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'NEW' SOLUTIONS TO 'OLD' PROBLEMS? RECENT REFORMS IN TEACHER EDUCATION IN GERMANY

*¿'Nuevas' soluciones a los 'viejos' problemas?
Reformas recientes en la formación del profesorado en
Alemania*

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ABSTRACT

The article suggests that despite the harmonizing influence of the European 'Bologna-process' and the standardizing pressures which derive from international comparative assessment studies, national systems of teacher education within Europe are still far from uniformity. The German example is a particularly interesting case in this context because it shows very clearly that university-based teacher education in Germany is, up to the present day, not only quite different from other European systems of teacher education, but also even within Germany highly diverse, despite numerous and continued reforms since the ratification of the Bologna treaty in 1999. The argument is developed by identifying the traditional structures and features of teacher education and by analysing well-known 'structural' problems as well as new challenges to German teacher education which derive from recent empirical research on teacher education. On the background of

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these analyses the authors present recent reforms of teacher education in Germany, which they place between three major reform initiatives: the ‘Bologna-process’, the professionalization and the standardization of teacher education in Germany. The article concludes by discussing recent reforms of German teacher education from an international and comparative perspective.

KEY WORDS: Teacher education; Reform; Germany; Historical development; New challenges.

RESUMEN

El artículo sugiere que a pesar de la influencia armonizadora del “proceso de Bolonia” y de las presiones de estandarización que se derivan de los estudios de evaluación internacional comparados, los sistemas nacionales de formación del profesorado en Europa están lejos de la uniformización. En este contexto, el ejemplo alemán es especialmente interesante pues muestra claramente que la formación docente a nivel universitario en Alemania es, hasta la actualidad, no solamente bastante distinta del resto de sistemas europeos de formación de profesorado, sino que incluso dentro de Alemania existe una gran variedad de modelos, y ello a pesar de las continuas y numerosas reformas que se han emprendido en el país tras la aprobación de Bolonia en 1999. La argumentación se desarrolla identificando las estructuras y características tradicionales de la formación del profesorado, así como sus conocidos problemas “estructurales” y los nuevos desafíos de la formación del profesorado en Alemania, derivados de recientes trabajos de investigación desarrollados sobre esta temática. Como marco interpretativo de estos análisis, los autores presentan las últimas reformas de la formación del profesorado aprobadas en Alemania, y que sitúan en torno a tres grandes iniciativas de reforma: el “proceso de Bolonia”, la profesionalización, y la estandarización de la de la formación del profesorado en Alemania. El artículo concluye discutiendo reformas recientes de la formación del profesora en Alemania desde una perspectiva internacional y comparada.

PALABRAS CLAVE: Formación del profesorado; Reforma; Alemania; Desarrollo histórico; Nuevos desafíos.

INTRODUCTION

The reform of teacher education in Germany has been high on the educational agenda at least since the mid-1990s, when various expert groups and commissions, ministries of education and teacher organizations started to produce numerous analyses, reports and recommendations as to how to ‘solve’ apparent deficiencies and problems and thus to improve teacher education (e.g. TERHART, 2000)¹. In addition to these internal pressures to reform teacher education, there have been, particularly since the beginning of this century, additional international reform pressures, which have accelerated the pace of reform in Germany and elsewhere. However, neither the results

¹An extensive overview of the early reform initiatives is provided by Szyzyrba/Wildt (2001), while Keuffer (2010) focuses on the developments since 2000.

from international comparative assessment studies like TIMSS, PISA and PIRLS, which in Germany were used from 2000 onwards to initiate changes in schooling and education and also in the field of teacher education, nor the European 'Bologna process', which has also affected university-based teacher education (KOTTHOFF and DENK, 2007), has led to a uniform system of teacher education in Germany. On the contrary, as is well-known from the extensive comparative education literature on educational policy borrowing (PHILLIPS and OCHS, 2004; STEINER-KHAMSI and WALDOW, 2012), so-called 'international' or even 'global' educational trends do not lead to uniform results in any given education system, but 'shift shape' (COWEN, 2012) as they cross national borders. In this article, we will argue that 'shape shifting' in teacher education did not only happen when the Bologna process embraced teacher education in Germany, but also within Germany whilst international and national trends in teacher education have been crossing the borders of the 16 federal *Länder* (states) and initiated different reforms. However, before we analyse recent reforms in teacher education in Germany in more detail (5) and discuss them from a comparative and international perspective (6), we need to place these reforms in their historical context, i.e. the traditional system of teacher education in Germany (2), and to analyse the well-known structural problems (3) as well as the 'new' empirical evidence on teacher education in Germany (4), which have challenged traditional teacher education models and concepts and initiated the recent reforms.

1. TEACHER EDUCATION IN GERMANY: TRADITIONAL STRUCTURES AND FEATURES²

The structure of teacher education in Germany is closely linked to the organization and structure of the school systems in the different *Länder*. Thus, the following description of the traditional 'German teacher education system' provides an overview of its general features, rather than a detailed description³. Following the primary school, which is a comprehensive school for all pupils, the lower secondary school is vertically tracked. This school system, which can be described as a 'mixed model' of a horizontally and vertically structured system is also reflected in the teacher education system. Thus, we can identify vertically differentiated teacher education tracks at the secondary school level (e.g. grammar schools and teachers for *Haupt-* and *Realschulen*) and a horizontally structured, comprehensive teacher education phase for the primary school level. As a result of this mixture of horizontal and vertical structures, there is a multitude of teaching degrees in the different *Länder*, ranging from teaching degrees for a particular type of school (e.g. in Bavaria) or a teaching degree for a combination of different types of schools (e.g. teaching degree for *Haupt-* and *Realschule* in Baden-Württemberg) to teaching degrees for a certain school level (e.g. primary or lower secondary school). Despite the multitude of different teaching degrees, the relevant entry requirement for all university-based teacher education courses is the *Abitur*. As the multi-faceted structure suggests, teacher education in Germany is not a federal issue and is therefore organized and controlled by the 16 *Länder*. In order to guarantee a minimum of uniformity and comparability of teaching education courses and degrees across the whole of Germany, the 'Standing Conference

² For a more detailed description and analysis of the current school structure and the teacher education system(s) in Germany see the articles by Kotthoff (2011) and Terhart (2006), which also serve as a basis for this article.

³ For a more detailed description of the traditional German teacher education system, see Sander et al. (1999).

of Ministers of Education and Cultural Affairs' (KMK) coordinates structural issues related to schooling and teacher education. However, this does not include the definition of entry requirements, which are defined by individual universities with regard to certain subjects and/or teaching degrees.

Teacher education in Germany is split into two phases. The first phase is carried out within the university and finishes with the so-called 'First State Examination' (*Erstes Staatsexamen*). Baden-Württemberg presents an exception in this respect because it is the only *Land* which provides separate 'universities of education' (*Pädagogische Hochschulen*) for primary and lower secondary school teacher education. Again, depending on the individual regulations of each *Land*, the first university-based phase can last between 6-7 semesters for primary school teachers and 8-9 semesters for grammar school teachers. There is a tendency in Germany to harmonize the standard period of study between the different teaching degrees and in some *Länder* (e.g. in North Rhine-Westfalia) this has 'already' been achieved. This can be regarded as an important step towards the upgrading of the status of the primary school teaching degree because the length of the standard period of study is decisive for later payment as a teacher. With regard to the curriculum of university-based teacher education, future teachers study two or three subjects, which are closely related to a corresponding academic discipline. In addition, future teachers take classes in educational studies (including school pedagogy, educational psychology, philosophy and/or sociology of education) and serve regular school-based internships. Depending on the *Land* and the teaching degree, these educational courses of study together with the practical teaching placements can make up to 30% of the overall study time.

While the first phase is clearly geared towards the acquisition of academic subject knowledge and the corresponding subject didactics (*Fachdidaktik*), the second phase is more practical and aims at preparing the young teachers for their professional duties and their work at school. The second phase, which lasts between 1,5 and 2 years is independent of the universities and is organized by special 'teacher training seminars' and 'training schools' supervised by the Ministry of Education of each *Land*. In this phase, during which future teachers receive a moderate salary, the prospective teachers have to demonstrate their abilities in lesson planning, classroom teaching and other duties (e.g. evaluation, school development) involved in a teacher's job. The performance of the teachers and the development of their competencies is regularly and systematically evaluated and supervised by teachers from the teacher training seminars and the teachers (sometimes the head teachers) of the training school concerned. The 'Second State Examination' (*Zweites Staatsexamen*) is awarded after the successful completion of this second phase. Both the first and the second examination, are controlled and administered by regulations which are issued by the Ministry of Education of each *Land* and *not* the university.

After having successfully passed the 'second state examination', the majority of new teachers are assigned to a vacant position by the responsible school administration primarily on the basis of their two examination grades and, to an extent, also on consideration of personal data (e.g. marital status) and/or additional relevant qualifications. Alternatively, and roughly since 2005 (depending on the *Land*), teachers can also apply for vacant teaching positions and the individual school chooses, in co-operation with the local or regional school authorities, the best and/or the

most appropriate candidate according to its preferences. In general, teachers in Germany are civil servants and get tenure three years after entering the service. If a newly qualified teacher does not want promotion, he or she can continue teaching throughout their career until he or she reaches retirement, without being officially assessed again. So, in most cases, especially in primary schools, teaching is – as Terhart (2003: 144) put it - a “profession without a career”. The professional life cycle of a teacher can be regarded as the third phase of teacher education, i.e., in-service teacher education. However, the continuing professional development of teachers is not very strongly developed in Germany and a systematic support system for teachers in their first professional years through the development of a structured induction period does not yet exist (OECD 2004).

In summary, and disregarding the problems related to the in-service training of teachers, the analysis of the official guidelines, curricula and objectives of teacher education suggests that the traditional initial teacher education in Germany appears to be a highly elaborate and systematically structured system: To enter teacher education, candidates must have earned the highest school-leaving certificate. During the first phase all teachers are educated in universities in a broad range of relevant academic disciplines for, in reality, five to six years (including the exams), they then undergo an additional practical preparation phase of 1,5 to 2 years, are required to pass two state examinations and, following a short period of teaching practice, they finally obtain tenure. Based on the analysis of the official teacher education regulations, curricula and objectives and seen from an international comparative perspective, teacher education in Germany seems to be a very sophisticated enterprise. After their rather elaborate teacher training, teachers in Germany receive – in international comparison – relatively high monthly salaries (OECD 2005) and after their active working life their pensions are - compared to similar professions in Germany – also quite high. In spite of these rather favorable underlying conditions, the quality of teacher education in Germany has been an object of discussion for many years. While some of these problems were identified more than 20 years ago, others have gained attention more recently through the publication of ‘new’ empirical research findings on teacher education. It is to these ‘old’ and ‘new’ problems of teacher education that we now turn to in the third and fourth part.

2. ‘STRUCTURAL’ PROBLEMS OF TEACHER EDUCATION IN GERMANY

Some of the problems of teacher education have been known for many years or even decades. Terhart (2006, 2008) has characterized these problems as the ‘structural’ problems of German teacher education and listed and summarized them in the following way⁴:

- *Fragmentation of teacher education*: teacher education in Germany consists of many different fields of study (e.g. subject knowledge, educational and didactical studies) and is carried out at different institutions (e.g. university, schools, teacher training seminars). This fragmentation with regard to the content taught and the variety of institutions leads to discontinuities in the learning process and is an obstacle to efficient cumulative learning, because the different subjects, phases and institutions of teacher education are not closely aligned to each other. This leads to ruptures and/or repetitions, which can lead to an

⁴ For a more detailed analysis of these ‘structural’ problems see Terhart (2006).

extended duration of the teacher education and might be responsible for the relatively high average age of teachers entering the service, which in the late 1990s was almost 32.

- *Professionalism and/or academic subject knowledge*: the first phase of teacher education, which is based at universities, is not very closely directed and oriented towards the needs of the later teaching position. Thus, it is claimed by critics that it does not provide the teachers with the necessary professional skills. The subject knowledge, especially for grammar school teachers, is still very much orientated towards the corresponding academic discipline rather than the school subject and its didactics. Educational and didactic studies which should be the core disciplines of initial teacher education seem to be rather arbitrary and dependent on the individual preferences of the tutors and lecturers.
- *Exit exams and entry to the profession*: the fragmented nature of teacher education in terms of curricular content and the institutions in charge of delivering it is also consequently reflected in its fragmented exit exams at the end of the first phase, which can consist of up to 10 different exams in the different subjects, for each of which students prepare and then reproduce up to three different themes. Access to the profession is traditionally granted on the basis of the two final grades in the first and second state exams on the assumption that these grades have a prognostic significance for later professional success. Some *Länder* like North Rhine-Westphalia and Baden-Wuerttemberg allow for direct application to individual schools and grant individual schools a certain influence when selecting and recruiting teachers.
- *In-service training of teachers*: while the system of initial teacher training is very ambitious and expensive as far as time and money are concerned, the system of in-service teacher education is only rather poorly developed. When compared with in-service training arrangements in other countries (e.g. Canada, Finland, England and the Netherlands), it seems that traditional in-service teacher training provision in Germany is rather random, focused on specific areas (e.g. teaching methods, use of multimedia) and mainly based on individual acts of choice by individual teachers. In-service training is compulsory, but exactly how teachers fulfill this obligation is entirely up to the individual and is not prescribed in detail either by the school or the relevant school authority.
- *Federal responsibility of teacher education*: the length and proportion of educational and didactical studies differ considerably among the 16 *Länder*. Until recently student teachers in the Southern *Länder* of Germany who wanted to teach at a *Gymnasium* had to devote just 5% of their total workload at the university to this element of his teacher education, while her/his Northern counterpart devoted around 25% to educational studies. In general, all *Länder* accept the teacher certificates which have been awarded in a different German *Land*. However, in certain cases, problems arise if teachers want to move from one *Land* to another.

- *Limited flexibility*: while transfers between *Länder* are rather limited due to the *Land*-specific features of teacher education, flexibility is further restricted through the fact that the different teaching degrees are traditionally strongly connected to certain types of schools (e.g. primary, vocational or grammar schools), which prevent teachers from moving from one type of school to another. In addition, the responsible school administration is not able to enforce such a change and to place a teacher in a different type of school because the awarded teaching degree entitles teachers to a certain salary, which can only be earned at a certain type of school.

3. 'NEW' CHALLENGES TO TEACHER EDUCATION AS REFLECTED IN EMPIRICAL RESEARCH FINDINGS

In addition to these well-known 'structural' problems, there are 'new' areas of concern which have entered the educational reform agenda as a result of intensified empirical research on teacher education in Germany. The general increase of empirical educational research in Germany during the last 15 years, which was initiated by international and national comparative assessment studies and the intense (media) reactions to their results (cf. KOTTHOFF and PEREYRA, 2009), focused from the very beginning on the analysis of teaching-learning processes in schools. In this context it does not come as a surprise that educational researchers who have tried to analyse and understand the conditions, processes and effects of teaching and learning, have increasingly focused their attention on the teacher, who must be regarded as the central figure when it comes to the implementation of innovations in teaching and schools. The recently published 'Handbook of Research on the Teaching Profession'⁵ (TERHART, BENNEWITZ and ROTHLAND, 2011) presents the latest state-of-the-art of research on teacher education in the German-speaking context and will be used in this article to provide the reader with a selected overview of research findings in this field of study⁶.

3.1. Selection, recruitment and professional biographies of teachers

With regard to this first area of research, there is now quite a substantial body of research evidence on the selection, recruitment and career choice motives of teacher students in the German-speaking context (ROTHLAND, 2011a and 2011b). This evidence suggests that the teaching profession in Germany is still relatively accessible for members of less educated social classes when compared with established academic courses of study like medicine or law. The choice of teaching as a profession is relatively stable within families, indicated by the fact that 24% of the students studying for a teaching degree originate from families where members are themselves teachers. The prejudice, or generally held assumption, that students with lower cognitive and intellectual capacities (as indicated by their *Abitur* results) enter teacher education is not altogether true, but applies mainly to those students who are studying to become teachers at the primary school or the

⁵The German title is: *Handbuch der Forschung zum Lehrerberuf* (TERHART, BENNEWITZ and ROTHLAND, 2011). Throughout this article all translations from German texts are provided by the authors.

⁶ As the Handbook covers a wide spectrum of research studies ranging from the history of the teaching profession to teacher stress and burnout, this brief overview will concentrate on three areas of research which can be said to have had *some* impact on the current reform agenda of teacher education in Germany.

Hauptschule (TERHART, 2011). The motives of the majority of students for choosing the teaching career remain stable throughout their studies and fit the demands of their later professional lives quite well: their scientific interests, as well as their achievement orientation, are rather weak in comparison with other students, while their social orientation is stronger and more developed. However, there is some evidence that student teachers are, in contrast to their fellow students who do not choose a teaching career, more likely to show a problematic pattern of dealing with job challenges and job stress (SCHAARSCHMIDT, 2004).

With regard to the professional biography of teachers, German research studies suggest that the first years of service are decisive for the further professional development of teachers (KELLER-SCHNEIDER and HERICKS, 2011). It is a well-established fact in the research on the professional biography of teachers that newly qualified teachers, as a response to stress and insecurity, often adapt to the level of professional practice and competence they observe and experience when looking at their colleagues. The change from rather progressive attitudes acquired during the initial teacher training to more traditional practices and routines, which primarily aim at the 'survival in the classroom' is an expression of a process of 're-socialisation' which happens when moving from the university into the teaching profession. However, as Terhart (2011) points out, more recent studies, which differentiate between different types of newly qualified teachers, indicate that the way teachers cope with stress and insecurities during their first years of teaching depends on their personality traits and on how they come to terms with and make use of professional experience. With regard to the later phases of teachers' professional development, empirical evidence is much scarcer. According to Herzog's overview, the rather general and universal models of teachers' professional development, which were developed in the early years of research on teachers' professional biographies, have been replaced by much more sophisticated and differentiated models, which take account of specific biographic phases and/or specific groups of teachers. The traditional assumption that the teaching career will inevitably reach a 'bitter end' because teachers are experiencing increased stress levels, while their general well-being is decreasing has to be questioned (HERZOG, 2011). This is partly due to increased life expectancy in general, but also to different work patterns in the teaching career (e.g. lateral entry employees, sabbaticals, increasing part-time employment).

3.2. Quality and effectiveness of different phases of teacher education

The available empirical research evidence on the quality and effectiveness of different phases of teacher education is also highly diverse and varied in terms of quantity and quality depending on the phase under consideration. With regard to the effectiveness of the first university-based phase of teacher education, 'older' studies (e.g. OSER and OELKERS, 2001) seem to suggest, that experienced teachers estimate the studies in their subjects (e.g. maths, geography, etc.) much higher in their academic quality and in their worth for their practical work as teachers than the courses in education, psychology and sociology etc. When looking back to their university studies, the teacher education programme is judged as some kind of badly organized 'patchwork learning' without structure or centre, and with low academic levels in the educational parts. However, most of these studies are based on post-hoc judgements and self-estimations of students and teachers. If we look at more recent studies, which try to measure by objective tests and competence scales what

students and teachers have actually learned in general, and what they have learned for their work as teachers, it is, according to Czerwenka and Nölle (2011), almost impossible to identify consistent and significant empirical findings. This seems to apply even to those parts of the university-based first phase, which are highly regarded by past and present students, i.e. practical school-based teaching internships. Following Hascher's analysis of the available empirical studies on the effectiveness of school-based placements during the first phase of teacher education, there is some evidence which suggests that school-based internships are not necessarily the panacea to improve teacher education (HASCHEER, 2011).

The empirical evidence on the effectiveness of the second phase, i.e. the teacher induction phase, is also quite heterogeneous. Again, as in the first phase of teacher education, most empirical studies on the teacher induction phase rely on post-hoc judgements and self-estimations of teachers and teacher trainers. According to studies by Schubarth et al. (2005), the experiences of the former students/future teacher in the induction phase are very ambivalent. On the one hand they appreciate the development of professional and relevant competences in this phase, on the other hand the preparatory phase is experienced as very strenuous because the newly qualified teachers feel quite insecure in their new position. In their training schools they have to act as teachers; in the teacher training seminars they are still learners. However, newly qualified teachers do not only experience this insecurity during their work in the classroom and in the staff room, but also in relation to their teacher trainers. This is due to the rather awkward 'double' role of the trainers, who are advising the newly qualified teachers on the work of a teacher, while at the same time evaluating their professional development and performance. At the end of this phase the future teachers think that they have gained competences in teaching and in classroom management, while they do not feel very confident about their acquired competences with regard to school development and/or dealing with parents (DÖBRICH and ABS, 2007). In his recent analysis of empirical studies on the teacher induction phase Abs (2011) concludes that there is a lack of convincing effectiveness studies with an experimental longitudinal research design. One of the reasons for the lack of research on the second phase of teacher education is, according to Abs that the scientific community and the political decision-makers cannot even agree on relevant success criteria for this phase, which could then serve as evaluation criteria.

The available empirical evidence on the quality and effectiveness of the 'third phase' of teacher education, i.e. in-service teacher training, is even less robust than the empirical evidence on the first two phases. According to the OECD background report on Germany (OECD, 2004) for the OECD study *Teachers Matter* (OECD, 2005), Germany belongs to those OECD countries where the extent of teacher participation in professional development activities is the lowest. In contrast to Germany, where, according to Lipowsky (2011), in-service teacher training consists of short, random and hardly connected offers and courses, in-service teacher training in countries like Canada, the Netherlands, Finland, England and Scotland is organised more systematically and is acknowledged as an important part of teachers' professional activity and development. In the international comparative study on 'Features of Successful School Systems' (DÖBRICH and SROKA 2004) which was initiated after the publication of the first PISA results in 2001, Abs (2004) concluded with regard to in-service teacher training in the successful PISA countries: "It appears that teachers are encouraged to participate in in-service training not only when training

sessions are made compulsory but also when they receive financial assistance or can procure promotions as a result of attending specific in-service training sessions” (op. cit., 130). This presents a stark contrast to Germany where teaching is largely still regarded as a profession in which the initial training is sufficient for the whole professional career. In his analysis of more recent studies on teacher in-service training, Lipowsky (2011) identifies factors for successful in-service teacher trainings such as the length and the perceived relevance of the training, thematic focusing on the knowledge of students, feedback and coaching (op. cit.: 402-406). However, whether these concepts of successful in-service trainings can be transferred to a larger numbers of participants is, according to Lipowsky, questionable.

3.3. Teacher occupational stress and burnout

The third area of empirical research on teacher education that has had a considerable impact on the current reform agenda in Germany, is the field of teacher occupational stress and burn-out. It has been repeatedly pointed out in recent years that teachers in Germany retire earlier than members of other comparable professions (OECD 2005; LEHR 2011), which can be regarded as an indicator for increased stress levels and job strain in the teaching profession. However, although almost every publication on this topic underlines the high occupational strain of the teaching profession, the question of the real strain on teachers has not yet been conclusively answered. Instead, as Klusmann (2011) points out in her analysis of available research studies on this topic, there is no epidemiological evidence that the members of the teaching profession carry a higher health risk than other professional groups. However, whether the real occupational stress levels of teachers are actually and objectively higher than in other professions is not that important after all. What is important though, is empirical evidence which suggests that the subjective experience of occupational stress in the teaching profession has negative implications for the teachers’ health and their teaching performance (KLUSMANN et al., 2008). With regard to the causes of occupational stress and strain amongst teachers, empirical research studies (e.g. LEHR, 2011) differentiate between factors that are related to teachers themselves (e.g. personal traits) and to factors related to the context of teaching (e.g. deviant pupil behavior, big classes etc.). The same differentiation between teacher-specific and context-specific orientation can also be observed among the programmes that have been developed to reduce stress and strain levels. Thus, preventative training programmes and measures are either directed at the professional environment (e.g. pedagogical days in schools for health promotion) or at the teachers themselves (e.g. dealing with difficult student behavior, effective classroom management etc.). According to Klusmann (2011), both teacher-specific and context-specific measures and trainings seem to be able to reduce stress levels amongst teachers and should therefore become a regular and integral part of their in-service training.

4. RECENT REFORMS IN TEACHER EDUCATION: BETWEEN BOLOGNA, STANDARDIZATION AND PROFESSIONALIZATION

As we indicated in the introduction, there is a wide-spread view in Germany that the Bologna process, which was intended to harmonize European Higher Education, to increase the transparency of study requirements and to thus support the flexibility and mobility of the students,

has failed to reach its aims in Germany, particularly in the field of teacher education (ARNOLD and REH 2005; TILLMANN 2007). However, while the early observations of an ever-increasing diversity in German teacher education were mostly based on single case studies or universities, there is now increasing empirical evidence, which strongly supports this observation (BELLENBERG 2009; BAUER et al., 2011). In the most recent study by Bauer et al. (2012), which analyses the heterogeneity of teacher education study programmes in twelve German universities which prepare students for teaching in the grammar school (academic track), the authors conclude:

“The results corroborate the hypothesis that the study structures of current teacher education programs are largely heterogeneous. Particularly, we found that programs differ regarding their focus on academic subjects versus profession-oriented studies and their ranges of required studies in subject education (6-25 CP) and internships (6-38 CP)” (BAUER et al., 2012: 102).

The impression of increasing diversity in teacher education is strengthened if we look underneath the highly heterogeneous surface of the university-based study programs at the structure of the different teacher education models which have been established in the 16 *Länder* since the ratification of the Bologna treaty in 1999. According to the same authors the following different structural variants can currently be found in Germany (BAUER et al., 2012: 105-106):

- *The traditional state exam can be found only at very few universities, in particular at 'universities of education' (PädagogischeHochschulen).* However, those *Länder* that have (partly) kept the state exam, have introduced a modularized version of the state exam course (e.g. Baden-Wuerttemberg, Bavaria, Hesse etc.). The parallel existence of different models has led to different durations of teacher education courses: e.g. primary school teachers in North Rhine-Westphalia take a three-year BA course (6 semesters) in addition to a two-year MA course (4 semesters), while their counterparts in Hesse study only 7 semesters altogether.
- *Most Länder have changed to a consecutive model of teacher education consisting of BA and MA courses or are in the process of changing.* In this model the BA represents the first academic exam, but it does not give access to the teaching profession. Irrespective of the school type (e.g. primary - grammar school), access is only granted on the basis of a Master of Education (M.Ed.), partly with an additional second state exam. BA courses come in two variants: the 'teacher Bachelor' prepares for the teaching profession from the very beginning and is usually followed by the M.Ed. In principle a change to a different MA program is possible, although it usually requires substantial additional study. The 'polyvalent Bachelor' is closely related to one academic subject and gives the students access to subject related MA courses as well as the M.Ed. Thus, it allows students to postpone their decision to become a teacher to the end of their BA course and to acquire their professional teaching competences during their MA course. However, due to the KMK's insistence on an early career orientation in all teacher education courses (KMK 2005), many polyvalent BA courses include elements which prepare for the teaching profession, although in varying degrees. This has led to a large heterogeneity between polyvalent Bachelor courses with regard to their academic subject and/or professional orientation.

- *Bachelor-Master models with a polyvalent orientation are offered in Berlin, Bremen, Lower Saxony and Schleswig-Holstein, while Brandenburg, Hamburg, Saxony and Rhineland-Palatinate (plus additional state exam) offer a teacher specific orientation. Thuringia has a mixed system, in which some universities offer modularized state exams (e.g. Jena), while others offer the Bachelor-Master model (e.g. ERFURT).*

This mixture of diverse models and developments has caused severe criticism in Germany (e.g. KELLER, 2010; KEUFFER, 2010) and has led to a situation, in which the structural differences between teacher education models in the 16 German *Länder* are currently bigger than before the start of the Bologna process in 1999. However, if we leave the structural differences aside, there are also a number of common developments in Germany, which suggest a harmonization of teacher education with regard to its content and objectives. Two of those developments have recently gained increased attention because they have passed the planning phase and have actually had an impact on the design of teacher education courses at all levels or phases respectively.

The first development can be summarized under the umbrella term ‘standardization’ and concerns primarily the development of competences and standards for teacher education. Given the extent of the structural differences between the 16 *Länder*, the development and implementation of standards for teacher education, which had already been suggested by the ‘Mixed Commission for Teacher Education’ in 2000 (TERHART, 2000) and were passed by the KMK in 2004 (KMK 2004), is one of the most remarkable reforms of teacher education in Germany. The standards result from a comprehensive picture of the central duties and necessary competencies of teachers and describe, in concrete terms, which competences and skills are expected from qualified teachers. The standards are defined as a hierarchy of competencies at the end of the first university-based study phase and at the end of the second primarily school-based preparatory and induction phase. By defining standards, the necessary competencies and abilities are presented in a differentiated and controllable way and are therefore suitable to not only systematically link the first with the second phase of teacher education, but also with the in-service training measures during the teachers’ further professional development. A second advantage of standards for teacher education is that in the course of their development new functions and competences of teachers, which had until recently been neglected or overlooked (e.g. school development, and self-evaluation etc.), are now appropriately reflected in the education and training of teachers.

Further attempts to standardize teacher education in Germany can be seen in the development of so-called core curricula. Core curricula were first developed for the second phase of teacher education and, depending on the *Land* in question, first implemented in 2003. In November 2004 the ‘Association for Subject Didactics’ (*Fachdidaktik*), which is the parent organization for all German subject didactics, published a core curriculum, which defined obligatory modules, competences and contents for all subjects, which participate in the university-based teacher education (Gesellschaft für Fachdidaktik 2004). The ‘German Society of Education’ (*Deutsche Gesellschaft für Erziehungswissenschaft*; DGFE) followed four years later and published an obligatory core curriculum for educational studies within teacher education (DGFE 2008). Apart

from these initiatives from those disciplines and subjects which are directly involved in teacher education, the process of harmonization was also pushed forward by the KMK, which did not only define the above mentioned obligatory standards, but also set priorities with regards to the contents of the teacher education in the very same document (KMK 2004). The same applies to the KMK document on subjects and subject didactics (KMK 2008), which also consists of definitions of obligatory contents, which apply to teacher education in all 16 *Länder*. A final initiative which has to be mentioned in this context is the so-called *Quedlinburger Beschluss* (KMK 2005), which lays down obligatory regulations for the mutual recognition of BA and MA courses in teacher education between the *Länder*. However, in spite of all these KMK initiatives to harmonize teacher education in Germany, it is still too early to predict how exactly these initiatives and documents will eventually shape teacher education in the 16 *Länder*

The second development can be described as the 'professionalization' of teacher education and aims at orienting teacher education more directly towards the future teaching career and the acquisition of relevant professional competences. This development presents a challenge to the self-image of German universities, which are traditionally focused on the transmission of academic subject knowledge ('science') rather than the direct and practical preparation for a professional career. If teacher students are supposed to acquire relevant professional competences and skills already in the first phase of their training, the university-based phase needs to provide learning opportunities with relevance to the later teaching career. In addition, if the acquisition of professional competences also includes the use and performance of those practical skills, students need to be enabled to act in learning scenarios, which allow them to use and to apply their acquired competences in real-life situations. According to Bosse (2012), a high-quality university-based teacher education therefore needs to not only accumulate 'knowledge for storage', but to involve students into 'well-dosed' action situations, in which they can use their scientific knowledge for the generation of pedagogical action strategies and the development of professional competences. This does not mean to preempt the function of the second phase of teacher education, i.e. the systematic acquisition of practical teaching competences. Rather it is necessary, to precede exemplary and tentatively and to challenge the students' competences of perception and reflection on the basis of theory as well as research (BOSSE, 2012: 21).⁷

The provision of action situations as learning opportunities is justified by analysing the relationship between scientific knowledge ('theory') and practical action competence. According to Bosse (2012), scientific knowledge is not simply 'applied' in real life situations, but challenged and reflectively integrated into one's actions. Thus, scientific knowledge provides a frame of orientation and reflection for action in practical situations, in which actors make a reflected and deliberate choice from a large variety of possible action alternatives (BOSSE, 2012: 22).

If we transfer these principles to the practical design of university-based initial teacher education courses, student teachers should be involved in simulated or real action situations which challenge their knowledge and routines. This can be achieved through the use of case studies and various forms of problem- and/or inquiry-based learning. Although the concept of inquiry-based learning is well established and has a relatively long tradition in German universities (HUBER,

⁷ German original; translation provided by the authors.

2004), it has not yet been used very often as a guiding principles in the construction of initial teacher education in Germany⁸. According to Keuffer, the expectations that are attached to the concept of inquiry-based learning in teacher education are very high: Student teachers are supposed to reflect the 'theory-practice-problem' at a very high and sophisticated level and their reflective and inquiry-based attitude towards teaching and schools is supposed to persist beyond the second practical phase of teacher education into their later professional career as a teacher (KEUFFER, 2010: 21). In summary then, the ultimate aim of establishing forms of inquiry-based learning in German teacher education is an increased professionalization of future teachers, which can be described with two internationally well-known concepts - these are 'teacher as reflective practitioner' and 'teacher as researcher'.

5. TEACHER EDUCATION IN GERMANY IN INTERNATIONAL AND COMPARATIVE PERSPECTIVE

The answer to the question whether the recently implemented teacher education reform will indeed provide a 'new' solution' to 'old' problems as indicated in the title of this article must remain open at this point in time. It is certainly true, that many of the identified structural problems of teacher education in Germany such as its fragmentation seem to be addressed by recent reforms towards the standardization and professionalization of teacher education. However, as we have shown, the ways in which these reforms have been put into practice do not only vary between the 16 federal *Länder*, but also between individual universities within one *Land*. The uneasy relationship between federal ambitions to harmonize teacher education (e.g. the KMK) on the one hand and the unalienable right of the 16 *Länder* to find their own 'solutions' to the problems of 'their' teacher education system on the other will be with us for some time to come. In fact, the recent amendments to the German constitution in September 2006, which underlined the substantial competences of the *Länder* in the field of education in relation to the federal level, will probably mean that, at least with regard to the second phase of teacher education, nationwide obligatory regulations are rather unlikely in the years to come. Thus, teacher education in Germany is not only torn between the sometimes rather exaggerated and even contradictory demands of the different professional and non-professional actors involved (e.g. teachers, universities, ministries of education, teacher unions, parents, students etc.), but also between the various interests on local (e.g. institutional), regional (e.g. *Länder*), national (e.g. KMK) and European (e.g. 'EUROPEAN COMMISSION') levels. Under these circumstances it is perhaps not surprising that teacher education in Germany seems to be in a state of a 'rolling reform', a condition which is perhaps more easily accepted in other European countries (e.g. Sweden), where the development of reforms and their implementation seem to be a permanent feature of their education systems.

If we look at the recent developments in German teacher education from an international and comparative perspective, three points needs to be stressed in particular:

Firstly, with regard to the two main models of teacher education in Europe, which are usually described as either 'concurrent' or 'consecutive' (MOON et al. 2003), the first university-

⁸ The University of Bielefeld, where inquiry-based learning plays an important role in the case study module, presents an exception in this respect (KEUFFER, 2010: 61).

based phase of teacher education in Germany can be characterized as concurrent, because all elements (i.e. subject knowledge, pedagogical content knowledge, educational studies and some school practice) are studied from the beginning. However, if we take into account the whole process of initial teacher education (i.e. the first and second phase), we can also perceive a consecutive structure: while the first university-based phase is theory- and knowledge-oriented, the second phase is practice- and skills-oriented (TERHART, 2003). This 'mixed model' of a combined concurrent and a consecutive structure is quite unique in Europe and could in principle, as the OECD put it in its 'country note' on Germany, produce a high quality teacher education:

"This institutional framework provides an exceptional opportunity to link important parts of teacher education directly to school practice and the development of teacher careers, starting with the induction period. In particular, the capacity of the second phase to react to the needs of schools is a major strength of the German system" (OECD, 2004: 28).

However, the two phase teacher education structure and particularly the second phase established in Germany also present a problem from a European perspective in that they do not fit very well into the Bologna architecture, according to which the polyvalent Bachelor leads to a first academic degree which is then followed by a more specified Master programme. One problem is of course the question of how to integrate the second phase in German teacher education into the Master degree. More importantly however, there is, as many critics in Germany have pointed out (e.g. TILLMANN, 2007; TERHART, 2008; KEUFFER, 2010), an inherent and perhaps unresolvable contradiction between the envisaged Bachelor, which is supposed to be broad and polyvalent and qualify for professions outside of the teaching career and the wish or rather necessity to increase professionalization, by orientating teacher education more directly towards the future teaching career and towards the acquisition of relevant professional competences from the very beginning.

Secondly, despite recent progresses, the results of empirical research on teacher education in Germany are, as we pointed out in part 4, still insufficient to give conclusive evidence with regard to the effectiveness of individual elements and phases of teacher education. The question of how to construct effective teacher education *systems* is still even more difficult to research and to answer. This would require more international comparative studies such as "Mathematics teaching in the 21st Century"; MT 21 (BLÖMECKE et al. 2008) and the "Teacher Education and Development: Learning to Teach Mathematics" (TEDS-M) (BLÖMECKE et al., 2010) which, for the first time, tried to assess and to compare the professional knowledge of future maths teacher by testing them, rather than relying on theirself-estimations. However, as Blömecke (2011), who is heavily involved in both of these studies, suggest herself, there are a number of shortcomings of international comparative research studies so far which have to be addressed in future. To date international comparative studies on teacher education have mostly focused on teachers of mathematics and these studies have tested and analysed mainly two key competences, i.e. teaching and diagnosing, while others (e.g. educating, advising, school development, professional ethos) have been disregarded. In addition, as Blömecke (2011) points out, in order to assess the long-term effects of teacher education and to arrive at practical conclusions for the development of teacher education systems, it will be necessary to conduct proper longitudinal studies, which also include the professional development of teachers and go beyond the teacher induction phase.

Thirdly, while teacher education in Germany is still regarded as an essentially national profession, different European institutions (e.g. EUROPEAN COMMISSION) have, since the mid-1990s, started various initiatives to gain influence on national systems of teacher education such as the development of ‘Common European Principles for Teacher Competences and Qualifications’ (EUROPEAN COMMISSION, 2005), which were published in 2005. So far however, the effects of European attempts to harmonize structures and contents of teacher education in Europe must be regarded as rather moderate, particularly when compared with other fields of study within the European Higher Education Area. This is probably due to the particular national identity raising function of the teaching profession, which is historically and internationally regarded as one of its main characteristic features (KOTTHOFF & DENK 2007). In addition, given the limited empirical evidence with regard to the effectiveness of different systems or models of teacher education, it seems sensible to approach any imposed ‘European model’ of teacher education with caution. The same applies of course to federal ambitions within Germany to establish a dominant teacher education model in the 16 *Länder*. In the absence of sufficient empirical evidence with regard to effectiveness of different initial teacher education models, it seems more promising and less ‘risky’ to invest in an elaborate system of in-service teacher education rather than in initial teacher education, which has been under suspicion of being a “low impact enterprise” (LORTIE, 1975) ever since the 1970s. A systematic and high quality in-service teacher education system can arguably produce a higher quality of schools and teaching than the most elaborate system of initial teaching training, because in-service teacher education systems can react much quicker and more flexibly to the ever-changing demands on the teaching profession. Unfortunately, it is exactly with regard to the quality of the in-service training, that the German system of teacher education is, according to the international OECD (2004 and 2005) study on teacher education, not exemplary, but rather lagging behind, when compared with international developments in this field (e.g. Finland). To catch up, universities and universities of education in Germany could, and should, play an important role in this field and it is to be expected that sooner or later the ‘rolling reform’ will embrace this part of the teacher education system in Germany as well.

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Fecha de recepción: 23 de diciembre de 2012.

Fecha de revisión: 24 de enero de 2013 y 28 de enero de 2013.

Fecha de aceptación: 22 de febrero de 2013.