Teacher Education
– Theory, Policy and Practice

Research, theory and practice in initial teacher education: new contexts, new challenges[1]

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—— **Abstract**

In this chapter, I look at the post-Bologna framework by highlighting new contexts and new challenges with regard to the tensions in teacher education curriculum and structure or organisation. Next I will focus on the research dimension in ITE which remains a controversial issue in existing literature. Inquiry-based teacher education has been advocated in more recent literature, but it is far from representing a common approach and it faces various challenges. This chapter also includes a brief overview of the teacher education model at the University of Minho mainly in regard to its approach to practicum in the context of post-Bologna.

—— **Keywords:**

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Introduction

Theory and practice in initial teacher education (ITE) have been widely discussed in existing literature over the years. The separation between these two essential dimensions in the process of becoming a teacher and the need to overcome a technical rationality perspective have been identified as persisting challenges in teacher education in many contexts (Korthagen, 2010; Van Nuland, 2011; Flores, 2016). More recently, the importance of research in teacher education has also been advocated even though different perspectives of research may co-exist (see, for instance, Flores, 2017a; Sancho-Gil, Sánchez-Valero & Domingo-Coscollola, 2017; Valeeva & Gafurov, 2017; Marcondes, Leite & Ramos, 2017).

My argument is that a redefinition of university and school roles in teacher education is needed within the context of strong, coherent and supportive partnerships. This perspective is crucial if we are to move beyond the binary of theory and practice in teacher education in which research may be seen as the linking element. In other words, combining 'teaching and research, theory and practice' in a more consistent way may represent a move towards teacher education as a space of transformation, one which goes beyond a mere process of adaptation or of application of theory to practice (Flores, 2016). Of course the ways in which teaching and research, theory and practice in teacher education are organised is dependent upon the philosophy and structure of a given teacher education model. It may include a more radical perspective, starting with practice at the very beginning of the teacher education programme or by incorporating a gradual contact with the teaching contexts through, for instance, short-term internships, or through research projects led by universities and schools. It may also include a philosophy of teacher education which lies in the articulation between university and school, teaching and research throughout a given programme.

In this chapter, I look at the post-Bologna framework by highlighting new contexts and new challenges with regard to the tensions in teacher education curriculum and structure or organisation. Next I will focus on the research dimension in ITE which remains a controversial issue in existing literature. Inquiry-based teacher education has been advocated in more recent literature, but it is far from representing a common approach and it faces various challenges (Flores et al., 2016). This

chapter also includes a brief overview of the teacher education model at the University of Minho mainly in regard to its approach to practicum in the context of post-Bologna.

The importance of quality teacher education

Teacher quality is dependent upon quality teacher education. Existing literature, however, points to different understandings of teacher quality and teacher education quality in diverse contexts (Darling-Hammond & Lieberman, 2012a; Hilton, Flores & Niklasson, 2013; Laurie, Nonoyama-Tarumi, McKeown & Hopkins, 2016). What do we mean by teacher quality and quality teacher education? As a dynamic concept, quality needs to be understood in context as it relates to different expectations of various stakeholders (Flores, in press).

In some contexts, concerns with performativity, funding and external compliance have had implications for academics and for teacher educators: "competition rather than cooperation came to be seen as a key driver of quality with accountability measured by performativity and compliance with raising achievement as key" (Alcorn, 2014, p. 447). Similarly, in England, Maguire (2014) highlights the need to ensure teacher quality "by reforming teaching at source by regulating and controlling initial teacher education" (p. 779). She discusses the "technology of erasure" which relates to "the erasure of the work of progressive and reforming teacher educationalists who have in different times attempted to produce new ways of using school-based experiences to produce new forms of teacher (and trainee teacher) knowledge" (p.780). As Mayer (2014, p. 471) argues, it is essential to overcome a "naïve view of teacher quality" which has been associated with "a linear relationship between policy and educational outcomes without accounting for school culture, resources and communities."

Teacher education is seen paradoxically as essential and as irrelevant (Sancho-Gil, 2014). In other words, teacher education has been understood as a crucial element to foster the quality of teaching and learning but at the same time there have been policies that undervalue the role of teacher education and teacher educators and in some contexts the role of universities and schools as sites for professional learning. However, there is consensus about two key features: i) teacher education can make a difference in quality teachers and quality teaching in schools; ii) teacher education needs to be seen as a *continuum* within

a lifelong perspective (Flores, 2011, 2014; Imig, Wiseman & Neel, 2014). Drawing upon empirical research, Flores (in press) discusses the need to unpack teacher quality. She discusses issues such as motivation, innovation of practice, commitment and resilience as core elements around the concept of teachers as leaders of learning which stands at the core of being a teacher. Conway, Murphy, Rath, and Hall (2009), in a cross-national study of teacher education in nine countries, identified a number of principles underpinning quality teacher education, particularly the quality of knowledge integration, opportunities for observation, thoughtful feedback and critical reflection on classroom and school situations, and professional values and identity. If there is consensus on the importance of quality ITE for improving teaching and learning, there is less agreement on how to define and assess quality. Cultural differences, traditions and historical and social factors must be taken into account in order to understand how teacher education has evolved over the years in different contexts.

In a recent paper, Darling Hammond (2017) analyses high quality systems leading to the preparation and development of high quality teachers, namely in Finland, Singapore, Canada and Australia. She argues that, despite their differences, these systems include "multiple, coherent and complementary components associated with recruiting, developing, and retaining talented individuals to support the overall goal of ensuring that each school is populated by effective teachers" (Darling-Hammond, 2017, p. 294). Among other issues are the recruitment of highly able candidates into high-quality programmes and the connection between theory and practice through thoughtful coursework and the integration of high-quality clinical work in settings where good practice is supported (Darling-Hammond, 2017). Thus, quality teacher education depends on the ways in which teacher competences and standards are defined (and who defines them and how) as well as on the wider social and cultural context and the policy environment in which it is embedded.

Curriculum of initial teacher education: integrating theory and practice, teaching and research

Although teacher education has been seen as a key element in efforts to improve teaching and student learning and achievement, diversity in its content and form, including different modes of government

intervention, emerges in Europe and beyond (Flores, 2011; Flores, Vieira, & Ferreira, 2014; Imig, Wiseman, & Neel, 2014; Goodwin, 2012; Hammerness, van Tartwijk & Snoek, 2012; Mayer, Pecheone & Merino, 2012; Darling-Hammond, 2012; Darling-Hammond & Lieberman, 2012b; Ellis & McNicholl, 2015). It is therefore possible to identify contradictory trends, for instance, a move towards higher qualifications for teachers at a Master degree level (e.g., Finland, Portugal, France, Malta), which, in many cases, has been associated with greater emphasis on the research component, and at the same time the development of a more pragmatic, short and school-based orientation (e.g., some ITE programmes in the UK, USA and Australia).

This diversity in teacher education programmes is related to a number of factors among which are different ways of looking into the university and schools' role in the process of learning to teach and different conceptions of school, curriculum, and teacher professionalism. In addition, the policy, economic and cultural contexts are influential. As Craig (2016) recently argued, the structure of education is not only shaped by history, culture and economics, but increasingly dictated by politics. The key components of teacher education curriculum depend on the structure and philosophy of education that underpin them. In other words, teacher education has been seen paradoxically as the panacea to improve education, and teaching and learning in schools and classrooms, and at the same time it has been subjected to criticisms which call into question its effectiveness in preparing high quality teachers for the 21st century (Flores, 2016). So, the question is: what kinds of teachers are to be trained?

Teachers may be seen as doers of the curriculum within a more technical and top-down orientation. Conversely, they may also be understood as key players in the enactment of the curriculum and agents of change in the contexts in which they work. Thus, in order to fully understand teacher education it is essential examine the political, social, cultural and economic contexts in which it is embedded along with the conceptual and epistemological assumptions underpinning its curriculum models and organisational systems (Flores, 2016, 2017b).

By and large, teacher education programmes include studies in education, subject matter along with pedagogical content knowledge, and practice. Yet, Kansanen (2014, p. 281), focusing on the Finnish context, alerts that "how to build a dynamic and successful curriculum

founded on these elements is apparently the key to getting good teachers into the education system of the country." In Europe and elsewhere globalisation has been a major driver of change along with governmental pressure to enhance the quality of teachers and teaching, in many cases associated with the results of international assessments.

It is therefore possible to identify both convergences and divergences in ITE curriculum internationally, for instance related to a great diversity in terms of structure, focus and pedagogy worldwide (with varying modes of governmental involvement). A report on teacher education curricula in the European Union points to considerable variation in terms of the skills and competences required for the teaching profession in the official documents in different countries (Piesanen & Valijarvi, 2010). The same report indicates that subject competences, pedagogical competences, and the integration of theory and practice are mentioned in all the EU countries' relevant documents, whereas quality assurance, mobility, leadership, and continuing and lifelong learning are often left out. The same report also suggests that whereas in most EU countries, national documents, laws and regulations stipulate general guidelines and frameworks for the organisation of teacher education, higher education institutions are granted a degree of autonomy to develop their own curricula. Both consecutive and concurrent structures carried implications for the ways in which curriculum components were integrated, but all included some kind of field experience in a school setting. In recent research, Zuzovsky and Donitsa-Schmidt (2017) compared the effectiveness of these two models of ITE programmes in Israel. They claim that graduates of the consecutive model outperformed graduates of the concurrent model in most of the measures used in the study. The authors put forward two possible explanations: the profile of the students in each model and the layered manner in which the curricular components are organised in the two models.

The fragmentation and/or integration of ITE curriculum components and the articulation between schools and universities as sites for professional learning have been widely discussed in the literature (e.g., Cardoso, 2012; Flores, Santos, Fernandes, & Pereira, 2014; Elstad, 2010; Duda & Clifford-Amos, 2011; Clarke, Lodge, & Shevlin, 2012; Goodwin, 2012; Aydin et al., 2015). Research has found discrepancies between what student teachers learn in their programmes and their experience

in clinical practice (Wang, Odell, Klecka, Spalding, & Lin, 2012) pointing to a binary opposition between schools and universities (Wilson & l'Anson, 2006) in the education of teachers-to-be.

A brief glimpse of the international literature pertaining to ITE curriculum reveals that subject knowledge, subject didactic knowledge, general education studies and practicum are generally present in ITE programmes, but there is great variation in regard to its location in the programme and to their interaction to enhance student teachers' professional learning. In most cases, it is up to student teachers to make the necessary links between the different components of the ITE curriculum.

Related to this is the prevalence of the academic logic in detriment to the professional one (Canário, 2001; Formosinho, 2009) along with the nature of the academic culture. Departmental organisation within the university and the valorisation of research can be detrimental to teaching in terms of Faculty career progression. Individualistic working patterns rather than cooperation is often associated with issues of promotion. In this context, it is difficult to foster curriculum articulation and coherence in ITE. The fragmentation between ITE components has also been associated with the historical curricular separation between foundations and methods courses within ITE and in particular the disconnect between theoretical and practical knowledge (Grossman, Hammerness & McDonald, 2009), and to the tensions between the professional and academic logic of teacher education and the curricular organisation of the time and space of each component in ITE curriculum (Formosinho, 2009). A study in Spain highlighted a number of shortcomings in ITE - namely the lack of quality, inadequate practices, difficulties in promoting learning, and a lack of preparedness for entering the teaching profession (Sancho-Gil, 2014). These challenges are to be linked to the ways in which, in different ITE programmes, the role and responsibility of universities and schools is understood, namely in regard to the teaching practice component, ranging from schools playing a host role (work placement model) to shared responsibility between both institutions, through to schools providing the entire training (school-based training) (Flores, 2016).

The research dimension in teacher education: configurations and variations internationally

A look at international literature on curriculum of initial teacher education points to various ways of integrating research into teacher education programmes as well as ways of articulating it with teaching. For instance, the introduction of research into the curriculum in France has been seen as a strong feature (Lapostolle & Chevaillier, 2011) and the research (action-research) component in the practicum has been seen as a positive aspect of the Master Degree in Teaching in Portugal (Flores, Vieira, & Ferreira, 2014).

In Europe and elsewhere the research component in ITE curriculum varies: in some cases it is non-existent; in other cases it is not explicit in the curriculum but it is up to the training institutions to foster the development of student teachers' research competences, for instance during practicum; and, in other cases, an explicit curriculum unit on research methods is included in the ITE curriculum as well as an inquiry approach to the practicum (Flores, 2016). Great variation across programmes internationally exists ranging "from one compulsory methods course to a critical reading of research papers and use of databases for policymaking recommendations" (Niemi & Nevgi, 2014, p.132) to the development of a pedagogical intervention project with a research component (action research) during the practicum in a school (Flores, Vieira, & Ferreira, 2014). The most paradigmatic example of a research-based orientation to ITE is the Finnish case. It entails "well-balanced knowledge and skills in both theory and practice" (Sahlberg, 2012, p. 9) according to a "systematic continuum from the foundations of educational thinking to educational research methodologies and then on to more advanced fields of educational sciences" (p. 11). However, as Niemi and Nevgi (2014, p. 132) argued, "preparing for research-based work in the teaching profession can also be undermined because of the pressure to provide new teachers with skills that are measured through students' learning outcomes in high-stakes testing."

As such, the research component in ITE may take different forms in different countries. In Brazil, for instance, a national programme has been launched to foster the establishment of partnerships between schools and universities, to enhance the research dimension and to integrate theory and practice in ITE. The *Pibid*, as it is named in

Portuguese (*Programa Institucional de Bolsa de Iniciação à Docência* – Institutional programme for grants to initiate teaching) draws upon the following principles: i) emphasising teacher education on teachers' work at school and on real experiences; ii) combining theoretical and methodological teacher knowledge of higher education institutions and the practical and experiential knowledge of teachers in schools; iii) paying attention to the multiple dimensions of the daily work of school and to research leading aimed at solving practical situations and innovations in education; and, iv) promoting dialogue and collaborative work fostering the social nature of the teaching profession (Brazil, 2012). In 2014, a total of 49,321 grants were in place, of which 40,092 were granted to student teachers, 3,052 to coordinators and 6,177 to supervisors (Hardoim, Pessôa, & Chaves, 2014). It seems reasonable to suggest that a diverse array of research conceptions have been realised through such a process (e.g. some no doubt more school-related, others more university-centred and led by academics in collaboration with student teachers). In fact, recent empirical work pertaining to *Pibid* has demonstrated the contribution it has made to the grant holders' (*bolsistas*) identity development and to a form of preliminary induction into teaching (Hardoim, Pessôa, & Chaves, 2014), through to raising awareness of current complex conditions of being a teacher and to the valorisation of the teaching profession (Santos & Silva, 2014), as well as to fostering collaboration between schools and universities and to the consolidation of teacher professional knowledge (Cruz, Oliveira, & Campelo, 2014). In a recent paper, Marcondes, Leite and Ramos (2017) argue that the Pibid has shown positive outcomes in regard to the development of partnerships between universities and schools. Such a programme, they state, has provided the opportunity for many student teachers to experience teaching in real schools from the very beginning of their teacher education but they warn about challenges that need to be addressed in the future. These include poor working conditions, lack of self-esteem, and issues of equity and social justice.

In Portugal, following the Bologna process, a new policy on ITE was issued in 2007 (Decree-Law 43/2007), aimed at contributing to valuing teacher socioprofessional status and to improving the quality of teachers in order to address the challenges of education of Portuguese society. In order to become a teacher, a three-year degree (*licenciatura*) is needed, plus a master's degree in teaching. This means the existence

of higher qualifications to become a teacher (from pre-school to secondary school) and the need to include a research dimension in ITE. However, this new configuration (consecutive model) implies the separation between training in the first cycle (three-year programme called *licenciatura*) and second cycle (master's degree level now required to enter the teaching profession). This fragmentation is seen to represent a drawback from previous models of teacher education such as the integrated model. In this process, over four to five years, student teachers would study educational sciences and subject matter simultaneously from the very beginning of the course (see, Flores, Vieira & Ferreira, 2014; Flores, 2016). In the integrated model (prior to the implementation of the Bologna process) the subject area (e.g. English, Biology, Maths, etc.) and the pedagogical component were distributed simultaneously throughout the course. The new model, however, emphasises the subject knowledge and didactics and the professional practice occurring mainly at universities (which implies less time spent in schools). Added to this is the prevalence of the academic-oriented culture (which emphasises knowledge fragmentation and individualism) to the detriment of the professional culture (which attends to the specific nature of learning to teach) (Canário, 2001; Formosinho, 2009). This has implications for the ways in which professional practice is understood and put into practice where it is possible to identify the lack of articulation between discourse and practice.

This new configuration of professional education implies a reduced time and space for practicum (which occurs only at the master's level), with implications for the pedagogical activities that student teachers are able to do. As Moreira and Vieira (2012: 97) stated, 'the impact of this structural change is not yet clear; will second-cycle student teachers take teaching more seriously because they had more time to decide to become teachers, or will they take it less seriously because their training is shorter. And will they be able to integrate subject and pedagogical knowledge now that these curricular components are clearly separated?' The answer to these questions remains to be seen but there have been efforts to make the best of difficult circumstances, especially in the context of practicum in Year 2 of the Master's degree in Teaching.

Although legal regulations do not state that the practicum must have a research component, the fact that students earn a master's diploma

was tacitly understood by institutions as a motive to introduce it (Flores et al, 2016). Actually, "training in educational research methodologies" was identified as a compulsory component of ITE curricula in the first legal framework issued in 2007, with no credits allocated to it, and with the purpose of "enabling prospective teachers to adopt a research stance in their professional performance in specific contexts, on the basis of an understanding and critical analysis of relevant educational research" (Decree-Law No. 43/2007). The current legal framework issued in 2014 no longer stipulates research as a curriculum component.

**Teacher education at the University
of Minho: key features of the model**
In Portugal, the most recent legal changes point to an increase in the importance of subject knowledge and specific didactics along with longer programmes for initial teacher education at the master's degree level (Decree-Law No. 79/2014, 14 May). This new legislative scenario stipulates the key components of ITE curriculum as subject matter, general education, specific didactics, ethical, social and cultural dimensions (although with specific credits attached to them) and professional practice.

Despite the strict legal framework under which higher education institutions must organise their ITE programmes, it is possible to make the best of challenging circumstances at the institutional level namely as far as the research component during practicum is concerned (Flores, Vieira, Silva and Almeida, 2016). The University of Minho, in Portugal, developed a coherent and research-oriented practicum, despite the legal and institutional constraints. The goals of practicum include: i) to promote a critical understanding and intervention in pedagogical contexts; ii) to deepen the development of subject matter and pedagogical competencies; iii) to develop a research culture and collaboration in professional training; and, iv) to develop the integration of cultural, social and ethical aspects in professional training.

In order to frame practicum in a more consistent way, three main dimensions associated with the professional profile of preservice teachers were also identified: the conceptual dimension (which relates to the theoretical framework of professional practice, including subject knowledge, didactics, general educational knowledge, research and context); the strategic dimension (associated with the methodological

framework of professional practice, including processes and techniques of analysis and development of subject knowledge and of teaching and learning, regulation and research of teaching, and understanding and transformation of intervention contexts); and, the axiological dimension (which deals with the values of professional practice, including ethical and political values that underpin educational action with its ethical and political implications). Practicum is seen as a key component of the ITE programme occurring in Year 2 of the Master's degree in teaching. It includes elements observation of professional contexts; integrating research into practicum through the development of a pedagogical project (in some cases following an action-research orientation) at school and a portfolio; and the writing up of a final report presented in a public viva voce examination. The underlying assumption is to foster a reflective component oriented towards student teacher professional development under a democratic view of education in order to link theory and practice, and teaching and research. However, a number of challenges in integrating research into practice remain. Flores, Vieira, Silva and Almeida (2016), identify the following: time constraints (research, and particularly action research projects imply time and doing research in a condensed 2-year degree is rather challenging); the risk of making the practicum more academic and less profession-oriented; the need for supervisors and cooperating teachers to reshape traditional roles and expand professional competences in order to become partners of pedagogical inquiry and renewal; the existence of performative and managerial cultures that may undermine the development of pedagogical inquired-based projects; the lack of a scholarship of teacher education.

Meta-analyses of 28 reports on the role of research in practicum in the context of the Master's degree in teaching at the University of Minho pointed to the relevance of research in developing pedagogical practice focused on the quality of teaching and learning (Vieira et al., 2013). However, it also identified the co-existence of different modes of articulating research and teaching which are associated with diverse views of teacher education and the role of research in practice and in the (re)construction of professional competences. The authors identified the development of diverse approaches to education, the mobilisation of different kinds of knowledge, the articulation of pedagogical and research purposes in practicum, and the diversity of data collection

methods and assessment modes. In general, Vieira et al.'s (2013) study indicates that reflective practice emerged from the practicum reports in which research is used to understand and transform education and to enable the (re)construction of the thinking and practice of teachers-to-be. As for the constraints, amongst others, the study revealed that more needs to be done in terms of making the ethical and conceptual framework underpinning the pedagogical projects more explicit, the mobilisation of knowledge about research in justifying the methodological options and data analysis, integration of theory and practice and reflection about the limitations and recommendations for training, supervision and research on teaching.

Concluding remarks

Taking into account the Portuguese context, the concern of making the best of challenging circumstances emerges by integrating research into practicum (Flores, Vieira, Silva and Almeida, 2016). As Flores et al. (2016) also highlight, the emergence of an inquiry-based culture is "both innovative and controversial" as it implies "dealing with tensions related to visions of teacher education" and with "(in)coherences between curriculum rhetoric and implementation." If we are to move beyond the binary of theory and practice in teacher education, research may be seen as the linking element within the context of strong, coherent and supportive partnerships between universities and schools.

Existing literature points to the existence, in many contexts, of an alignment between a restricted view of school curriculum linked to an outcome-led orientation, along with, in some cases, a back to basics movement, and a more didactic and narrow view of ITE curriculum, leaving behind the ethical, cultural and political dimension of teaching. Reflecting on the English context, Maguire (2014) suggests that the curriculum: "more and more [focused] on successful in-school experience, technical skills such as teaching literacy through centrally prescribed methods, behaviour management, familiarity with testing regimes, etc. Other matters, for example, those of commitment, values and judgements are frequently side-lined, made optional or simply omitted" (p. 779).

However, other perspectives do co-exist within a view of teachers as professionals and as curriculum makers within a research-based orientation to ITE. The need to manage different and sometimes

contradictory logics associated with national regulations, institutional constraints and contextual possibilities is a critical aspect of ITE. Thus, it is possible to identify a number of issues that need to be taken into account in discussing theory, practice and research in teacher education:

→ The importance of developing a scholarship of teacher education whereby ITE programmes are analysed and improved. This requires the participation of teacher educators, mentors and student teachers by negotiating meanings and confronting views and practices of teaching, learning and developing as teachers.

→ The need for teacher educators to look at their own professional development and to investigate their practices in teacher education. Teacher educators are teachers but they are also researchers on and in teacher education and this implies investigating their own practices.

→ The need to develop more explicit pedagogies of teacher identity development during initial teacher education. Despite the emergence of studies on this topic, research in order to understand the ways in which teacher identity develops during initial teacher education is in its infancy.

For teacher education to be a space of transformation, it must focus not only on what teachers should know and be able to do but also on what it means to be a teacher (Flores, 2016). Teaching is about values, beliefs, actions and commitments. ITE curriculum needs to provide preservice teachers with opportunities to think and reflect upon their role as teachers in transforming education and on the implications of their actions as teachers. As Tryggvason (2009) argued, ITE curriculum should provide students with opportunities to learn how to take responsibility for ethical choices. And this has implications for the role, identity and actions of teacher educators.

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