

What is a doctorate? Changing meanings and practices in the case of Swiss communication sciences

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Introduction

The answer to the question in the title of this paper might seem obvious. Most academics and scholars in the field would agree that a doctorate is a process of socialisation and learning-by-doing in the academic community, where students learn how to perform original research, and that the final examination is a sort of rite-de-passage where they are officially accepted as legitimate members of the community (Parry et al. 1994; Bartelse et al. 1999). Of course, the literature of the field has widely acknowledged the differences between disciplines in the organization of academic life (see for example Clark 1983; Whitley 1984; Abbott 2001; Becher & Trowler 2001; Multrus 2004), as well as between national systems of higher education (see for example Ben-David 1977; Clark 1983; Kivinen et al. 1999; Kehm 2005), but basically the fundamental meaning of the doctorate as a process of socialisation and reproduction of the academic community is seen largely common and thus can be considered as being the “core” of this concept.

However, we argue that some trends in higher education during the last decades might to some extent have weakened this core and thus it could be time to reconsider critically the meaning of the doctorate itself, by looking to actual practices beyond commonly accepted myths (Enders 2004; Kehm 2005): these are the expansion of the higher education system, at the doctoral level also, implying that the access to the academic profession is nowadays mostly controlled at the post-doc level and thus the doctorate is not more than a basic qualification for research; the increasing demand for highly skilled workforce with research training and experience, meaning that the doctorate is seen also as an educational output towards the private economy and society (thus with different requirements concerning skills); finally, a stronger emphasis on the applied nature of research and on the need of integration with society and economy, meaning that the academic conception of the doctorate as oriented towards basic knowledge – and the related evaluation criteria - might not any more fit the reality of research in some fields.

It has been widely acknowledged that some choices have to be taken concerning for example the organization of the doctoral studies, access rules and evaluation procedures, employment or activities of doctoral students; however, these are not just practical and organizational issues, but they involve different possible interpretations of the meaning of a doctorate itself and of its rooting in the academic culture. A reading of the Bergen Communiqué confirms these tensions around the concept and organization of the doctorate. Namely, the communiqué states that “[t]he core component of doctoral training is the advancement of knowledge through original research” (Conference of European Ministers Responsible for Higher Education 2005: 4), but it includes also the need for structured doctoral programmes – bringing the doctorate to some extent nearer to undergraduate education – and, what is more important “urge[s] universities to ensure that their doctoral programmes promote interdisciplinary training and the development of transferable skills, thus meeting the needs of the wider employment market” (4), a requirement which cannot be easily matched with academic culture and rules.

In this paper, we will address some of these issues in the specific case of the field of communication sciences in Swiss universities, by looking both at the actual practices and at the meanings attributed to them by the involved actors. There are some reasons why this case might be of more general interest, including the largely applied nature of research in this field, its heterogeneity concerning disciplinary orientation, research subjects and linguistics cultures, meaning that there is no unique practice of the doctorate, and the fact that in Swiss universities doctoral students are engaged as workforce for research, teaching and administration and thus this professional component is inherent to their status.

The paper is organised as follows. In the first section, we review today’s scientific and political debate around the doctorate and we identify some open issues to be discussed in our case study. In section two, we shortly introduce the field of Swiss communication sciences, as well as some basic data on the organisation of the doctorate there and on the on-going debate on its organization. The three

following sections constitute the core of the paper, where we examine in our case studies three main issues, namely the employment status of doctoral students and its relationship to the doctorate, the importance of academic vs. professional training and, finally, the organization of doctoral studies. We conclude with a section summarizing the main feature of today's doctorate model in Swiss communication sciences, its advantages and drawbacks and, finally, the policy implication of the whole discussion.

1 The doctorate between tradition and change

The doctoral degree as such and the process leading to the degree have a long history (Noble 1994) and differ considerably among countries (see for example Clark 1995, Kivinen et al. 1999, Kupfer & Moes 2004). The first doctoral degree has been awarded more than eight centuries ago (Noble 1994). Initially, the doctoral degree was not seen as a research degree, but as a proof of one's ability to teach (the latin word *docere* means "to teach", a *doctor* is therefore a teacher; Libner & Morgan 2004). With the Humboldtian idea of the university as the place where research and teaching (and therefore also study: Clark 1995) are unified, training by doing research has emerged, first as training for practical professions such as teachers or pharmacists, which was then considered as suitable also for research workers (Ben-David 1977). In this idea, professors and students jointly work together on the search for the truth, for new knowledge. They become colleagues, their roles change (Gellert 1993). Research training was seen as necessary for every student, and future university teachers and research workers simply emerged as the elite out of the whole student population. Explicit organised training for research has started only with the implementation of graduate schools in the USA (Clark 1995). However, this model has not (yet) been adopted everywhere. A doctorate is, still today, often seen as an apprenticeship in which the doctoral student – in the tradition of Humboldt – learns through direct collaboration with the professor, the supervisor. There are, however, general trends toward the introduction of organised doctoral training, often inspired by the graduate school model (see for example Enders 2005, Uihøi 2005, Teichler 2006), and in several cases, both systems are adopted in parallel (Kehm 2005).

Whether it is organised in graduate schools or rather follows the apprenticeship model, a doctorate is a period of secondary socialisation to a sub-world (Berger & Luckmann 2004), the academic and scientific community (Parry 2007). During the process of the doctorate, a student starts becoming a member of this scientific community, starts participating in its activities, first from an observing position and then moving on towards giving his/her own contribution to it. This community can be described as a community of practice in which the doctoral students initially participate from a legitimated position at the periphery (Lave & Wenger 1991). Socialisation to the scientific community involves appropriation of the community's knowledge, of its – socially constructed – reality, its attitudes, values and myths. Socialisation is a process in which tacit knowledge is transferred (Nonaka et al. 1998). In academic institutions, tacit knowledge prevails over explicit knowledge (Baruch & Hall 2004). A future researcher needs to learn many informal rules and patterns of behaviour, and he needs to learn the handcraft of research, the skills necessary to perform research in a way that is accepted in the community – skills that go beyond the mere knowledge and application of methods and theories. A doctorate is usually seen as a rite-de-passage like process (Bartelse et al. 1999), which is concluded with an examination on the doctoral students' written contribution to the community, his doctoral thesis (Kehm 2005). With this process, the status of the young researcher inside the scientific community changes (Parry et al. 1994).

A doctorate is done in a specific discipline or field of study. Styles of inquiry and traditions differ among disciplines (Clark 1983), and these differences have an influence on the doctorate (see for example Burgess 1994, O. Parry et al. 1994, S. Parry 2007). Disciplinary culture does matter. Different evolutionary patterns lead to different ways of organising research and training of graduate students (Debeauvais & Livesey 1986; Neave 1993). A doctorate is a period of exploring the own (and maybe also neighbouring) academic tribe and its territories (Becher & Trowler 2001). The type of knowledge developed in these different academic territories and the way in which it is developed differ, and hence also the doctorate – which is, in the end, the process in which one learns how to develop knowledge – can not be the same in all fields of study.

1.1 Pressures and factors of change

So far, we have looked at the doctorate from an academic or disciplinary point of view. If we look at it in the wider context of the evolution of the higher education system some interesting issues emerge.

From the 1960s on, higher education institutes have experienced an enormous increase in student numbers and diversification in student population (Kivinen et al. 1999, Enders 2004). Higher education

could no longer provide training just for an elite, but had to adjust to large groups of students. With this trend, the traditional model of the university has been largely modified. In most cases, undergraduate higher education can no longer be done in nearly private sessions with a fistful of students and one professor, teaching becomes more formalised (Enders 2004). The Humboldtian idea of the student doing research jointly with the professor can no longer be implemented easily, the relation between research and training has to be reconsidered; new organizational settings have emerged, including stratification of higher education institutions between research and teaching intensive institutions, concentration of the teaching-research relationship at the postgraduate level or the emergence of specialized units devoted exclusively (or at least heavily) to research. Research is no longer spread over the whole system, but tends to be concentrated in some parts of it (Ben-David 1977, Clark 1995). The issue is raised if doctorates should be concentrated only in the areas or units having a sufficient research basis, an option that strongly conflicts with the assumption that each university professor has the needed competences to train PhD students. Clearly, the different conceptions of higher education present in each country might lead to different answers to this question.

Massification of higher education implies also an enormous increase in the number of people having the needed qualification to access to the doctorate and this makes the traditional model of simply choosing the future doctoral students among the best students difficult to maintain. Moreover, decoupling research from undergraduate education means that it becomes more difficult to evaluate at this level doctoral candidates' research competences and their interest for an academic career; thus, either an entry selection is introduced (through an exam or a proof period, often concluded with a preliminary thesis, before the official enrolment as a doctoral student) or selection has to be done during or after the doctorate. In the apprenticeship model, there is usually no selection at entry, while graduate schools tend to be more selective and often admit only a limited number of students (Kehm 2005; Berning & Falk 2005). De facto, in all countries the number of doctoral students has strongly increased in the last years (in the 1990s, the increase of doctoral students in one decade was in most countries between 30% and a doubling of the doctoral student population; Enders 2004, Kehm 2005). This means that a good share of doctoral degree recipients are expected to continue their career outside the university (and should to some extent be trained also with this purpose). However, in many countries there is no advantage (for example regarding salary or job security) of having a doctorate compared to first-degree holders outside the academic market. Exceptions to this rule are Germany, where doctoral degree holders have an important role in public administration, politics, law and industry (Enders 2004) and Switzerland.

A further issue concerns the employment status of doctoral students (Kupfer & Moes 2004; Mangematin et al. 2000; Kehm 2005 & 2006), including also issues of funding of doctoral studies. Namely, in many countries a large share of doctoral students are *de facto* employed by the university to perform research projects or teaching support or even administrative tasks; often, the doctoral student's relationship to the university (and the supervisor) is not the one of being only a student or only an employee, but a hybrid relationship including both roles (Kehm 2005, Gerhardt et al. 2005). This model also proved to be a cheap way for expanding both research and educational activities with temporary staff. However, there are some potential conflicts between these activities and the doctorate, depending also on the type of activities, and between the student status and the employee status.

From the 1980s on, governments in Western Europe started addressing seriously issues of postgraduate education (Kivinen et al. 1999, Neave 1993), which before rather developed on their own and "tended to be regarded as the more or less unplanned outcome of a composite mix of higher education policy and science policy" (Enders 2004: 424). There is still an ongoing discussion regarding the organisation of doctoral training, graduate schools are implemented in several ways in many countries, often promoting interdisciplinarity and collaboration between different geographical places (Enders 2004). The degree's appropriateness for the labour market is addressed as well (Kivinen et al. 1999, Kehm 2005), because also the economic environment has changed. The need for flexible knowledge workers in other areas than the academic environment increases (Enders 2004), a labour market for university degree holders develops. In line with other political discussions, also the Bergen Communiqué (2005) clearly shows that doctoral training should aim at building transferable skills in an interdisciplinary way, and therefore train students for a wide employment market.

In addition to the need for qualified personnel, there is also a demand for knowledge – and therefore for transfer of research results by making them available to industry, or for applied research done by higher education institutes in collaboration with industry. Research and innovation is going to be developed in networks, the boundaries between government, industry and academe are more and more dissolving (Enders 2004). The university is no longer a secluded place where only basic research is done. In order to legitimate its existence, the university has to make its knowledge and

skills available to society, and therefore to collaborate with business and social partners. The way in which knowledge is produced changes – it becomes more interdisciplinary and is developed with an emphasis on its application, through interaction and reflexivity: the so called “mode 2” approach (Gibbons et al. 1994).

1.2 Three main issues

From the previous discussion, there are at least three main tensions which emerge and which we will try to better understand in the case of Swiss communication sciences:

- the tension between the doctorate as craft education in small teams (or even through individual supervision) and the mass doctorate with larger numbers of doctoral students enrolled in graduate schools.
- the tension between performing a doctorate for academic career and the doctorate as a step towards professional life.
- the tension between doctoral students as learning the research profession and doctoral students as workforce for the functioning of university activities.

a) *Craft education vs. mass education in the doctorate*

With the massification of higher education, the number of doctoral students as well as the teaching load of professors increased. This does not seem to be compatible with the traditional idea of the doctorate as an apprenticeship, in which doctoral students learn to do research by doing it under the close observation of their supervisors. Supervision is a central element of the whole doctoral process (Brown & Atkins 1988; Burgess 1994; Parry 2007), and poor supervision is often seen as a cause for the long duration of doctoral studies (Kehm 2005). Can this supervision still be guaranteed when professors have more doctoral students and less time to dedicate to them? The graduate school model can remedy this lack of time partially, by the offer of more structured training. But does this organised training still lead to the acquisition of the same competences as an apprenticeship situation did? Doesn't individuality suffer from this mass education? What competences are transmitted in graduate schools that have been omitted in the apprenticeship model? Is it possible to implement the graduate school model also in scientific fields, where there is no agreement concerning theory, methods and research subjects (a situation quite typical in social sciences)?

b) *Academia vs. professional life.*

Originally, research training in the universities was training for practical professions, but then it became more and more specialised due to the differentiation of disciplines and the emergence of fields of research that had no longer much in common with practical professions (Ben-David 1997). Nowadays, there is a general claim that the doctorate should not only provide research training for an academic career, but transmit also competences that are transferable to a wider employment market. There are efforts towards the implementation of alternative programmes, for example of professional doctorates (Scott et al. 2004; Kehm 2005; Metcalfe 2006). The society claims for knowledge transfer, applied research increases. Jobs in the wider employment market might involve research, but not only. Therefore, skills that go beyond basic research should be transmitted. How is it possible to bring together training for an academic career and for a career outside academia? Do the outputs of doctoral training (respectively the needed inputs for the types of career) differ in the two cases? How can this approach be compatible with the idea of the doctorate as a socialisation in the academic community and culture? Should different “types” of doctorates be recognised officially?

c) *PhD students or low-paid workforce.*

With the massification of higher education, universities needed to re-organise in order to meet all the tasks mainly in teaching and administration. One possible solution to the need for workforce is to employ doctoral students as assistants and to some extent this answered also to the pressure of increasing numbers of PhD students (with needs for funding).

On an international level, there is no consensus about whether somebody doing a doctorate should be considered as being in his last cycle of education or in the first stage of professional activity (Mangematin et al. 2000; Kupfer & Moes 2004). The Bergen communiqué (2005) considers them both as students and as early stage researchers. If a doctoral candidate is seen as a student, he has to pay tuition fees and therefore brings money to the university, while if he is employed as a researcher, he has duties, rights and gets a regular salary – this is the case for example in the Netherlands and in Scandinavian countries (Kehm 2006). When doctoral students are employed by the university, their tasks include teaching and student supervision activities, collaboration in research projects and

management and service activities (Gerhardt et al. 2005; Enders 1996). However, to which extent can these activities be mutually supporting or are there conflicts (for example between teaching and research or between applied research and basic research leading to a PhD)? How is the nature of the doctorate influenced by these tasks?

2 Swiss communication sciences and their doctorate

Before addressing these issues, we need to have a more precise look at our field of studies, Swiss communication sciences. Namely, a basic assumption of our work is that the issues we raised about the doctorate cannot be answered in general, but strongly depend on the nature of the field considered and on the national context of higher education. Identifying the relevant features of our case study is thus the main aim of this section.

2.1 A case of a divergent field with largely distinct subcommunities

Communication sciences overall are well-known as a typical case of a divergent scientific field (Becher & Trowler 2001), where there is no uniform profile, neither institutionally nor regarding topics of interest and research methods. Over the last decades, there have been several discussions about the identity of the field, and there is no agreement whether the field can be designed as a discipline or not or whether it should aim at becoming more coherent or rather cultivate diversity (Schramm 1983; Reardon & Rogers 1988; Berger 1991; Rogers & Chaffee 1993; Shepherd 1993 & 1999; Atkin & Jeffres 1998; Craig 2003). It is a rather young field, and its level of institutionalisation differs among countries and regions (Craig 2003; Möhring & Scherer 2005). Given the applied nature of the field, it is influenced by developments in society and other disciplines, such as for example the implementation of new media technologies (Reardon & Rogers 1988; Meyen & Löblich 2006) or the economic importance of the media sector (Atkin & Jeffres 1998). Instead of developing its own theories, the field often imports from neighbouring disciplines, and its basis is often seen more in its social relevance than in its intellectual contribution (Avery & Eadie 1993; Noam 1993; Craig 2003). Moreover, bibliometric analyses at the international level demonstrate that communication sciences do not yet build an inter-reading community, but there are distinct subcommunities each with their own publication channels (Leydesdorff & Park 2007; Van den Besselaar & Leydesdorff 1996). Further characteristics of the field, pushing its fragmentation, are its relatedness to the linguistic communities and the strong importance of national literatures (Hicks 1999 & 2004, Masip 2005).

2.2 A fast-growing field segmented by linguistic regions

In Switzerland, even though first courses in journalism (a field related to communication) started at the beginning of the last century (SGKM 2004), a major development of the domain occurred only during the late 1990s with the reinforcement of the offer and the opening of new curricula at several universities. The number of students enrolled in communication sciences has enormously grown, from about 150 in 1995/6 to more than 3000 in 2003 (SGKM 2004). As a result of this development, every Swiss university has nowadays a unit interested in aspects of communication, ranging in institutional levels from a sub-topic of an institute up to a whole faculty dedicated to communication. A major characteristic of the field is its relatedness to the local linguistic community: as we have shown elsewhere (Probst & Lepori 2007), there is a clear separation of communities between the linguistic regions inside Switzerland, shown for example by the fact that most publications are written in the local languages and often published locally or in the neighbouring country of the same language. Also, there is virtually no mobility of professors between the German and the French speaking part of Switzerland, and topics of interest as well as approaches differ among regions. We can therefore conclude that this field of study is characterised by the existence of several sub-communities (segmented both following linguistic borders and research topics/methods, i.e. cognitive borders) working all under the name of communication, but not communicating very much among each other.

2.3 The doctorate: weakly organised and strongly debated

Among European countries, Switzerland has the highest share of doctoral students in the whole student population. Thus, in 2006, there have been 33189 awarded university degrees, among them 3198 doctoral degrees, 182 of them in social sciences (source: Swiss Federal Statistical Office), the broader field communication sciences are usually accounted as being part of.

Since there are practically no grants for doctorates (except some grants by the Swiss National Science Foundation SNF for stays abroad), most doctoral students are employed directly by their host university: a share of them works in SNF basic research projects, strongly connected with their dissertation, others are engaged in research projects funded by other sources and as teaching

assistants in the university itself. Even if it is difficult to get precise data, it is likely that the 17,000 doctoral students enrolled in Swiss universities constitute the bulk of the about 21,000 assistants and researchers and thus provide the lion's share of the workforce both in research and in teaching support (as a comparison, Swiss universities had in 2005 just 3,000 professors and about 7,000 other teachers; source: Swiss Federal Statistical Office). These numbers make clear that, in the Swiss context, doctorate recipients have very limited chances of getting a university position and their main career perspectives are actually outside the university.

However, the situation of PhD students seems to vary strongly according to the scientific domains. Namely, in natural and technical sciences Swiss universities are quite strong in research and most doctoral students work in research projects; moreover, given the strength of private research in Switzerland, they have quite good employment prospects in private companies. At the contrary, in social sciences, conditions are quite different since undergraduate student numbers are high (2/3 of students in Swiss universities are concentrated in these domains) and the share of research activities is much lower; moreover, the evaluation of social sciences performed some years ago by Swiss Science Council showed the weakness of research in many domains (CSS 1993; BBW 2002).

Thus, it is not surprising that the organisation of the doctorate in social sciences overall has been quite debated in the last years. Claims for clearer definitions and recognitions of tasks doctoral students accomplish in their role as research/teaching assistants are made (e.g. to valorise not only research, but also teaching activities often assumed by doctoral students), mainly with respect to the future career possibilities of doctoral students (Lévy et al. 1997); and also insufficient funding of social sciences and humanities is a topic of complain (for communication sciences see Blum 2004). The situation of doctoral students seems to be precarious. They make up a good share of the lower middle-level staff and are often overloaded with teaching and administration work and therefore do not have enough time to develop their own research (Lévy et al. 1997, BBW 2002). Moreover, career paths within the academic context in Switzerland are not very clear and unified; there are not many stable positions between the lower middle-level staff and professorship (Perellon 2006).

Also, since Swiss universities are under cantonal authority and adopt their own regulations, the organization of doctoral training largely differs between the different regions. In the French speaking part of Switzerland, the idea of a doctoral school, inspired by the French model and including the preliminary degree DEA (*Diplôme d'Etudes Approfondies*), is present already for some time, while it is gaining ground only recently in the German speaking part, where at least in social sciences and humanities the individual supervision model is still largely prevalent. There is a general claim for the introduction of more organised doctoral training (Lévy et al. 1997, Meyer & Nyffeler 2001, SWTR 2001, BBW 2002). The Swiss National Science Foundation has also recently established a funding programme aiming at the introduction of interdisciplinary graduate programmes primarily in social sciences and the humanities (PRO*DOC programme).

There are only a few empirical data available regarding doctoral students in communication sciences in Switzerland. It is estimated that in 2002 there have been 90 doctoral students in communication sciences (Bonfadelli 2007). This number might have increased slightly over the last years due to a general increase in student numbers in the field. In its evaluation on communication and media sciences in Switzerland, the Swiss Association of Communication and Media Sciences (SGKM 2004) comes to the conclusion that the field needs a strategy for the promotion of young researchers. Problems are seen mainly in the lack of enough scientific positions and of long-term support programmes. A study that has been conducted on doctoral students in communication sciences in Austria, Germany and Switzerland (Mögerle et al. 2005) concludes that the field of research of communication sciences is attractive, that young scientists are motivated and interested also in internationalisation. Dissatisfaction lays mainly in the missing opportunities for advancement. In line with others (Lévy et al. 1997, Jarren 2000), this study concludes in favour of the introduction of a system that adds new positions in the middle of an academic career, as for example a tenure track system. The authors also suggest the identification of more alternative career paths outside university. Clear conditions of employment (regarding time and content) and binding agreements on objectives are advised, as well as a strengthened integration of the young researchers into the research context and enhanced quality in the socialisation process through training opportunities, mentoring and networking programmes (Mögerle et al. 2005).

2.4 Methodology and data sources

Our study covers Swiss communication sciences as broadly identified by the different institutes in the ten Swiss cantonal universities which cover this field (with different names, research orientation and institutional position; SGKM 2004). As a preliminary step to this research we performed an analysis of

the organization and research structure of the field, using information from the institutes themselves, from CVs of the professors and from an analysis of journals in the field (Probst & Lepori 2007).

Further, we have analysed the doctoral regulations of different universities and 40 in-depth interviews have been conducted with doctoral students doing a doctorate in communication sciences at seven (out of a total of ten) universities, representing approximately one third of the population.

Out of these 40 doctoral students, 18 have done their undergraduate degree (or one of their degrees) at the same university where they are enrolled for doctoral studies, 6 at another university in Switzerland (2 in the same linguistic region, 4 in another), and 16 come from foreign countries (14 from countries of the same language as the university they do their doctorate at). They can be divided as follow regarding the advancement of their doctoral studies: 10 are working on the definition of their topic or on its refinement; for 10 the project is clear, they are about to start with the empirical part. 11 are in the phase of data gathering, 5 are analysing their data. 2 are in the process of writing up, and the remaining 2 have already handed in their dissertation. Research topics cover the areas of organisational communication (11 doctoral students; multiple answers possible), mass communication (10), political communication (9), language & social interaction (7), computer mediated communication (5), intercultural communication (5), media management/economics (5), health communication (4), scientific communication (3), communication law & policy (2), and 10 other topic fields mentioned only once.

Interviews with supervisors or people in charge of doctoral education have not yet been done, so at the moment the results have the limits of being based only on official regulations and the point of view of doctoral students.

Our sample covers, however, the largest units of communication sciences and some smaller ones, the three linguistic regions and a wide range of research topics. The institutional definition of the sample, though, is not necessarily identical with the whole population of doctoral students working on communication related topics.

3 Working for the university and doing a PhD: synergies and incompatibilities

As is visible in Table 1, most doctoral students in our sample (34) are employed by a higher education institution. In most cases, they work for the unit they are enrolled at for their doctoral studies, often directly with their supervisor. There are 17 doctoral students that are not involved with any kind of research in their employment. A look at the percentages of employment shows that they are employed between 50% and 100%, and therefore have a maximum of 50% of their time to dedicate to research – to their dissertation project. In 23 cases, the tasks include a research component; 4 doctoral students are employed exclusively for working on research projects.

Tasks	N.
No job	1
Paid with a scholarship (for doing doctoral research)	1
<i>Research</i> only	4
<i>Research</i> , teaching and/or administration	18
Teaching and/or administration	12
Working outside the university	4

Table 1: employment and tasks of doctoral students (N=40)

Involvement in a research project varies in its form and intensity. At one university, the job description of doctoral students includes research as basic task. If they are not involved in a larger research project, this means that they do some research on their own, trying for example to do publications that are somewhat related to their doctoral project, but not completely the same. Others participate only partially in research projects, while their main tasks are in teaching and administration. Also among those doctoral students who dedicate a lot of their employment time to research, we find different situations: there are doctoral students who are working on their own on a project (often a third-party funded project), under the supervision of their supervisor, which is largely also their dissertation project, while others work on research projects that have only some or nearly no synergies with their doctorate.

Synergies between employment and doctorate exist in many cases – often, doctoral students state that it is difficult to distinguish between things they do for their doctorate and things they do for their employment. These synergies, however, are of varying nature. Besides the already described cases of synergies in research, there are also synergies in teaching tasks, especially in the beginning of a doctorate: assistantship to a course which covers at least partially topics that are close to one's dissertation topic is seen as a good possibility for deepening this topic; at some universities, doctoral students teach seminars and courses, and often they try to do this teaching on topics that are closed to their own research; another possibility for synergies is seen in the supervision of bachelor and master students' theses – if there are several doctoral students working for one professor, they can try to distribute supervision in a way that suits their own research topics, or they even try to make students work on topics that are helpful for their own dissertation project. For those students aiming at an academic career, however, it is also seen as important to work on topics that are different to their dissertation project, and therefore they see it as a good opportunity to be assistants also to courses that are not related to their own project.

Involvement in teaching also can mean different things. At some universities, it is common or even required that doctoral students have their own seminars or courses, while at other universities the minimum requirement for teaching is a doctoral degree. Therefore, doctoral students' tasks in teaching range from the preparation of photocopies or overhead slides through the implementation and administration of online course platforms, preparation and marking of exams and active participation in some parts of the courses (for example exercises) up to the responsibility for whole seminars and courses.

Most employments include an organisation/administration component – this can range from smaller tasks up to the organisation of international conferences. One doctoral student in the sample is employed by a service unit of the university and therefore does not have any teaching or research components in his employment at all.

These data show that to be employed by a higher education institute while preparing a doctoral thesis can have several meanings and therefore also several implications on the doctoral process, including supervision, one of the most important elements of doctoral training (Brown & Atkins 1988; Burgess 1994; Kehm 2005; Parry 2007). If doctoral students are employed on a research project on which they work together with their supervisors, and which is also related to their dissertation projects, they are more likely to have a closer and more content-related supervision than when working as teaching assistants who are mainly in charge of preparing photocopies for several professors or organising a conference. The lack of content-related supervision is underlined by several doctoral students; they state that they do not but would like to have profound discussions about their topic. Other doctoral students – often those that have already had some work or research experience before – however state that they do not need this kind of supervision and that they rather want to work on their own.

Since employment constitutes an important part of a doctoral student's life in communication sciences in Switzerland, it cannot be neglected when thinking of the organisation of doctoral studies. Different employment situations might lead to different types of supervision, and compatibility with organised doctoral training such as graduate schools is not always given. A graduate school model often includes scholarships for doctoral students, meaning that they are paid for working on their dissertation project. There are, however, only a few students that benefit from scholarships, either from the universities or from private foundations. The new doctoral programme launched by the Swiss National Science Foundation includes scholarships for some of the doctoral students attending it, but so far only a few projects have been funded in different disciplines. In our sample, only two doctoral students are part of the project, and only one of them benefits from a scholarship by a private foundation through the university.

When asked about courses they have done for their doctoral studies, respondents often state that they do not have enough time for attending courses because their day-to-day work – not related to the doctorate – requires too much time. This fact makes the introduction of graduate schools questionable, it seems that they might not be compatible with a system that needs doctoral students as workforce for the university machinery.

But also supervision often suffers from the amount of day-to-day tasks doctoral students and their supervisors have to accomplish. Doctoral students that work as (especially teaching) assistants for their supervisors often state that they have rather regular meetings with their supervisors, but that it's always about courses and students and organisational aspects and rarely about their dissertation. In the everyday routine, the doctorate risks to be neglected in front of the urgency of other tasks.

On the other hand, doctoral students – whether they work at a higher education institute or not – often see the employment at the university as the best way of doing a doctorate. This employment gives them direct access to different resources: to infrastructure they can also use when working on their doctorate (office with computer and internet access, library), but mainly to information. When located physically at the institute, information about publications, conferences and other important events is virtually present; they just have to gather it. They can interact with others – peers and senior researchers – and therefore build their own network. Even short discussions at a coffee break can give new ideas for the dissertation project; the doctoral student has the possibility to be – informally – supervised by several people. But also more emotional aspects are not to be neglected: there are other doctoral students around that are in a similar situation, or that have just made it to go through a difficult moment – informal interaction with peers that does not necessarily cover aspects related to the content of the dissertation seems to be an important element. A doctoral student that is involved in a higher education institute through his employment gets socialised to this small community, which consequently also opens more possibilities for socialisation in the bigger scientific community. A good social environment allows covering gaps in the supervision process – there are several doctoral students in our sample that report that they talk – also intensely – about their doctoral projects with other people than their official supervisor, often at the local level. Additionally, tasks in the area of administration and teaching also include learning opportunities. By performing these tasks, doctoral students can acquire skills in areas that are useful also for a future job outside the research environment.

4 Academic vs. profession: a largely open choice

According to our interviews, a large share of doctoral students in communication sciences in Switzerland start a doctorate without even knowing what they are on to. What it means to do a doctorate is often discovered only in the process. In our sample, ten doctoral students say that they have started with the doctorate because they were offered the possibility by a professor, they just slipped into it. “Why not” is a “reason” that is often mentioned, two even state that it was not their first choice after the first degree, but there was no alternative. They often do not consciously decide that they want to do a doctorate, they rather decide that they want to go on doing research or that they want to accept the teaching/research assistant position offered to them. This situation holds true especially for doctoral students starting their doctorate more or less immediately after their undergraduate studies, at the same university (14 doctoral students in our sample). Those starting a doctorate after a break of several years of professional activity (nine in our sample) take an active, conscious decision for a doctorate despite the inconveniences (for example lower income or work to be done also in the evenings and week-ends) this decision brings with, and they often decide for a doctorate because they want to have time for reflecting their everyday practices. People do usually not enrol for a doctorate because they want to go for an academic career; only one doctoral student in our sample explicitly mentions this as the reason for starting with a doctorate (interestingly, now that he is at the end of his doctorate, he does no longer want to stay in the academic environment; in nine cases the interest for doing research was the main reason.

When asked for the meaning they give to their doctorate, doctoral students mainly refer to two aspects: the doctorate as a learning experience and the doctoral degree as a title. In the interviews, they tend to mention first the learning experience and add the degree-aspect afterwards. Doing a doctorate is therefore seen as an investment in personal development, in competences, as an experience of learning, of deepening topics one is personally interested in but that have not been addressed during undergraduate studies, but also as a personal challenge – they want to prove to themselves that they are able to do it.

Doctoral students generally do not aim at earning a doctoral degree in order to have better chances for a job in industry. Only a few admit that they do it especially for the degree – one doctoral student for example mentioned personal vanity as first reason (because his girlfriend is doing a doctorate as well). If doctoral students want to stay in an academic context, they do a doctorate not only because the title is requested for their career; several first state that they do the doctorate for the pure interest in doing research, in “finding out interesting things”. Only a few students planning a future outside the academic context think that the doctoral degree is necessary for their future, they do a doctorate rather because of the process than the title. However, doctoral students say that a doctoral degree proves that one is able to do an independent work on his own, to manage a project over several years.

The doctoral degree is seen as an additional professional qualification, as a title that allows also for distinction from the mass of graduates in communication sciences. The value of the doctoral degree outside university, especially in private industry, seems, however, questionable. Most interviewees are

undecided about their future after the doctorate. They consider both an employment inside and outside academia/research as a possible future. In our sample of 40 doctoral students, 10 clearly prefer an academic career, and other 10 do not see their future in the academic environment once they have finished their doctoral studies. The remaining 20 state to be undecided, they could imagine both options.

Preferences regarding the future career are constructed or revised during the doctorate. In this period, doctoral students get insights into the academic life; they have the possibility to discover whether they like the academic profession and the environment. It happens that they completely change their plans for the future during the doctorate. Some doctoral students state that in principle they would like to do an academic career, but there are some points about it they don't like, such as for example the uncertainty regarding future employment possibilities or the need to go abroad for a post-doc period. Some also state that they would like to stay in the academic environment and do research, but that they do not want to become professors – because they observe with their own supervisors that being a professor often consists largely in management and administration tasks and teaching, while there is little time left for doing research.

Despite all challenges and difficulties a doctorate implicates, and even though several doctoral students think that the degree is not necessary for their professional future, doctoral students in our sample generally are happy with their experience, as is illustrated by the following answer a doctoral student gave on the question whether she would decide again for a doctorate:

I feel privileged. I would do it again. Maybe a little bit less innocently, but, honestly, until today I haven't found anything better to do. It's not obvious, it's not always great, there are days of downs, the others are going skiing, and you have to work, you don't advance at the pace you would like to... But anyway I think it is the most intelligent thing to do.

5 Craft education vs. mass education: a mixed solution

As with employment situations and future orientation, there is diversity also regarding supervision and organisation of doctoral training. Disciplinary differences have an influence on doctoral education, and in communication sciences, several disciplinary orientations can be found. Topics range from those more related to the humanities (for example argumentation theory or cultural studies) through sociology and psychology (for example the interaction between medical doctors and patients) to those clearly connected to economics or technology (for example regarding internet searching machines or the implementation of new technologies in business).

Supervision in disciplines such as engineering and natural sciences is said to be more project oriented, i.e. a group of other scientists and doctoral students play an important role in supervision, while in the humanities and to a lesser extent social sciences the supervisor is central (Berning & Falk 2005). In our sample, doctoral students working in fields that are related to more project oriented disciplines tend to work on research projects together with other people – or at least they see this as the ideal situation – and their dissertation project often includes possible solutions for concrete cases or the development of tools, while the “theoretical/empirical” dissertation is more common among doctoral students related to sociology, psychology and the humanities.

In most universities in Switzerland, organised doctoral education seems to be at the stage of ongoing implementation (or at least discussion), often as an additional step in the implementation of the Bologna process. In the case of communication sciences, however, it seems that it has not yet been implemented satisfyingly in many places. So far, the element that has been introduced most widely is the obligation to attend courses, usually declared as a certain number of ECTS points (ranging from 28 to 60). Doctoral students are required to assemble them by attending courses offered by the departments or institutes – mandatory or to choose freely among a certain offer – or other universities, or by attending summer schools and doing presentations at conferences. In one case, the faculty requires the doctoral students to gather ECTS points, but does not offer any courses. In some cases, students report that they do not exactly know what they really have to do and whether they are really asked to attend courses or not. In again other cases, there is no course offer on a doctoral level, but doctoral students working as assistants at the university can attend courses in didactics.

Admission to doctoral education is usually not regularised in the case of the more traditional, so-called apprenticeship model, while it is more frequent in the case of doctoral programmes (Berning & Falk 2005, Kehm 2005). In our sample, however, no doctoral student has reported any selection mechanism. Often, the doctorate seems to be the natural consequence of an assistant position, and assistants are selected by the professor employing them. Personal relationships play a certain role in

this process: in several cases the supervisor has already been supervisor of the doctoral student's undergraduate thesis or knows the undergraduate supervisor personally. There are only a few doctoral students (6 in our sample) that have done their undergraduate studies at another university in Switzerland than where they do their doctorate. Those with an undergraduate degree from another place usually come from abroad (16 in our sample) and have chosen to apply for a position in Switzerland because of the good working conditions (salary, infrastructure, small institutes), compared to the academic environment in their home country.

If there are doctoral colloquia, they are implemented usually at the level of the single professor, involving all doctoral students and senior researchers of his/her unit. There are, however, also doctoral students that never have had any doctoral colloquia and rarely ever attended a course, and have exchanges on their doctorate only with their supervisor – in a more or less frequent and intensive way. The lack of doctoral courses and colloquia, however, does not mean that a doctoral student is not trained in a way that would suit an academic career.

However, good supervision requires time, and therefore a supervisor cannot accomplish this role for too many doctoral students. The organisation university, on the other hand, requires a large number of doctoral students as manpower. Therefore, the introduction of organised doctoral training that groups together larger numbers of doctoral students could seem a good solution – as it happened with undergraduate education at the time of the enormous expansion of the higher education system. But this organised training could be conflicting with the doctoral students' role as employees, because it requires them to attend courses, and therefore to invest time that is not very flexible. Our sample shows that at the moment in communication sciences in Switzerland there are several models – obviously the graduate school model is interpreted in ways that suit local needs.

A very specific case is found at the University of St. Gallen, which is strongly oriented to corporate communication in close cooperation with business partners. There, doctoral students usually work on third party funded projects that are paid for by industry partners and there is a mandatory graduate school programme. This is also the place where doctoral studies have the shortest duration – doctoral students state that the target is to finish within two to three years, including one year of courses and project definition; interestingly, none of them stated to aim clearly at an academic career. At all other places, a doctorate usually takes some more time. This duration can be limited by regulations (usually to five years), but is often left open ended. Doctoral students in our sample that are close to the end of the process have been enrolled as doctoral students for three to five years.

6 Conclusion: a model well-adapted to the situation of the field

Based on this analysis, we can characterize the model of doctorate in Swiss communication sciences as follows.

A doctorate in communication sciences usually lasts between three and five years; most doctoral students are employed by the university and get a salary that allows them to cover their daily expenses, they do not need other financial sources. Their tasks include a wide range of functions: support and administration activities, teaching and/or teaching assistance, research on projects and personal research on their dissertation. All these tasks are part of their doctoral experience, and therefore also of the output of the doctorate. A doctorate in communication sciences in Switzerland does not aim at educating students only for an academic career; it is also a kind of professional training. Doctoral students do not start a doctorate because they want to pursue an academic career. They usually enter the process open-minded regarding their future, and during the doctorate they discover their preferences and capacities, which direct them towards interests in different sectors. Communication sciences are not an exclusively academic field of study; applied research and concrete application play an important role. Therefore, in contrast to doctorates in other fields such as, for example, mathematics or natural sciences, where the aim is to train future researchers, it is appropriate that a doctorate in communication sciences prepares also for other roles, and it is useful that it includes also other aspects than merely research.

This model does not correspond to the traditional apprenticeship model, in that doctoral students in communication sciences in Switzerland are integrated in a social context that goes beyond the direct relationship to their supervisor. They do not depend only on the supervisor, and therefore can make use of the supervisor's strengths and fill the gaps of his weaknesses with other contacts. But it's not a graduate school model either – there is no (or only a few) structured training and supervision teams are not established. Probably the implementation of graduate schools would be a difficult endeavour, due to the diversity in the field: the critical mass of doctoral students working on topics that are enough similar can hardly be found. One can also question whether the introduction of a graduate school model aiming at structured research training is really the right way to go – in that the purpose of the

doctorate in communication sciences, as we have seen above, does not seem to be the preparation for a career exclusively in academia. In any case, these future perspectives of doctoral students have to be considered when implementing graduate schools in the field.

Our conclusion is that, even if many features of this model would seem at odds with the most widespread conceptions on how a doctorate should work – with a strong emphasis on research training and performing research of international level –, this model is surprisingly well adapted to the context of Swiss communication sciences, with their strong internal diversity, the rather low development of research, the need for workforce to support teaching in front of strongly increasing numbers of students and, finally, lack of career prospects inside the university. Moreover, the model is flexible enough to find different applications in different contexts (universities) and cases (individuals), which can be situated on a continuum from academic to professional-oriented doctorate.

This does not mean that improvements are not possible or required – most observers agree that it is critical to improve the quality of research (and research training) during the doctorate, but the chosen solutions need to be carefully targeted to the actual situation and practices of the field and leave sufficient room for flexibility to adapt to individual cases. Moreover, reforms like a more structured training or quality control on the research performed would certainly help to instrument the development of research in communication sciences, which is a recognized weakness of the field, but would not bring necessarily better career perspectives for the doctoral students themselves, nor improve the quality of education of undergraduate students. Hence, choices about the organization of the doctorate are closely related to policy choices on the broader mission of the field.

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