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Postgraduate Supervision in the United Kingdom and Germany: A Comparative Study of Factors Influencing the Supervisory Relationship

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ABSTRACT

This paper aims to examine and assess the approaches to postgraduate supervision in the United Kingdom (UK) and in Germany; the factors determining the differences between the two approaches and investigating their impact on the PhD supervision relationship. I combine personal reflections and experiences with the existing literature and with indices of performance and level of internationalisation of British and German universities. I examine several aspects and factors that affect the academic environment and hence determine differences across the British and German university systems, which are finally reflected in the approaches to postgraduate supervision.

Keywords: Postgraduate supervision; United Kingdom; Germany

Introduction

Postgraduate supervision can be a professionally stimulating, personally enjoyable but also a very challenging experience for both students and supervisors, and potentially all of these things at once. The author, as a former student and lecturer at universities in both the UK and in Germany, proposes a reflection on personal learning and teaching experiences, mainly within Economic and Business Administration departments as an undergraduate student, PhD student, lecturer and PhD supervisor. Based on personal reflections and on macro data, use is also made of the existing literature in order to analyse and to examine how postgraduate supervision is affected by the academic environments in both the UK and in Germany, evaluating the factors driving the differences between postgraduate supervision in the two countries and outlining my conclusions.

The academic career to date of the author from undergraduate student to lecturer and supervisor at universities in the UK and Germany is summarised in Table 1 below.

Table 1 Experience of the author at universities in the UK and Germany

Institution	Period	Study (degree) and/or work
University of Dundee, UK	1997-1999	Undergraduate student (MA Economics)
University of Essex, UK	1999-2000	Postgraduate student (MSc Economics)
University of Hamburg, Germany	2000-2004	PhD student and lecturer in economics
Chemnitz University of Technology, Germany	2004-2012	Lecturer in economics
University of Dundee, UK	2013-	Lecturer in economics and PhD supervisor

This included attendance at some 40 economics conferences or workshops in Germany and several other countries in Europe over a 12-year period, providing opportunities for gaining insight into and appreciation of the diversity of different models across many European countries. The reflections on postgraduate supervision discussed here therefore span four different periods: (i) the time spent as undergraduate and Master's student in the UK; (ii) the four-year period at the University of Hamburg as a PhD student and teaching and research assistant; (iii) the period at the Chemnitz University of Technology, as lecturer and in co-supervising two PhD students; (iv) the period from 2013 onwards at the University of Dundee as lecturer and co-supervisor for four PhD students. The combination of personal reflections and evidence drawn from the existing literature, indices of academic performance and degree of internationalisation of universities across the world produced by Times Higher Education rankings (THE, 2016), helps understand the differences between the approaches to PhD supervision in the UK and Germany.

The paper outline is as follows: firstly I present the German model for PhD study; then I assess the differences in the academic hierarchical structure between the UK and Germany considering the ways in which undergraduate and Master's level study approaches have an effect on the academic environment and therefore also on PhD supervision. In the following section I analyse



briefly the differences in language and terminology, with the core empirical part of the paper analysing the degree of internationalisation and the academic performance across universities in both the UK and Germany. The final section summarises the main outcomes and draws the major conclusion.

The German model for PhD study

Over the past few years the German university system has undergone some substantial structural changes which have affected the design of doctoral study programs, making it more international and closer to the British system. Nevertheless, there are still some aspects of PhD programs in Germany which are significantly different from those in other countries, particularly the UK.

The predominant PhD model in Germany is the 'apprentice model', in which PhD students undertake independent research under the supervision of a professor. Such a model emphasises and focuses on the relationship between the PhD student and their supervisor and is consistent with the structure of the academic environment. Collins, Brown and Newman (1987) and Brown, Collins and Duguid (1989) discuss and examine formal schooling and apprenticeship methods. They argue that knowledge is inherently 'situated' in, and hence dependent of, the context and culture in which it is developed, and they propose the cognitive apprenticeship method as a way to assimilate and enculturate PhD students into genuine and original practices through real activity, and social and interactive cooperation in a way which is similar to craft apprenticeship. Collins, Brown and Holum (1991) claim that cognitive apprenticeship is an instructional paradigm which encourages students to transfer their skills across a range of tasks and to reflect on the features which are common across tasks. They emphasise reciprocal teaching, active communication and cooperation, reflection and intrinsic motivation, and the use of heuristic methods, which are acquired through experimentation and practice. The work by Golde, Jones, Conklin Bueschel and Walker (2006) focuses on the assessment of doctoral programs and maintains that this can be done via reputational rankings, students' experiences and achievements, effectiveness of PhD programs and external reviews.

In Germany the doctoral candidate is awarded their PhD after producing a research dissertation, which is normally a monograph, i.e. one research work on a specific field. In recent years, however, PhD students have also been able to submit the so-called 'cumulative dissertation', i.e. three research papers on different topics which must have some common characteristics. Subsequently the panel of reviewers grades the dissertation. Thereafter the PhD student has to pass the oral defense before the examination committee, which comprises the PhD supervisors. The doctoral candidate is issued a preliminary doctoral certificate, which does not authorise use of the doctor title. In some Bundesländer (German regions) doctoral candidates are required to pass a further oral examination, called 'Rigorosum', which covers general topics within the same subject, but unrelated to the PhD work. Finally, the official PhD certificate is released after the PhD dissertation has been published, either with a publishing company or through an electronic version online. Requirement of the publication of the PhD thesis introduces a financial constraint for the PhD candidate and a distortion in the publishing sector, which is alleviated by the alternative of publishing the PhD thesis online.

Two further distinctive features of the German PhD model are in striking contrast with the UK model of PhD study in relation to academic status of the doctoral student and the resulting financial implications. One is the absence of tuition fees. According to information provided by the Deutscher Akademischer Austauschdienst (DAAD) – the German Academic Exchange Service – no tuition fee is charged for PhD study. Doctoral students might, but do not have to, pay the so-called 'semester ticket', which Bachelor and Master's students must pay. The semester fee ranges between €150 and €200 and enables the holder to obtain discounted rates for public transport, university cafeterias, museums and cinemas, as a result of their student status. The second is the possibility for PhD students to work at the university as Assistants with fixed-term contracts which are similar to Fellowships or Junior Lectureships in the UK. Hence, whereas in Britain PhD students must fund their PhD study either by financially supporting themselves or by applying for a scholarship, in Germany the PhD study is very often subsidised directly by the universities by appointing the doctoral student as a member of staff, as opposed to the UK model of casual labor as a postgraduate tutor.

The Bologna Process started in 1999 and aimed at harmonising higher education schemes across Europe and at establishing a European Area of Higher Education. In spite of some convergence, differences between the British and German PhD schemes still remain. Whereas in the UK a full time PhD lasts normally three or four years, the German rules provide more flexibility and allow up to six years to finish the degree (Gewerkschaft Erziehung und Wissenschaft, 2016). As a result, PhD students in Germany are normally subject to smaller time pressure than in the UK.

As pointed out by Park (2007), the national debate in the UK on the nature of the doctorate produced formal changes in the doctoral degrees scheme, such as the development of institutional regulations and definitions, and the development of a national framework and expectations, particularly through the Quality Assurance Agency (QAA) Code of Practice. In some British universities PhD students' progress is supervised through a Thesis Monitoring Committee (TMC), which monitors students' progress, training and supervision throughout the PhD degree. To my knowledge, none of these changes has been adopted in German PhD schemes.

Hence, although PhD studies in Germany receive larger economic support than in UK and provide more time flexibility, in my opinion the British PhD study model is in general far more beneficial than the German one in so far as it provides overall a more stimulating and challenging academic environment, as I will discuss further in the following sections.

Hierarchical structures in universities in the UK and in Germany

In theory, the nature of the university staff structure should not have any impact on how PhD supervision is conducted. In reality, even if the regulations concerning the hierarchy of academic positions do not affect directly PhD supervision, they effectively have quite a significant indirect influence.

Academic staff structures in British universities are defined in a way which could be described as 'horizontal' and 'inclusive': members of an academic unit – department, school or discipline – belong to one entity, they work collectively and produce teaching and research across the team, in a way which generates synergies. As a result, the academic environment is very stimulating, inspiring and challenging, and this benefits also PhD students who have the possibility of exchanging ideas and knowledge with their peers and all staff members.

In Germany the structure involves instead two types of separation. There is a clear partition among the Chairs – or teaching and research groups – within the faculty, in which each Professor is in several respects completely independent. Therefore each Chair can be considered as a separate entity within the faculty. Moreover, staff members in each Chair are divided into two separate groups: the Professor, who is the holder and the head of the Chair, and the Assistants and PhD students, who are appointed by the Professor and not by the Faculty. Such highly vertical hierarchical network leads to a clear separation among academic staff. Since each Chair is a separate body within the faculty and each Chair Professor has a great degree of independence, the likely outcome is a low level of cooperation, integration and collaboration among Chairs and Professors and lack of synergy within the faculty or department. Consequently, PhD students have usually very few opportunities of discussing their work and exchanging ideas with other scholars and, whereas in British universities PhD students have normally two supervisors or even a team of supervisors, PhD students in German universities have traditionally one supervisor, who is normally the head of the Chair with which they work. Therefore, whereas in British universities the high level of 'togetherness' leads intrinsically to strong collaboration and teamwork, in German universities collaboration and teamwork depends exclusively on the willingness of Professors to establish links among different Chairs. This might be unlikely to occur, particularly when Professors have different and contrasting interests, and therefore they compete rather than cooperate.

The highly hierarchical structure of the German academic environment is further augmented by the existence of the 'Habilitation', which is a postdoctoral qualification that facilitates application for a professorship. This practice creates an additional barrier between Professors and PhD students, which is absent in the British academic hierarchy where the interaction and cooperation among academic units leads to transfer of knowledge and hence to a strong knowledge spillover effect. In turn, spillover forces have beneficial effects both on teaching and research. Synergy flows, thereby producing a combined effect greater than the sum of the separate parts, reflect the concept that in economics is known as 'positive externality' (McMahon, 1982). The German hierarchical academic system leads sometimes to unpleasant effects such exploitation of PhD students from their supervisors. Former colleagues at a German university reported to me that they have been informally and unofficially 'invited' by their PhD supervisors to teach more tutorial hours than their contractual teaching workload and to do secretarial work although this was not part of their contract arrangement.

The hierarchical structure of German academic staff is consistent with the Insider-Outsider Theory of Employment, according to which the insiders have more favorable employment opportunities than the outsiders (Lindbeck & Snower, 1984). Insiders can resist competition from the outsiders by refusing to cooperate with them or even by harassing them. Outsiders do not have the same opportunities as the insiders, but they might move to the status of entrants, which may lead finally to insider status. In the framework of the German academic sector described above, Professors are the insiders, Postdoctoral and Habilitation staffs are entrants, and Assistants, i.e. mostly PhD students, are the outsiders.

PhD students in Germany must look for possibilities of presenting their work with scholars by making a concerted effort to attend external conferences and workshops. Instead, PhD students in British universities have several opportunities to develop their thinking and learning by exchanging views and ideas with other academics in a collegiate environment that regularly and frequently offers PhD workshops, research seminars and training courses.

Differences in the undergraduate and Master's approaches to study

In all universities in Germany – as in most continental European countries – the undergraduate teaching approach can be defined as 'holistic', i.e. it encompasses several subjects in one degree. As a result, students taking a degree in economics also have to take compulsory modules of other subjects, such as management, business, finance and law. In British universities the approach to teaching can be defined as 'atomistic', i.e. it focuses instead on one or a restricted small number of specific subjects. Hence students have normally knowledge of fewer subjects, but on the other hand the knowledge they accumulate during their degree is deeper and more extensive. The German approach can prove challenging as a result of the academic structures outlined above. This can be seen in the limited interaction among Chairs which has the potential to negatively affect entire study programs because curricula may be inconsistent or inadequate. At the Chemnitz University of Technology, for instance, the lack of communication and cooperation among chairs led to the provision of modules with nearly the same content during the same semester, offered by different Chairs. Another example is provided at the same university at Master's level where the MSc Economics program does not include an econometrics module, which is an essential and fundamental tool for carrying out empirical work in economics.

Having gained an MA Economics at the University of Dundee, and having taught several courses in undergraduate and postgraduate programs at the University of Hamburg and at the Chemnitz University of Technology, the author is aware of the differences between the two approaches and how the two different paths affect knowledge of undergraduate students. This has definite and important implications for PhD students' work, given that, *ceteris paribus*, a PhD student in the UK acquires a much greater expertise and specialisation than a PhD student at German universities. Clearly the preference between the two approaches can be determined by arbitrary criteria. However, I believe that wide and general knowledge should be provided by high school education, whereas higher education is supposed to forge students by supplying them with more profound and more specialised knowledge.

Language differences

As a general rule in German universities, doctoral theses should be written in German. Upon request and in agreement with the PhD supervisor, PhD students are allowed to write the dissertation in English. However, the main communication language between Professors and Assistants and PhD students remains normally German. The differences between English and German, however, combined with and related to the hierarchical structure in universities, can impact the relationship between supervisor and PhD student.

The main differences between English and German can be summarised by two famous adages. C. L. Wrenn (1949) defined English as "the easiest language to speak badly" (p. 9), given the simple grammar structure, while Mark Twain (1880) emphasised the huge complexity of the German grammar by writing an essay entitled "The Awful German Language".

The linguistic differences that, in my opinion, have the most relevant impact on PhD supervision are related to the formal and informal ways of addressing persons. In Britain 'you' applies to both singular and plural second person and it is common practice for all students to address their lecturers or supervisors by their first names. The same approach in Germany sounds extremely impolite and disrespectful. The singular second person in German is 'du', which is the same as the archaic English 'thou' and is used only when addressing someone very informally. The polite and formal way of addressing persons is 'Sie', which corresponds approximately to the archaic 'Ye' in English. Furthermore, when addressing a person informally, it would be impolite not to add their title in front of their surname. Hence, whereas in the UK a PhD student addresses their supervisor by their first name, in Germany the appropriate way is 'Herr' (Mister) or 'Professor' followed by the family name. The highly hierarchical structure is reflected also in the German expression for PhD supervisor, which is 'Doktorvater', where 'vater' means 'father'. The informal or polite address builds de facto a division between the two groups, Professors at the higher level in the hierarchy and PhD students and Assistants at the lower level, which can result in a 'wall' between professorial staff and PhD students.

Degree of internationalisation and academic performance

A striking and remarkable difference between the academic environments in Germany and in the UK is associated with the degree of internationalisation, i.e. the extent of the presence of international staff and students in domestic universities.

Times Higher Education (THE) produces the World University Rankings that provides the list of the best universities in the world and also evaluates their international attitudes. In order to assess the degree of internationalisation and to link this with academic performance, I consider three indices provided by THE (THE World University Rankings, 2015-16): (i) the International-to-domestic-student Ratio; (ii) the International Outlook and; (iii) the World University Rankings.

The International-to-domestic-student Ratio is a very simple measure that computes the ratio of overseas to domestic students; it provides a very basic estimate of the degree of internationalisation and includes 800 universities.

Table 2 below clearly shows that British universities are more internationalised than German universities in terms of the proportion of overseas students in the whole student population, i.e. undergraduate, Master's and PhD students. It is particularly significant that about half of the most international universities in the top 50 and top 100 groups are British, whereas no German institution appears in the same cohort.

Table 2 International-to-domestic-student Ratio

	British universities	German universities
Top 50	26	0
Top 100	42	0
Top 200	63	4
Top 400	76	29
Whole sample (800)	78	37

Adapted from the THE World University Rankings (2015-16)

The International Outlook is a far more complex measure of internationalisation. It is a composite index of three different indicators: (i) the International-to-domestic-student Ratio, which has been briefly analysed above; (ii) the International-to-domestic-staff Ratio, and; (iii) the International Collaboration, which is based on the proportion of a university’s total research publications that have at least one international co-author. It is therefore a significantly more relevant and crucial indicator than the simple International-to-domestic-student Ratio as it provides a more comprehensive gauge to analyse the level of internationalisation of universities. By considering the outcomes of the International Outlook, the difference between British and German universities is even more impressive and profound than the results provided by the basic International-to-domestic-student Ratio. As table 3 below summarises, in the top 200 universities ranked according to the International Outlook, there are 64 British institutions and only one German university. Furthermore, within the top 150 universities, 53 are British and none is German. This outcome shows an extremely clear picture that describes the immense disparity in terms of international activities between the academic institutions in the UK and in Germany. The picture is also completely consistent with my personal experience.

Table 3 International Outlook

	British universities	German universities
Top 50	17	0
Top 100	39	0
Top 150	53	0
Top 200	64	1

Adapted from the THE World University Rankings (2015-16)

The THE World University Rankings use 13 performance indicators and include 800 universities across 70 countries. The performance indicators are arranged into five core areas: (i) teaching, which is based on the learning environment and is worth 30 percent of the overall ranking score; (ii) research, measured in terms of volume, income and reputation and accounting for 30 percent; (iii) citations, which is a proxy variable for research influence and is worth 30 percent; (iv) international outlook, defined above and carrying a weight of 7.5 percent; and (v) innovation and knowledge transfer, which is worth 2.5 percent. Table 4 below lists the results and shows that British universities generally perform better than German academic institutions, as they have larger numbers of institutions in the top groups.

Table 4 World University Rankings

	British universities	German universities
Top 50	7	3
Top 100	16	9
Top 200	34	20
Top 400	46	35
Whole sample (800)	78	37

Adapted from the THE World University Rankings (2015-16)

Based on the above analysis and on the comparison between of two indices of internationalisation, i.e. the International-to-domestic-student Ratio and the International Outlook, with the World University Rankings, there is a clear positive correlation between the degree of internationalisation and overall academic performance.

Two main questions arise in the very basic analysis made above. Firstly, the World University Rankings incorporates the International Outlook as one of the indicators and this explains partly the positive correlation. However, the International Outlook weight in the Rankings is only 7.5% and therefore the positive correlation can be still largely explained by all remaining indicators. Secondly, correlation does not tell anything about causality. There is no evidence supporting the view that the degree of internationalisation has a positive effect on academic performance. It might well be that highly-ranked universities attract students, researchers and lecturers from overseas and therefore they tend to be more international.

Hence, a statistical analysis does not provide any clear-cut evidence. Nevertheless, regardless of the causality direction, the correlation between these two variables stresses and underlines the significance of universities as international, cosmopolitan and multicultural environments in which researchers and lecturers of different nations, languages and cultures are able to exchange ideas and knowledge. Education in general, and therefore also higher education, is not just delivery, but also a network allowing transfer of knowledge internationally.



As further evidence of the huge difference in attitudes towards internationalisation, I analysed recent data on the proportion of international PhD students as a percentage of total PhD student populations and international academic staff as a percentage of total academic staff in universities in the UK and in Germany. Both indicators confirm strongly the pattern found above. Based on data provided by the Higher Education Statistics Agency (HESA), in 2014-15 non-British PhD students enrolled in UK universities was 53%. In contrast, international PhD students in German universities was only 11%, according to data provided by the Statistisches Bundesamt (Federal Statistical Office of Germany) for the year 2010. Analysis of academic staff figures yields a similar result. According to HESA data, in 2014-15 staff of non-UK nationality in academic positions in British universities was 28% of total academic staff, ranging between 37-40% in engineering, technology, biological, mathematical and physical sciences, and 10-14% in education, design, and creative and performing arts. Data released by the Statistisches Bundesamt shows that in 2014 the number of international academic staff in German universities was on aggregate only 7% of total academic staff. The low ratio of international to domestic academic staff in Germany is related to the German academic structure, discussed in Section 3, reflects the low flexibility of the labor market in Germany (Eichhorst & Marx, 2009), and is consistent with Insider-Outsider Theory of Employment (Lindbeck & Snower, 2002).

As discussed in Section 3, interaction and cooperation among academic staff and among departments has beneficial effects in terms of transfer of knowledge and spillover results, and this is even more important and more beneficial at international level. *Ceteris paribus*, PhD students can therefore benefit from a more open, global, challenging and cosmopolitan academic environment, and gain from the impact of the presence of international staff, researchers and lecturers. My personal experience corroborates this view.

Conclusions

This paper investigated the factors that determine differences in the PhD supervision between the UK and Germany. The findings are far from being conclusive since one part of the work is based on specific personal experience and reflections that are limited. However, more general contributions based on definite and unambiguous empirical evidence supports the view that PhD supervision in the UK and Germany has several different and distinct characteristics that are in turn affected by factors such as the hierarchical structure and degree of internationalisation of academic institutions, and the use of formal and informal language in relation to the supervisory relationship. Undoubtedly, there is room for both PhD models to learn from each other. Richter (2008) identifies the offer of small courses and the flat hierarchical structure, together with the high international rankings, as the strengths of the British university system. On the other hand, there are features present in the German PhD approach which would definitely bring benefits to the British PhD system, specifically the time flexibility allowed to finish the degree and the generous financial support granted to PhD candidates, which have been analysed in the section about the German PhD model. However, based on the overall experiences of the author and given the high degree of internationalisation and cosmopolitanism, the horizontal structure and the strong synergy that distinguish the academic environment in the UK, this paper suggests that the British PhD 'model' provide unequivocal advantages to the development of a strong and effective supervisory relationship.

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Biographies

Omar Feraboli is a lecturer in Economics at the University of Dundee. He previously held Lectureships in Germany at the University of Hamburg and at the Chemnitz University of Technology.

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