



BOLOGNA SEMINAR
DOCTORAL PROGRAMMES FOR THE EUROPEAN KNOWLEDGE SOCIETY
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General Rapporteur's Report
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I. Introduction

The “Bologna Seminar” on Doctoral Programmes for the European Knowledge Society provided the first major forum to discuss the new Action Line in the Bologna Process entitled “European Higher Education Area (EHEA) and the European Research Area (ERA) – Two Pillars of the Knowledge-based Society”. The event was held on the initiative of the Austrian Federal Ministry of Education, Science and Culture, the German Federal Ministry of Education and Research and the European University Association. The main aim and objective of the Seminar was to identify the key challenges to be met in implementing the new Action line (during the period 2005-2007).

The enormous interest and high participation level at the Salzburg Seminar exceeded the expectations of the organisers with over 300 registered delegates. The Seminar was a significant development in the cycle of Bologna Process events in the importance sense that it established a working dialogue amongst both higher education policy practitioners and university researchers and doctoral candidates on the key issue of how to promote closer links between the EHEA and the ERA to improve the quality and competitiveness of European higher education. The high level of researcher participation was built upon largely the EUA Doctoral Programmes Project, involving 48 universities from 25 countries, whose initial research findings were presented in the Working Group sessions of the Seminar. The substantial involvement of university researchers demonstrated clearly their strong desire to contribute directly to the policy debate on the third cycle of the Bologna Process concerning doctoral programmes and research training.

Furthermore, the Salzburg Seminar provided also a timely opportunity to discuss the (then) draft “European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers” prepared by the European Commission (DG Research). Seminar participants, who included the professional association representing doctoral candidates, EURODOC, welcomed the initiative as providing a valuable basis for further discussions and development at the respective national and regional levels.

The main outcome of the Seminar “dialogue” on the third cycle was to reach agreement on the establishment of a set of **“ten basic principles”** that should underpin further considerations of the key role of doctoral programmes and research training in the Bologna Process. Further work and analysis was required in order to encompass fully the great variety and experience of doctoral programmes and research training schemes, including both the opportunities and barriers, and to develop the “ten basic principles” into a set of recommendations. Future European level recommendations concerning the third cycle should be built upon, therefore, substantial knowledge and understanding of the achievements and good practices at the national and regional levels, taking account particularly of the rich experience of the varied research environments and cultures present across Europe.

The debates in Salzburg demonstrated clearly that the agreed set of “ten basic principles” provided a sound basis on which to begin the process of consensus-building on the future implementation of the new Action line.

II. Ten basic principles for the third cycle

In the following paragraphs, the “ten basic principles” are presented together with the main points discussed in both the Salzburg plenary and working group sessions. These points identify the key challenges that have to be faced in seeking to achieve consensus-building on future recommendations.

1. The core component of doctoral training is the advancement of knowledge through original research. At the same time it is recognised that doctoral training must increasingly meet the needs of an employment market that is wider than academia.

There was clearly a shared view amongst all participants that the core element of all doctoral programmes is, and should remain, training by doing research. Only training by research can provide doctoral candidates with core skills such as problem solving; innovative, creative and critical thinking; analysing and synthesising knowledge; and developing strategies. Doctoral candidates are young professionals who are trained through research and who make an important contribution to the creation of new knowledge, products, methods and systems, and to

knowledge transfer. Training by research is the main element that differentiates doctoral cycle from the first and second cycles in the Bologna Process.

With Barcelona and Lisbon goals in mind it is clear that Europe needs more researchers who will be able to work not only in academia, but also in the various sectors of the economy and society, industry, SMEs, public sector, NGOs, etc. This was stressed in several speeches and discussions. Industry requires people who are excellent in specific field, but also offer generic skills such as communication, presentation, teamwork and social skills. Demands on today's researchers are therefore wider and this has to be reflected in the structure and organisation of doctoral programmes. Training in transferable, "generic" skills and competences should become an integral part of all doctoral programmes in order to meet challenges and needs of the global labour market. (See also paragraph 8.)

2. Embedding in institutional strategies and policies: universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.

Participants emphasised that doctoral training is a core mission of the university. All regulations, guidelines and/or code of practice in doctoral programmes should be developed and established not only at department or faculty levels, but also at the highest institutional level. There should be only one doctorate and one diploma signed by the Rector that is common for all faculties/institutes of the university. It was felt that this would strengthen the social value and recognition of doctoral degree.

The university is responsible for design, structure and organisation of its doctoral programmes. Institutional rules should cover regulations on recruitment, supervision, exams, evaluations and monitoring, and defence of the thesis throughout the university. Information on all doctoral programmes and regulations should be available on university websites. It was felt that a common portal for all doctoral candidates at the university was a useful instrument to organise and monitor the progress of candidates.

Universities should develop long-term strategies for doctoral programmes with the focus on building strong research environments and mechanisms for enhancing the quality of doctoral programmes. Career development opportunities for researchers of all categories including doctoral candidates should be a part of the strategies. Lack of transparent career perspectives for researchers is often criticised as one of the reasons why there is such a low interest of young people in science and research. Academic culture should be re-evaluated: doctoral candidates should feel they are needed, respected and welcome and they have career opportunities after completing doctoral studies.

3. The importance of diversity: the rich diversity of doctoral programmes in Europe – including joint doctorates – is a strength which has to be underpinned by quality and sound practice.

The rich diversity of doctoral programmes in Europe was often mentioned as positive characteristics that should be acknowledged and built upon. For the future development of doctoral programmes as the third cycle in the Bologna Process it is important to recognise and understand various scientific, institutional and cultural traditions and values. Throughout Europe, there is a wide diversity of institutional types, national legal frameworks, disciplines, academic and scientific cultures, in which doctoral programmes develop and operate. These environments, reflecting national and regional experience, should be seen as Europe's strength in competition with other regions of the world.

However, Europe's shared diversity and need for collaboration requires transparency and quality. Universities should take full responsibility for quality assurance of doctoral programmes. They should autonomously formulate and enhance their quality criteria and standards in an open and transparent way. Each doctoral programme should contain appropriate measures of research assessment that are consistent with institutional guidelines or regulations.

Diversity of disciplines should be taken into account when building any new doctoral programmes or organising new structures. It is often disciplines and disciplinary differences, and not institutional or country differences that require different approaches. Participants felt that more debate is needed on the development of doctoral programmes within disciplines and among disciplines.

4. Doctoral candidates as early stage researchers: should be recognised as professionals – with commensurate rights - who make a key contribution to the creation of new knowledge.

Doctoral stage should be recognised as the first part in a professional career. The profession of a researcher includes all stages of careers in different sectors. Doctoral candidates should be considered as early stage researchers and research partners and treated as professionals who make an important contribution to the creation of new knowledge. It was noted in the European Charter for Researchers: "Early stage researchers are professionals who are trained through research in the conception or creation of new knowledge, products, processes, methods and systems, and in the management of the projects concerned". Doctoral candidates should preferably be engaged in all levels of governance at the university and participate in decision-making.

The rights and responsibilities of doctoral candidates should be clearly formulated in written agreements signed by candidates, supervisors and institutions. These rights should assure adequate standards of social security, regardless of the legal nature of the employment (health care and parental leave, unemployment benefits, contributions to pension schemes, accident insurance, etc.).

(See also paragraph 10.)

5. The crucial role of supervision and assessment: in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).

Supervision is considered a crucial part of doctoral training. It is critically important for ensuring good quality of candidates' performance. However, conditions of supervision are often not clear and regulated, and they differ from country to country or institution to institution. There was no common agreement on questions of how supervisors are selected, who can be a supervisor, how often she/he meets with the candidate, how many candidates the supervisor can manage and how the research progress is monitored. Some national or institutional systems seem to be more open and do not provide any rules or control of supervision. In other countries where doctoral training is organised in a structured way (e.g., in doctoral schools) supervision is more a responsibility of the institution than an individual supervisor. Some institutions prefer supervisory panels with several experts/ professors from inside and outside of the university (multiple supervisory), which was considered a good practice example.

Participants agreed that universities should introduce institutional regulations on terms and obligations of doctoral candidates, supervisors and the institution. In addition, a signed contract (agreement) on rights and responsibilities between the three parties can be a good instrument ensuring that each party is aware of their role in the process of doctoral training.

National regulations covering supervision among other issues were introduced in the UK and Ireland (Code of practice for the assurance of academic quality and standards in higher education – Postgraduate research programmes - UK; Good practice in the organisation of PhD programmes in Irish universities – Ireland). There are a number of good institutional practices in supervision which were discussed, such as establishment of common portals for all doctoral candidates; writing regular progress reports by students; student logs; a “toolbox” for supervisors with all necessary information on their role and duties; or training of supervisors.

In addition, the European Commission's European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers offers a set of standards addressed to the Member States in order to encourage institutions to start a dialogue on sustainability of researchers'

career. The document includes emphasis on the important role of supervision as a part of successful career development. Also, Eurodoc (The European Council of Doctoral Candidates and Junior Researchers) has prepared a document on the Development of a European Supervision and Training Charter based on data gathered from many European countries.

6. Achieving critical mass: Doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities.

Participants felt that in order to achieve critical mass of doctoral candidates, new structures of doctoral programmes will need to be developed. However, disciplinary differences and their specific needs in various national, regional or institutional contexts should not be ignored in this process. There are many good innovative practices in different European countries. Not all practices can be easily transferred from one institution / country to another. In some countries the model of graduate/research/doctoral schools has been successfully developed. In smaller countries clustering of students from different regions or even neighbouring countries has been introduced. Bilateral and multilateral collaboration between universities at regional, national and international level should be an integral part of all forms of doctoral programmes. Doctoral candidates should have the opportunity to work in research teams and different research environments including virtual research networks.

7. Duration: doctoral programmes should operate within appropriate time duration (three to four years full-time as a rule).

The duration of doctoral programmes was discussed in several working groups and panel discussions, but no clear consensus was achieved. Only a minority of research academics thought that it is possible to finish full time doctoral studies within three years. For the majority, a three year period was considered both too short and unrealistic, and four years was preferred as a more appropriate time duration for doctoral studies.

It seems that strict regulation on the duration of doctoral training would not be the right solution. There are various conditions that have an impact on the length of studies, mainly disciplinary differences (e.g., in sciences work in laboratories includes repeating experiments several times during certain periods that cannot be shortened). Gender dimension cannot be underestimated as many female doctoral candidates are at the age of starting the family and they often have to interrupt their studies during maternity leave. For these reasons, certain flexibility in duration of

doctoral programmes should be kept, but the length of full time studies should not exceed four years.

In many countries there are a number of doctoral candidates who do part-time studies, which take more time to complete because the candidates have a job in addition to participating in doctoral training. They either start their doctoral studies at a later age after having the first career (e.g., in industry) or they need further professional research training for their career development.

Sometimes doctoral candidates are allowed to combine full-time and part-time form of studies according to their personal or funding situation. For some university representatives this was an unknown concept and they argued for full-time studies that allow young doctoral candidates to work together in a well established research environment rather than doing individual research. They stressed that Europe needs young researchers who will be able to compete in the global labour market. Advocates of part-time studies argued that in the era of changing demographic trends in Europe (decrease of childbirths and increase of aging populations), doctoral programmes should be considered a part of life-long learning in line with the Lisbon objectives (the importance of continuous education in the knowledge based society).

8. The promotion of innovative structures: to meet the challenge of interdisciplinary training and the development of transferable skills.

Considerable attention was paid to the development of transferable skills and interdisciplinary research training. It was agreed that training in transferable (“generic” professional and personal) skills and competences should be offered in each doctoral programme if we want to ensure wider employability of doctoral candidates in different sectors of the economy and society. These skills include communication and presentation skills, writing skills, project and time management, human resources management, financial resources management, teamwork, risk and failure management, etc. Industry seeks young researchers who are flexible, creative, communicative, entrepreneurial, and have good language, intercultural and social skills.

Transferable skills and competences can be taught and improved in courses offered by universities either during the first two years of structured doctoral training or in summer schools, and they should target doctoral candidates of all disciplines. Some university representatives argue that doctoral candidates cannot acquire transferable skills in courses, but only in everyday work by doing research and related activities such as teaching, writing, active participating in seminars, conferences and projects, etc. (“learning by doing approach”). Although there may be a disagreement among university representatives whether courses in transferable skills should be mandatory or voluntary, all agree that it is very important to offer these courses to all doctoral candidates. Training in transferable skills should, however, form only a small part of doctoral training and should not be overemphasised with respect to original research.

In relation to teaching transferable skills and competences, ECTS was widely discussed. No consensus was found on this issue. Most university representatives agreed that ECTS, if used in doctoral programmes at all, should be restricted to the structured course-part of doctoral programmes (e.g., courses in transferable skills). ECTS is also considered a good tool for international mobility. However, majority of participants strongly disagreed with using ECTS for measuring research progress.

Learning transferable skills and competences is also a way of improving interdisciplinary dialogue. Fast development of the sciences and the emergence of new disciplines and problem-oriented research funding often combine different fields and “pull down” the boundaries of traditional disciplines opening the way to multidisciplinary. Doctoral training should reflect this development by offering innovative ways of research education. Structures and curricula should be open and flexible enough to allow doctoral candidates to undertake research and theses based on interdisciplinary approach. This seems to be easier to achieve in emerging doctoral/research/graduate schools or clusters in which research is often based on teamwork and collaboration. Organisation of doctoral training within research groups can open new innovative ways to interdisciplinary dialogue.

9. Increasing mobility: Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.

Doctoral programmes should provide mobility experience to doctoral candidates. There is a wide range of programmes providing opportunity to mobility, on the other hand there are still a lot of obstacles that limit mobility of doctoral candidates throughout Europe. Existing programmes vary from the EC Marie Curie programmes to joint doctoral programmes, co-tutelle arrangements, international collaboration among research groups or research periods abroad. Although one of the aims of the Bologna process is an increased mobility, the same obstacles appear frequently, i.e. insufficient financial resources; family-related issues; gender disadvantages; administrative obstacles; social, cultural and language obstacles; lack of social security; lack of information; opposition from supervisors; etc. Mobility should be recognised as an added value and considered as a part of career development. Often this is not the case and reintegration after mobility periods is difficult. Mobility should be encouraged, recognised and not penalised.

Recognition of qualifications and degrees in Europe is another obstacle to mobility although it has been improving with setting up European Qualification Framework (EQF) and Dublin Descriptors that should lead to recognition of foreign degrees from accredited universities in Europe.

Mobility covers also interdisciplinary and inter-sectoral mobility. Doctoral candidates and young researchers should be encouraged to move from one sector to another (e.g., university – industry and back). Universities have to develop partnerships with different partners from different sectors, build networks and collaborations based on institutional and international agreements.

During the discussions on international co-operation, the issue of European doctorate re-emerged. It seems that there is no wide consensus on this issue. Most participants needed to be convinced of the merits and rationale for the idea of European doctorate. They did not recognise the need for European label per se as it does not carry any quality attribute. Supporters of European doctorate, on the one hand, stressed its European dimension in terms of mobility and international collaboration, while on the other hand, the opponents noted that European or international dimension can be achieved without the European label through scientific networking activities amongst researchers.

10. Ensuring appropriate funding: the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding.

All participants agreed that if we want to ensure high quality doctoral programmes, appropriate funding is crucial. Doctoral candidates are not just fee-paying students who bring an income for the institution, but should be also considered junior research and teaching staff who contribute to the creation of new knowledge. Institutions and governments should provide sustainable financing of doctoral programmes. The organisational transformation of doctoral programmes towards more structured doctoral/research/graduate schools requires significantly higher financial investments than traditional individual doctoral training. This new development of doctoral programmes cannot be ignored both at national and European level if we want to compete with graduate schools in the USA and other non-European countries.

Financing of doctoral candidates in Europe varies from country to country and from institution to institution. Doctoral candidates are funded by grants, fellowships, scholarships, subsidies or by private (personal) funds. Funding is closely related to status of a doctoral candidate. In some countries doctoral candidates are considered students, often without all social rights (e.g., without pension rights or unemployment benefits), while in others they are employees and early stage researchers (or combination of both) with regular employment contracts and all related social rights. For a successful completion of doctoral studies full funding of doctoral candidates is crucial. It seems that three-year grants or fellowships in most cases do not cover the whole study period and candidates are often left without any financial support during the period of writing the thesis (usually the fourth year). As a consequence, candidates are searching for other sources of financing at the crucial stage when they need to fully concentrate on the completion of their

doctoral studies. Many university representatives would prefer four-year fully funded doctoral programmes in order to achieve high scientific quality and integrity.

III. Conclusion

The Salzburg Seminar participants recommended to the Bologna Follow-Up Group (BFUG):

- that the above ten basic principles provide the framework for further work on the third cycle, and consequently are fed into the drafting of the Bergen Communiqué;
- that the Ministers in Bergen then call on the European University Association through its members to prepare a report under the responsibility of BFUG on the further development of these principles to be presented to Ministers in 2007.