence of several global societal changes (especially in the job market). This changing external environment has influenced PhD curricula formation, fields and specialties offered, methods of teaching and modes of learning [1].

After the compulsory restructuration of university studies according to Bologna process (2005), the PhD study became the third level of university studies applying all rules of the European Credit Transfer System (ECTS). Instead of the scientific freedom to choose the pace of study, research and dissertation writing (dependent on each individual PhD student and PhD study programme - lasting from 3 to 9 years), right after 2005 all students had to accomplish their PhD study courses in 18 months, followed by one year for research and writing

their thesis. Generally it can be said that, on the one hand, the PhD studies were innovated, but, on the other hand, they were devalued.

Therefore, it is not easy to answer the following questions: How should PhD students be prepared? What are they going to do after they graduate? Should PhD studies continue to develop the academic excellence of their graduates and thus prepare them for an academic career? Or should they re-orientate their aims towards learning for employment?

Before proposing a solution in response to these questions, we find it necessary to clarify the context that currently influences PhD studies around the world.

### **CURRENT MACRO-SOCIETAL CHALLENGES IMPACTING PHD STUDIES**

Global societal changes have always had a significant impact on the development of educational theory and practice. Let us mention some notable evidence of the impact of recent societal trends on the PhD level of education:

- The beginning of 21st century has witnessed a new phenomenon – the industrialization of knowledge. Knowledge has become a commodity. Instead of its uniqueness, it is valued for its applicability and the potential of its financial benefit. There is a distinct emphasis on the transferability of scientific outputs to goods that can be monetized. University research topics as well as the decisions about the length of the research duration are based on pragmatically motivated fundraising via the calculation of quantitative “points”. In-depth and multi-dimensional reflection of social reality, and long-term experimentation do not receive such support as before. Also publishing of research outcomes has to be subordinated to the economic requirements. In their publication activity, not only PhD supervisors, but also PhD students must meet the quantitative criteria. Because of the strict ECTS assessment and necessity to produce financial grants, they often have to publish outputs that might not be mature yet. Such societal attitude threatens the status of PhD studies and risks its devaluation.

- Under the influence of the Bologna process in Europe, the typical longer lasting (5-7 years) doctoral education developing scientific and research competences of individual students prior to 2005 was converted into time-limited PhD programmes (3-4 years for both full- and part-time studies). It might be too short time for accomplishing a serious study, research and publishing its outcomes.

- In many European countries, the numbers of students and graduates have become a major criterion in allocating funds to universities and, in sciences, emphasis is placed on fulfilling the research requirements of companies. Thus the number of PhD students has become crucial for a university’s budget. The result of these persistent financial challenges at universities have given raise to the insistence on increasing the quantity of PhD students. Between the years 1998-2008, the number of PhD graduates

in OECD countries rose by 40% to about 34,000, and thus “supply has outstripped demand” [2]. This growth of the number PhD students was not generated as a result of critical self-reflection in individual sciences (bottom-up), but by a top-down pressure from governments. The boom of ICT and digitalisation with its overwhelming resources has enhanced the extended availability of PhD studies for wider groups of applicants.

- In several countries, the boom in PhD studies led to universities no longer being able to absorb their PhD graduates. The job market offers limited suitable job positions for them. It is necessary to recognise that “only a few graduates would work in academia” and “to train students in non-science skills as well as research” [3]. This is the case in several developed countries. In Japan, PhD graduates in science find it difficult “to obtain employment either in academia or industry ... In the USA, too, there is concern regarding the oversupply of doctoral graduates, with individuals consequently unable to find jobs that suit their skills and qualifications”[4]. In Australia, only a quarter of PhD students are now entering the academic sphere ”[5], [6]. In the UK the academic roles available are also scarce. Already in 2002, the Roberts Review pointed to „the need to consider employability and careers development of” ... “PhD researchers in order to maximize the socio-economic impact of these highly qualified graduates” [7]. As a result of this challenge and also thanks to related financial grants, universities have made a joint effort to focus their PhD studies on development of generic skills and thus to prepare them for employment both in academia and in non-academic sectors [4], [8].

On the other hand, there are countries where there is still an unsatisfied jobs market for PhD graduates, e.g. Singapore, China, India, Brazil or Malaysia. Only a few countries seem to be “successfully tackling” the problem of finding the right balance in PhD graduates’ preparation. For example Germany solved the oversupply problem by strengthening the skills training of PhD students and thus their preparation to be part of a wider workforce [2].

- Not only have the numbers of PhD students increased, but also the number of PhD. study programmes, based on the differentiation of sciences into sub-disciplines, increased. Each sub-discipline has to focus on its own research topics, which results in a) a separation and compartmentalisation of research instead of cooperation; and b) reducing the dissemination and implementation of research results into practice. Raising the level of fragmentation of research, narrowing its focus and losing a wider context, is relatively high risk - especially for social scientists.

- From the sociological point of view, the increasing emphasis of Generation Y on consuming life is evident in the changed motivations of young PhD. candidates. The choice of continuing in PhD study is a way of extending the carefree life of a student/ or a solution to indecision about what to do next after Masters study [2]. On the other hand, several countries report an increase in the numbers of PhD students who did not finish their studies. Frustration in young researchers, leaving academia early, may be also a result of their degraded view of the research meaning and ethics. It may be due to increasing requirements to

publish research outcomes abroad, mainly in a foreign language (usually in English as the lingua franca). Another source of frustration for young PhD students might be the need to choose a specific thesis topic based on “hot” societal issues with no support from longitudinal social experiments. These are rather complex problems and potential PhD students might not be mature enough to solve them according to the expectations of the groups concerned.

These are just a few reasons why discussion about the nature of PhD studies has intensified in the last decade. The universities’ dilemma about their future focus of PhD studies has reached transnational dimensions. Since in the future most probably PhD graduates objectively will not be able to succeed in finding a job position in academia, they have to be prepared to seek employment outside of the academic environment.

### **CURRENT DILEMMA: HOW TO TARGET A PHD STUDY?**

With a certain amount of simplification, the dilemma that is evident in the current trends in PhD studies may be described as “a gradual move from an ivory-tower to an entrepreneurial model of higher education institutions” [1]. In other words, we are witnessing to a conflicting co-existence of two visions of PhD studies: an academic one and a pragmatic one [9].

The academic concept of PhD studies aims to create excellence in science and to spur its future development. According to this concept, PhD study is supposed to become a bridge between the academic and scientific spheres. It focuses on scientific knowledge and ways of obtaining it, as well as on the methodology of conducting specific research, on gaining the competence to teach at a university, on developing expert critical reflection, on working in scientific teams, on communication with other colleagues and on international research cooperation. A negative aspect in this so called “ivory-tower” model may be the theoretical focus of study detached from social reality, and, in particular, the risk of lack of preparedness of a PhD graduate for work outside the academia.

The pragmatic concept of PhD studies is based on competitiveness and applicability. It strives to prepare the future PhD graduate for employment – a career outside the academic sphere and flexibility within the labour market. Thus the curriculum of such PhD programmes includes training in generic skills (such as critical and creative thinking, communication, marketing, entrepreneurship, career planning, team work, peer- and self-assessment, etc.). The danger of this economic approach "in the name of applicability" then lies in the dominance by critical scientific-theoretical and philosophical thinking, in its orientation to pragmatic fragmentary goals with methodological strategies focused on an ulterior purpose. This is extremely damaging to the social sciences and humanities, as their research can only be achieved through critical reflection in multidimensional interdisciplinary contexts, also respecting the holistic approach in tertiary education.

What would be the most suitable solution to this dilemma in the case of educational sciences? We suggest that in case of educational sciences a certain combination of both approaches is necessary. It is not possible to omit the academic aim of preparing PhD students for high-quality scientific research and university teaching. At the same time, a group of carefully selected generic skills has to simultaneously prepare a PhD graduate for other potential futures - particularly educational jobs (project design, presentation skills, creating and implementing innovative educational programmes) outside academia. If applicable, this can be best achieved in cooperation with various other institutions, businesses and companies. One of the examples of such PhD schools, promoting “the continuous development of postgraduate communities by offering a highly developed series of research training courses as well as specialist training in skills development” is the Graduate School for the College of Social Sciences at the University of Glasgow (<https://www.gla.ac.uk/colleges/socialsciences/graduateschool/>).

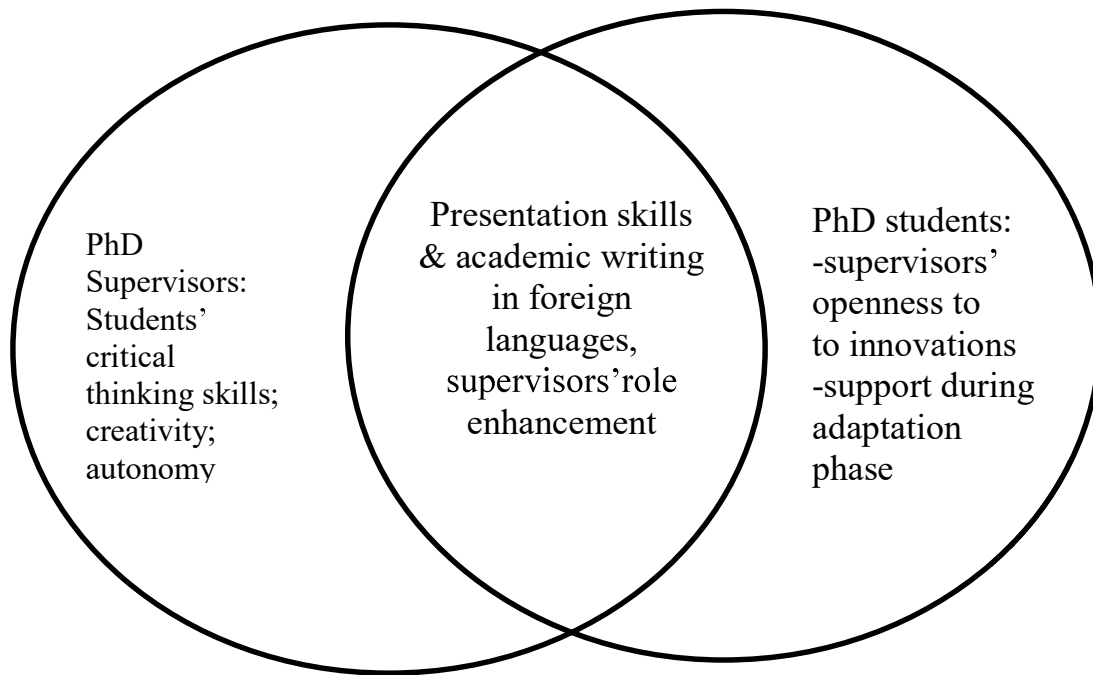
### **A MICRO-LEVEL SOLUTION: A PHD SCHOOL IN SLOVAKIA**

In several countries the model of a doctoral school or PhD training centre seems to best fulfil the requirements to provide for development of methodological knowledge, research skills as well as for training generic skills (via extra courses/activities offered to PhD students besides regular courses involved in their PhD curriculum).

So, after analysing the above-mentioned societal situation, the team of researchers from the Faculty of Education at Matej Bel University (MBU) in Banská Bystrica, Slovakia, decided to prepare a project for a new PhD school that would respond to the societal requirements, as well as to the needs of PhD students on the micro-level of a university.

#### **Needs analysis**

In her 2018 research, Šukolová [10] investigated the needs of PhD students as well as PhD supervisors. As the Diagram No 1 shows, she identified several overlapping needs of the two responding groups.



*Diagram No 1: The overlap of the needs of PhD students & supervisors (Šukolová, 2018)*

Both PhD students (22) and PhD supervisors (16) highlighted the importance of enhancing the supervisor's role at all levels of university studies. Both groups also expressed their awareness of the need to raise the level of their own academic writing skills and presentation skills, especially in foreign languages. In addition they mentioned the need for a common communication platform and methodological support (in the area of data analysis). Among the typical needs of PhD students were their requirements related to their supervisors (students would expect their supervisors' wider and more open approach towards their potential innovations and initiatives). They also expressed a need for more intensive supervisor support during their adaptation phase in their PhD study. The students would also appreciate being more effectively involved into research projects at MBU. On the other hand, PhD supervisors would prefer more autonomous, creative PhD with higher critical thinking skills.

### **A doctoral school design and its implementation**

Comparing the extrinsic societal expectations and intrinsic institutional and individual needs of PhD students and PhD supervisors, the discrepancies were identified and the aims of a new doctoral school for educational sciences at MBU were formulated in 2017-2018. Generic skills training has been planned in targeted workshops and also via activities that would be organised by PhD students (publications forum, conference, syllabus, online platform, simulated grant competition, project design, peer review, presentation of projects and research results during discussions). They will enable them to acquire a whole range of practical experience and a wealth of feedback. There

will also be lectures by experts from different departments and from abroad. The curriculum also includes psychological counselling and electronic support for modules in PhD studies. For the qualitative development of PhD studies, it is also necessary to facilitate the skills development for PhD supervisors (e.g. their competence to lead, provide mentoring and supervision, giving feedback, etc.). Cooperation with PhD supervisors is another crucial element in achieving the highly complex project aims.

The school has been designated as a research incubator using various innovative methods of teaching and supporting the development of selected competences of PhD students (particularly via an online platform and electronic courses). The implementation phase of the project is currently underway, which involves several training activities within the research incubator, as well as the supportive activities for PhD supervisors.

The summative evaluation of the project will be undertaken via qualitative research based on the product analysis method (self-reflection of a PhD students' journal) as well as on the longitudinal quantitative analysis of PhD students' products – their outcomes from the doctoral school training courses (such as projects, publications, reviews).

Meanwhile, simultaneously with the implementation of the doctoral school project, continuous evaluation of the project is being carried out. It consists of research activities focused on preliminary verification of the effectiveness of the implemented educational and training activities.

### **Preliminary feedback**

Although the project is still in the first year of its implementation, we asked the PhD students, studying in all three grades, to reflect on how their competence needs and expectations needs had been fulfilled so far via their PhD study. In their interviews, they had to respond to one question only, about which skills/competences their PhD study had enhanced so far. Generally, the respondents appreciated enhancing their specific cognitive skills, learning new information, theories, ways to apply theory into practice, getting to know important scientific personalities. The first year of their study was considered to be the least practice-oriented, the last one the most practical.

Almost all (12) out of the 14 respondents think their study prepared them predominantly for the profession of a researcher and/or university teacher. Their comments about their raised research competence included methodological skills, how to carry out a high quality research, but also how to search out new information, how to write a study and publish it abroad. The PhD students consider that they have acquired new teaching competencies, including the ability to prepare a course curriculum, to organise it, to manage student activities and to assess them: "I learnt how to teach about current, hot educational topics (e.g.

global education or multiculturalism) in such a way to influence my students so that they may bring positive change into school practice. I learnt how to use effectively new technologies and functionalities in my teaching.”

Half of the students (representing all three grades) believe their PhD study has enhanced their generic (soft) skills. They appreciated activities of the new doctoral school as, according to their opinion, these evidently helped them to improve their ability to write and participate in research projects. Their time abroad challenged them to leave their “comfortable zone” and to become more flexible. They also appreciate the increase in their general communication skills (public speaking, seminar management), especially in foreign languages, but also presentation skills, organisational and managerial skills (e.g. organising conferences or workshops) and self-management skills. One doctorate student appreciated acquiring practical skills, preparing her for the profession she studied in her M.A. studies. But at the same time she expressed her concern about limited opportunities to apply for job outside academia, saying that she would be considered “over-qualified” if she applied to become a teacher at a lower level of school.

These answers suggest that, although we are only in the beginning of the establishment of the doctoral school, its principles have actually penetrated the PhD studies at MBU and at least half of the current PhD students have become aware and appreciative of the acquired set not only of academic, but also of generic (transversal) competences.

## CONCLUSION

Future educational and research activities of universities are directly dependent on PhD students as the carriers of research innovations and creativity. On the other hand, “growing unemployment rates among tertiary graduates in many European countries demand a clear response from the higher education institutions. Recently, we have observed a growth of attention given to the issues of over-qualification, over-education and mismatch, particularly at the tertiary level” [1]. Therefore, the need to raise not only the demands, but also the attention and professional, methodological as well as human support to PhD students is very urgent and requires a reform of PhD studies. As the long-standing experience of universities in Western Europe shows, a doctoral school is an effective way to cope with these tasks and it is therefore worth trying to do it.

Both the needs analysis and the preliminary feedback on the start of the above-described doctoral school confirm that the decision to create a doctoral school in Slovakia, tailor-made to the specific needs of PhD students in educational sciences, was a reasonable decision and an essential step both for the university departments as well as for enabling their PhD graduates to find their future employment. Even the first round of feedback indicated the really positive impact of this project which has focused on enhancing research and



scientific skills - combined with development of transferable skills - of PhD students.

## ACKNOWLEDGEMENTS

The study was developed with the support of KEGA 006UMB- 4/2017 “Creating a Model of a PhD School Emphasizing Innovative Methods of Supporting Scientific Research Competences”.

## REFERENCES

- [1] Grotkowska G., Wincenciak L., Tomasz Gajderowicz, Ivory-tower or market-oriented enterprise: the role of higher education institutions in shaping graduate employability in the domain of science, *Higher Education Research & Development*, Poland, vol. 34/ issue 5, pp 869-882, 2015, DOI: 10.1080/07294360.2015.1011090.
- [2] Cyranoski D., Gilbert N., Ledford H., Nayar A., Yahia M., The PhD Factory: The world is producing more PhDs than ever before. Is it time to stop? *Nature*, vol. 472/ issue 21 April, pp 276-279, 2011.
- [3] Cressey D., PhDs leave the ivory tower: UK doctoral training centres prepare students to run a lab — or work outside academia, *Nature*, vol. 484/ issue 5 April 2012, p 20.
- [4] Diamond A., Ball Ch., Vorley T., Hughes T., Moreton R., Howe P., Nathwani T. (CFE Research), *The impact of doctoral careers: Final Report*, England, Leicester, 2014, 130 p
- [5] Neumann R., Tan K. K., From PhD to initial employment: The doctorate in a knowledge economy, *Studies in Higher Education*, vol. 36/issue 5, pp 601-614, 2011.
- [6] Jackson D, Grant M., Factors influencing the employment of Australian PhD graduates, *Studies in Higher Education*, vol. 40/issue 9, pp 1660-1678, 2015. DOI: 10.1080/03075079.2014.899344.
- [7] Roberts G., *SET for success: The supply of people with science, technology, engineering and mathematics skills (Report)*, England, 2002.
- [8] Šíp R., *Príběh první vědecké práce: od thrilleru k happyendu (The Story of the First Scientific Thesis)*, Czechia, Brno, PF Masarykova univerzita, 2013.
- [9] Kosová B., Šukolová D., Rozvoj vedecko-vyskumných kompetencií študentov doktorandského štúdia v kontexte jeho súčasných premien, in H. Hetmańczyk & E. Kawiak (eds.), *Edukacja w badaniach pedagogicznych. Problemy – koncepcje – rozwiązania*, Poland: Toruń: Wydawnictwo Adam Marszałek, 2017, pp 11-28.
- [10] Šukolová D., Mapovanie potrieb doktorandov a školiteľov – akčný výskum PF UMB (Monitoring of PhD students’ and supervisors’ needs), in M. Kosturková et al. (eds.), *Vybrané aspekty pedagogickej profesie*, Slovakia, Prešov, PU v Prešove, 2018, pp 402-411.