

**OUTCOMES
OF THE
SECOND DOC-CAREERS WORKSHOP
ON
UNIVERSITY/BUSINESS COLLABORATION IN DOCTORAL PROGRAMMES**

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Introduction

The Second Workshop of the DOC-CAREERS project addressed the development of doctoral programmes more oriented towards the industrial labour market than the traditional “research driven” doctoral programmes. It analysed the **nature and extent of existing university and industry collaboration in doctoral programmes**, that is, for example, joint supervision, involvement of industry professionals in the programmes through lectures, temporary placements in industry and thesis conducted in industry environment. It also explored the conditions for universities and businesses to become involved in long-term structured doctoral programmes. The EUA Doctoral programme project (2004-2005) showed that some universities have already embarked on future-oriented collaborative projects (which needed further study), inviting private partners to provide input to a process of structural reform and involving companies in projects of graduate training and research.

Mobility is an instrument which, it is argued, needs to be embedded in career development strategies. The workshop also discussed, therefore, **mobility strategies for career development**. Mobility usually refers to inter-institutional cross-border mobility within the private or public sector but inter-sectoral mobility (moving from public to private sector or vice-versa, temporarily or permanently) should be examined within a doctoral training context with the perspective of individual career development. The EUA Doctoral Programme project (2004-2005) found that mobility is not always recognised and supported as an “added value” and as part of career development.

Both universities and employers need to work closer together to help ensure that the graduates are prepared for a working life of constant change, of inter-disciplinary collaboration, of adaptation and life-long learning. One of the most relevant outcomes of the First DOC-CAREERS workshop on transferable skills for doctorates was the identification of a set of core transferable skills necessary for good employability prospects for doctoral holders and successful career development in industry – and also for some academic careers. Most of them were identified independently in the three working group sessions on each of the three fields of study (SET, BIO, ESS), showing thus quite similar profiles on transferable skills for doctoral graduates. Those included among others communication, management, creative thinking, problem solving, negotiation and fund raising.

Within the context described above, this second workshop sought to stimulate an open dialogue between universities and different employment sectors and stakeholders on the value of networking and developing joint initiatives in doctoral programmes. In addition to the showcase of good practices of involvement of industry in doctoral programmes, the following core questions were discussed:

- What procedures are developed for doctoral programmes in collaboration between university and industry (joint supervision, lecturing of industry professionals at university, temporary placements in industry, doctoral thesis conducted in industry environment, etc)?
- What are the structural conditions and the individual drivers for universities and industries to become involved in long-term structured doctoral programmes?
- Is mobility an added value that enhances the chances of any given doctorate candidate to get a better job in any given sector?
- How is mobility viewed and supported by universities and by industry? When is it suitable?

To address these questions 24 professionals from 13 countries, from academia, professional organizations, government and industry participated. There were 11 representatives from universities or university networks, 9 representatives from professional bodies, 2 from government bodies and 1 from corporative companies with strong research activity. More representatives from industry had confirmed their participation but unfortunately had to cancel at the last minute due to unavoidable commitments related to their businesses. We have encountered these understandable situations also in previous university-industry activities and they illustrate one of the difficulties in building up a working dialogue at the European level.

Five presenters both from university and industry sectors showed good practice in industry/university cooperation schemes in doctoral programmes, including the use of Structural Funds for high level training purposes. After the presentations, participants split into two groups to discuss the above core questions of the workshop. As with the first workshop, the groups drew participants from Science/Engineering/Technology, Biotechnology/Medical/Life Sciences and the Economics and Social Sciences fields.

Main outcomes of the workshop

Working Group Session on Science/Technology/Engineering and Biotechnology/Life/Medical Sciences

In the above fields there is a tradition of cooperation with industry but in varied and different forms throughout Europe. From the discussion on current initiatives which foster university/industry cooperation in academic programmes it was pointed out that often the importance of informal contact and promotion is underestimated. It was generally agreed that behind the formal procedures such as joint supervision or temporary placements in industry, successful long-term university/industry cooperation processes are holistic, that is, the soft part of the relationship is very important and continuous face-to-face experience is mandatory to build trust and durable partnerships. Interchanging lectures between business and university can be a very powerful and motivating means to establish collaboration in education. As an example, one innovative practice from Bochum University (Germany) to foster university/industry cooperation includes the organisation of lectures from industry professionals by the doctoral candidates themselves. These provide the doctoral candidates a vision of professional careers outside academia, widening the spectrum of possibilities for their development. These sorts of initiatives, properly extended to graduate programmes, could be also used to retain people who could benefit from doctoral studies who might be turned away as a result of negative signals given at an early stage.

Concerning the structural conditions and drivers for industry/university cooperation, it was agreed that large companies and SMEs generally establish cooperation with those universities which value and develop personal relations. Usually, universities work better in long term partnerships because, by nature, it is in these cases where they can better use their assets and develop their best qualities; hence their chances to deliver good results to industries are greater.

It was pointed out that doctoral programmes and knowledge transfer are intrinsically linked and that universities and industries should focus on building the partnership itself rather than just on individual projects, because these will arise as a natural consequence of the collaboration. Universities and industries should work to establish long-term cooperation rather than short-term programmes or projects. Structure of cooperation may vary widely from more or less periodical personal meetings to the involvement of universities on the Board of a company.

Other factors which were mentioned as important structural conditions to encourage university/industry cooperation were the support of governments as facilitators of the process and the growing awareness of Intellectual Property Rights (IPR) issues.

Mobility is, in general, highly valued by employers because it complements the education received. The value of mobility lies in the exposure to different environments and in the benefit that the individual gains from learning and playing different roles, interacting with different people and building up his/her own network of contacts. There are a wide number of practices and programmes already in place in Europe which include temporary placements (from a few months to years) in different laboratories and/or enterprises.

Although mobility -within academia or between academia and industry- is not, and it should not be seen, as mandatory during the doctoral period, it can help to improve the chances for employability, especially outside academia. The general opinion of the participants in the session was that mobility should be stimulated as “a means to an end” - which is the encouragement of a full self-awareness of one’s knowledge, skills and experience.

In some cases, university professors are against mobility at the doctoral level because of the conflicting situations that may arise between different academic institutions relating to the awarding of the degree. In that sense, the establishment joint degrees could be a good solution to enhance the benefits of mobility.

In general, academics should be persuaded that that moving from academia to business is not a second choice but a legitimate first class choice. Mobility could also help to mitigate “brain drain” if the alternative prospects for employment outside academia were better for doctoral holders - who otherwise might migrate.

Working Group Session on Economics and Social Sciences

In economics, social sciences and humanities collaboration between university and business/ industry is more limited than in other sciences. It seems that it works better in fields such as law and business / economic studies (especially in the form of traineeships and internships of doctoral candidates in banks or companies, e.g. in the areas of patenting and IPR). For instance, the European University Institute in Florence has developed good collaboration with a number of European banks in which doctoral candidates can undertake an internship. The Norwegian University of Science and Technology in Trondheim has a good tradition of close collaboration between technology and natural sciences and social sciences, humanities, architecture and fine arts (e.g. the NTNU Globalization Programme).

However, despite some positive examples, doctoral candidates (and graduates) in social sciences have only limited opportunities to participate in structured collaborative programmes. Collaboration between social sciences and business/ industry is usually not planned and structured, it only happens sporadically and by chance. Companies/ businesses do not understand the value of social sciences and are often not aware of what social sciences can offer and, vice versa, social scientists themselves do not try to address companies and businesses

outside social sciences. A suggestion was made in the working group that a third party – an intermediary (such as a public authority) can play a positive role in interlinking the two worlds.

Mobility was considered an important part of doctoral experience by Working Group participants. Doctoral graduates with mobility experience seem to be “marketable and highly employable”. It was suggested that more attention should be paid to mobility in SSH (mainly tailor-made internships of doctoral candidates from social sciences in companies and businesses; support of these focused on e.g. study of social / economic impact of new technologies, innovations etc.). This requires an open mind and change of mentality and way of thinking among social scientists.

It was also stressed that doctoral candidates in social sciences are often older, with some professional experience and often with a family, and therefore, it is more difficult for them to take part in mobility programmes. The question of when is the best time to do mobility period remains open.

Mobility between the three cycles (not only within the cycles) was considered a good trend. Institutional inbreeding should be avoided (which means that a student should be encouraged to do his/her Bachelor – Master – Doctoral studies in different institutions).