The Professional Teacher Educator

Roles, Behaviour, and Professional Development of Teacher Educators

Mieke Lunenberg, Jurriën Dengerink and Fred Korthagen

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Professional Learning
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Rationale:
This series purposely sets out to illustrate a range of approaches to Professional Learning and to highlight the importance of teachers and teacher educators taking the lead in reframing and responding to their practice, not just to illuminate the field but to foster genuine educational change.

Audience:
The series will be of interest to teachers, teacher educators and others in fields of professional practice as the context and practice of the pedagogue is the prime focus of such work. Professional Learning is closely aligned to much of the ideas associated with reflective practice, action research, practitioner inquiry and teacher as researcher.

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SERIES EDITOR'S FOREWORD

In recent times there has been an increasing focus in the academic literature on the nature of teacher education, in part as a response to the ways in which education bureaucracies around the world have sought to position the field and its work. However, what has often been overlooked has been the role of teacher educators in the teacher education enterprise (Murray, 2011) as program structure, organisation, expectations and purpose have tended to dominate. It is almost as though, like teaching, that the work of teacher educators has been superficially perceived as relatively straight forward and easy to understand. As a consequence, the purpose of teacher education, the sophisticated knowledge, skills and ability necessary to do that work well, are either overlooked or, sadly, ignored. Through this book, Lunenberg et al. have responded to that situation by offering insights into the important work of teacher educators. In so doing, they begin to articulate crucial aspects of what it means to be a teacher educator and to create real opportunities to better understand what that means in relation to the professional development of teacher educators themselves.

In order to set the scene for what is their examination of the 'roles, behaviour and professional development of teacher educators', the authors outline a program of study that makes clear not only how they approached their review the way they did, but also why it is important; both to them as researchers and to the profession of teacher educators more generally. The significance of this work should not be quickly glossed over. Because teacher education is ubiquitous and an integral component of education systems world-wide, concentration on the organisation of teacher education has overshadowed the development of deeper understandings of those that work within the system. With this book, the way in which teacher educators work, how they develop, what it is they 'know and are able to do', and how their professional learning might be supported and enhanced, comes to the fore in interesting and informative ways. It begins to frame the ways in which many individual teacher educator's studies can be brought together to create the big picture of teacher education and acknowledge the fundamental purpose of pedagogy in ways called for by scholars such as Berry (2007), Brandenburg (2008) and Russell (2010).

Through this book, the authors make clear that if we wish to take 'being a teacher educator' seriously, then it is imperative that data drives our understanding and, that evidence lies at the heart of the conclusions we draw. As they state, 'the goal of the study was to arrive at a solid overview of what is known about the professional roles of teacher educators, the related professional behaviour, and the professional development of teacher educators regarding these roles and the accompanying behaviour'. Their study was carried out with the support of a grant from The Netherlands Organisation for Scientific Research (NWO) and their

analysis is detailed, thoughtfully portrayed and clearly presented. In being sponsored by NWO, it also illustrates a developing acceptance of the need to study the field in more systematic and meaningful ways and to go beyond teacher education as only a preparatory step in becoming a teacher.

In reading this book, the strength of the authors' knowledge of the field is immediately obvious. They analyse the literature in ways that offer a range of engaging perspectives on the nature of teacher educators, their work and their professional development. They bring to the surface that which might be described as the status-quo in the profession whilst also highlighting issues and concerns regarding how some teacher educator roles are constructed, perceived and performed. Through their analysis, Lunenberg et al. shine a light on aspects of the field that require more concerted research efforts and highlight the value in so doing. In essence, they begin to set an agenda for research and practice that might make a difference for teacher educators, the ways in which they work, and the manner in which they develop as professionals.

This book demonstrates that the professional development of teacher educators is gathering attention and building in momentum. Lunenberg et al's. study creates a productive way of thinking about what professional development of teacher educators might mean and how the outcomes of such work might be employed so that it is useful and applicable for the profession. An obvious outcome of their focus on studying the professional development of teacher educators is that it also rekindles interest the nature of teaching and learning about teaching in new ways. Their study helps to refocus attention on the pedagogy of teacher education and reminds us all about how important that is as a base for professional knowledge of, and practice in, teacher education (Heaton & Lampert, 1993; Korthagen & Kessels, 1999; Loughran, 2006; Ritter, 2007).

The professional development of teacher educators appears a natural flow on from the outcomes of over two decades of work in the field of self-study of teacher education practices (S-STEP, see Hamilton et al., 1998); a field in which the authors themselves have been continually involved. As S-STEP has become so much more a part of the educational teaching and research landscape, the breadth of work produced by that community is now at such a stage that new questions about teacher education are emerging that demand more organised and programmatic responses. Through a community such as S-STEP, the challenges, ideas, issues and possibilities pertaining to the professional development of teacher educators may be supported and pursued so that a coherent and constructive agenda for development might emerge. Lunenberg et al. are very well placed to support and pursue such an agenda.

This book has set the scene for the next steps in making the work of teacher educators more public, accessible and understandable. The complex and sophisticated work of teaching about teaching cannot be dismissed and simplistic views and approaches to teacher education should not avoid scrutiny. The challenge now is to ensure that the groundwork established through this book is built upon in appropriate ways so that it might have genuine impact on the thinking about, and practices of, teacher education in institutions generally but in their

faculties of education more specifically. I have found this book to be most engaging and thought provoking; I trust the same occurs for you.

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1. INTRODUCTION: WHY THIS BOOK?

"Teachers of teachers – what they are like, what they do, what they think – are typically overlooked in studies of teacher education."
(Lanier & Little, 1986*[1], p. 528)

1.1. CONTEXT AND BACKGROUND

This is a book about teacher educators and their profession. Until now, such a book has been rather unique, as for a long time only limited attention was paid to the important work of teacher educators. However, after the above observation by Lanier and Little in the 1980s, a fundamental shift has taken place. Since the 1990s, the crucial role of teacher educators in the educational chain has gradually received more attention in research, practice, and educational policy (see, e.g., Koster, Brekelmans, Korthagen, & Wubbels, 2005). Nowadays, there seems to be a quite general consensus that, to a large degree, teacher educators determine the quality of teachers and that these teachers are a crucial factor in the quality of primary and secondary education (Liston, Borko, & Whitcomb, 2008). Hence, it is important that teacher educators are able to function at a high professional level.

What does this mean? And do teacher educators meet this requirement?

Notwithstanding the increased attention to teacher educators, the literature does not give clear answers to such questions (Verloop, 2001*). Martinez (2008) states:

> Little systematic research has been undertaken to inform us about fundamental characteristics of the professional lives of this occupational group – their qualifications, their recruitment, their career pathways into and through the academy, their teaching and research practices, the problems they encounter, or their professional development needs and practices. (p. 35)

However, especially during the last decade, many publications have offered partial answers to questions about the characteristics of the profession and the behaviour of teacher educators. Hence, if we wish to take the profession of teacher educator seriously, this situation asks for a solid analysis and synthesis of what is known in this field. This was the incentive to conduct the review study described in this book.[2]

This study fits into an international trend. Various authors have emphasised that for too long the profession of teacher educators has received too little attention. Worldwide, a growing number of studies on teacher educators are now being published. For example, within the *Assocation of Teacher Educators* (ATE, USA) as well as within the *Association of Teacher Educators in Europe* (ATEE), there is an ongoing debate about the importance of further professional development of teacher educators, not only for enhancing the quality of their work, but also for elevating their status and position as a professional group.

This review study is also relevant, because the professional community of teacher educators is rather diffuse, which until now made it difficult to arrive at a

clear and solid framework for the profession. As Lunenberg (2010*) states, teacher educators form a rather heterogeneous group. One becomes a teacher educator by being appointed as such. There is no formal educational route, tied to admission requirements for the profession, to becoming a teacher educator (Cochran-Smith, 2003). Many teacher educators, but not all, started their career as a teacher (Dinkelman, Margolis, & Sikkenga, 2006; Berry, 2007*). We will return to this issue in Section 2.1.

1.2. GOAL OF THIS REVIEW STUDY AND RESEARCH QUESTIONS

The goal of the review study was to arrive at a solid overview of what is known about the professional roles of teacher educators, their related professional behaviour, and the professional development of teacher educators regarding these roles and the accompanying behaviour. We will also analyse what is known from the literature about critical features determining the professional roles, the accompanying professional behaviour, and the professional development of teacher educators.

The following research questions have guided this study:
1. What professional roles of teacher educators can be identified?
2. What are the critical features determining the professional roles of teacher educators and the accompanying professional behaviour?
3. What are the critical features determining the development of the professional roles and the accompanying professional behaviour of teacher educators?

This study focuses on the professional roles and the professional behaviour of *individual* teacher educators. This implies, for example, we do not draw conclusions about the level of professionalism of the community of teacher educators as a whole, although some of our findings do touch upon this issue.

On the basis of our analysis, we also give an overview of blind spots in the current research and we offer suggestions for further research. After our final conclusions and discussion, we also offer suggestions for practice.

1.3. RELEVANCE FOR RESEARCH

As we mentioned, already in the 1980s, Lanier and Little (1986*, p. 528) stated that there was too little knowledge about the work of teacher educators. One of the first and leading publications having the teacher educator as its object of study was the book *The lives of teacher educators* by Ducharme (1993*). In the 1990s, world-wide more studies appeared about teacher educators and their work, and there was a growing acknowledgment that the profession of teacher educator should meet certain professional requirements. In this respect, an important development was the formation, in 1993, of a *Special Interest Group* of the *American Educational Research Association (AERA)*, named *Self-Study of Teacher Education Practices*, or briefly *S-STEP* (Russell, 2010*). Zeichner (1999*) maintains that this may have been the most important development ever to the research in the area of teacher education. A publication by Russell and Korthagen (1995*), named *Teachers who*

teach teachers, brought together experiences from members of the Special Interest Group. As such, it offered in-depth insights into the daily work and struggles of teacher educators world-wide. In 2004, the Special Interest Group published the *International Handbook of Self-Study of Teaching and Teacher Education Practices* (Loughran, Hamilton, LaBoskey, & Russell, 2004*), which is an extensive and rich collection of studies in this area, with much attention to the practical work of individual teacher educators and their professional development. This means that a point had been reached at which, for the first time, there was a broad and in-depth overview of what teacher educators actually do and think and, most of all, what they struggle with.

Hence, it is only since the beginning of the 1990s that we know more about the teacher educator (Koster et al., 2005). This leads to the need for a clear and research-based overview of what is known to date about the professional functioning of teacher educators and the factors contributing to this, as well as to their further professional development. Until now, such an overview has been missing.

In 2005, AERA published the review study *Studying Teacher Education* (Cochran-Smith & Zeichner, 2005*). This contains an analysis and synthesis of the available empirical research relevant to policy and practice in teacher education. However, some topics relevant to teacher education are not discussed in this AERA study, such as an historical analysis of teacher education and in-service teacher education (Cochran-Smith & Zeichner, 2005*, pp. 59-60). Also absent is a clear perspective on the roles and behaviour of individual teacher educators and on factors determining their quality and their development, which is exactly what the present review study focuses on. Hence, the present review fills in a blank in the available research. Moreover, the AERA study was limited to research carried out in North America, whereas we have adopted an international perspective.

1.4. PRACTICAL RELEVANCE AND RELATION TO OTHER DEVELOPMENTS

The significance of this review study may be important to practice and to society as a whole, as teacher educators increasingly fulfil a crucial role in the educational chain (Liston et al., 2008). Moreover, there is much emphasis nowadays on the fact that the profession of teacher educator is a specific profession, which differs from the profession of teacher in primary or secondary education (Murray & Male, 2005). Also, many researchers have noted that teacher educators need support in their work in order to develop their professional behaviour (Cochran-Smith, 2003; Koster et al., 2005; Snoek, Swennen, & Van der Klink, 2011; Swennen, Jones, & Volman, 2010). In this respect, this review study offers a framework for such support. Given the fact that many teacher educators are constantly struggling with time constraints, this book could be a powerful instrument, as it offers a brief overview of the most important research in this area.

This review study also fits into a trend in the Netherlands, which has taken place during recent years. As we will further discuss in chapter 6, important steps have been taken regarding the professional development of teacher educators. First,

during the previous decade, the Dutch association of teacher educators developed a registration procedure. Teacher educators choosing to pass through this procedure, undergo a *peer assessment* (Koster, Dengerink, Lunenberg, & Korthagen, 2008; Koster & Dengerink, 2008). In addition, projects were started to promote self-studies by teacher educators (see, e.g., Lunenberg, Zwart, & Korthagen, 2010). Also, in co-operation with the Dutch association of teacher educators, VU University in Amsterdam developed a knowledge base for the profession. Such a knowledge base for teacher educators is rather unique in the world. With this review study, we aim at putting an even stronger theoretical basis under this knowledge base, which could possibly also lead to further adaptations in the knowledge base itself.

Finally, based on the knowledge base for teacher educators, a professional development trajectory for teacher educators was developed in the Netherlands. This trajectory is linked to the registration procedure of the Dutch association of teacher educators. Both institution-based and school-based teacher educators participate in this trajectory, which attracts quite some interest from the professional community. This is a development which is important as, internationally, structured trajectories for teacher educators are rare, and if they exist at all, they are often rather limited in scope. On the basis of an extensive study in the 1990s, Wilson (1990*) concluded that in Europe, systematic training or coaching of teacher educators was almost completely missing. He rightly added that this situation was highly remarkable in an area where professional development has always been the operative word. Ten years later, the situation had not changed much, as noted by Buchberger, Campos, Kallos, and Stephenson, (2000*). We believe that this review study could offer the building blocks for structured and in-depth trajectories for teacher educators. As such, it could contribute to a higher level of professionalism and positive outcomes for education as a whole.

NOTES

[1] References marked with * are additional to the database of this review study. (See Chapter 3 for an explanation.) A list of these references can be found at the end of this study.

[2] The review study has been carried out with a grant of The Netherlands Organisation for Scientific Research (NWO).

2. CONCEPTUAL FRAMEWORK

In this chapter, we explain the core concepts used in this review study. We discuss how we define 'teacher educator', 'professional role', 'professional behaviour', and 'critical features'.

2.1. TEACHER EDUCATOR

Teacher educators are a heterogeneous group. Not only do they come from different backgrounds, but they also work in different settings (Lunenberg, 2010*). Some work in an institution for teacher education for primary education, some in a teacher education institution for secondary education. Others work in teacher education institutions for specific fields such as the arts, technology, or agriculture. Moreover, there is a growing group of school-based teacher educators co-operating with those who are institution-based and with their students (Van Velzen & Volman, 2009). Teacher educators also have a variety of tasks. They teach a subject or pedagogy, and support students who do field work. In addition, teacher educators are increasingly expected to develop and carry out courses for experienced teachers and to do research (Koster, Dengerink, Lunenberg, & Korthagen, 2008).

Koster (2002*) states that it is difficult to find a satisfying description of what a 'teacher educator' is. He cites Carter (1984*, p. 126-127), who defines a teacher educator as 'a faculty member in a tenure track who had taught at least one required undergraduate professional education course during the preceding twelve months'. Koster (2002*, p. 7) himself formulates the following definition: 'A teacher educator is someone who teaches at a teacher education institution or supports students' field work in schools, and contributes substantially to the development of students towards becoming competent teachers'.

Koster's definition evokes three questions. Firstly, the word substantial is ambiguous. Secondly, the tasks and responsibilities of school-based teacher educators have been extended during the previous decade. And thirdly, we also want to include in our definition teacher educators responsible for courses for experienced teachers, especially because the boundaries between initial teacher education and professional development courses are fading more and more.

Therefore, in this review study, we define teacher educators as: *all those who teach or coach (student) teachers with the aim of supporting their professional development*.

Hence, we include all those who, in teacher education institutions and in schools, are responsible for teaching and coaching future, beginning and experienced teachers.

2.2. PROFESSIONAL ROLE

Van Doorn and Lammers (1984*), as well as De Jager, Mok, and Sipkema (2004*) define a role as a cluster of more or less stringent expectations of the behaviour of a person in a certain position. These expectations may be those of a professional group, an organisation in which a person works, or of society. They can be – in part – formally established, for example in a professional standard. More important, however, is what is in practice expected of a person in a certain position, and what is demanded from this person by members of his or her working environment.

In this review study, we use the concept *professional role*. 'Professional' refers to a complex of systematically organised and transferable theoretical knowledge (see for example Knoers, 1987*, p. 6). The use of the adjective 'transferable' emphasises that the teacher educator should be able to make theoretical knowledge explicit.

We define the concept 'professional role' as: *a personal interpretation of a position based on expectations from the environment and on a systematically organised and transferable knowledge base.* (Note: In the following chapters, we will often abbreviate 'professional role' to 'role'.)

The concept 'professional role' should not be confused with the concept 'professional identity', which has recently become more popular in the literature. Klaassen, Beijaard, and Kelchtermans (1999*, p. 337) describe professional identity as 'relatively stable views, reflection patterns on professional behaviour, and the accompanying self-image'. So, the concept 'professional identity' mainly focuses on personal views and self-images, whereas the concept 'professional role' mainly focuses on position and expectations from the environment.

2.3. PROFESSIONAL BEHAVIOUR

Knoers (1987*), as well as Jansma and Wubbels (1992*), Eraut (1994*), Hoyle and John (1995*), Koster (2002*), and Verloop (2001*), emphasise that professional behaviour means behaviour based on a knowledge base. As explained above, teacher educators should be able to make this behaviour explicit. Implicit knowledge and 'practical wisdom' (Lunenberg & Korthagen, 2009*) are in our view not a sufficient foundation of professional behaviour.

In the medical field, among others, the attention to values and norms is also explicitly mentioned as an important aspect of professional behaviour. An ethical standard for teacher educators, however, is not yet available. Verloop (2001*) concludes that professionals have a certain amount of freedom to make their own judgment with regard to what is considered appropriate practice. The fact, however, that an ethical standard for teacher educators is still absent, does not mean that attention to ethical issues is also missing (see for example Coldron & Smith, 1999*; Beijaard, Meijer, & Verloop, 2004*).

Hence, in this review study, we define professional behaviour as: *behaviour based on a systematically organised and transferable knowledge base expressing the values and norms of the professional community.*

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The definitions above do not completely cover the professional role and professional behaviour of teacher educators. Van Doorn and Lammers (1984*), as well as Hoving and Van Bon (2010*) emphasise that a role can be an object of discussion, also because in practice several roles are often combined. That teacher educators combine several roles seems obvious. Ducharme (1993*) uses the metaphor of a (two-faced) Janus-head, and adds that teacher educators seem to have even more than two faces: "School person, scholar, researcher, methodologist, and visitor to a strange planet" (p. 6). Such role combinations can be a source of tensions and conflict, because one has to meet several expectations and norms, which are sometimes hard to combine.

2.4. CRITICAL FEATURES

We define critical features as: *features determining the quality of professional roles or professional behaviour, or determining the quality of the professional development of teacher educators with regard to roles or behaviour.*

As we will explain in the next chapter, we will limit our conclusions about critical features to those features that are empirically and adequately underpinned.

3. METHOD

For this review study, we have used the methodological framework for a (qualitative) literature review as described by Randolph (2009*). Randolph describes eight steps, formulated as tasks that researchers have to carry out:
1. Create an audit trail;
2. Define the focus of the review;
3. Search for relevant literature;
4. Classify the documents;
5. Create summary data bases;
6. Identify constructs and hypothesised causal linkages;
7. Search for contrary findings and rival interpretations;
8. Use colleagues or informants to corroborate findings.
In this chapter, we will describe how we have applied these steps in this review study.

1. Create an Audit Trail

The aim of this first step is to carefully document all stages of the review process. We have done so and will explain below the selection of our sources and of the studies we have used in the review study. We will also describe the process of data analysis and data interpretation. Next, we will report on how we have enhanced the trustworthiness, transparency and completeness of this study through collegial collaboration. We have further underpinned these by involving an international group of experts (the 'critical friends', see step 8).

2. Define the Focus of the Review

The focus of our review is defined by the goal of this study and by the three research questions. These are described in Chapter 1.

3. Search for Relevant Literature

According to Randolph, step 3 is focused on searching for relevant literature. We started this search process with an orientation phase, followed by a selection phase.

Orientation phase
We started with an orientation phase in which we conducted tryouts in order to arrive at the identification of search terms, quality criteria, and a demarcation of the

publishing period, which would lead to an overview of relevant studies as complete as possible. Such an overview could help us to answer our research questions.

To begin with, we explored what would be the most relevant search terms for our study. Based on our orientation, we chose the following central search terms for this study: 'teacher educator(s)', 'teacher trainer(s)' and 'mentor teacher(s)'. By adding the latter search term, we explicitly included in our study persons responsible for teaching and coaching student teachers in their school practice. Combining these search terms with the core concepts of our research questions (role, behaviour and professional development) proved not to be efficient. For example: the combination of the search terms 'teacher educator' and 'role' hardly provided any literature on the role of teacher educators, but mainly articles on the role of reflection in teacher education. As a consequence, we decided not to work with combinations of the three search terms that we had chosen and the core concepts as described in the previous chapter.

Next, we looked for quality criteria. We decided on limiting our main search to articles in journals recognised by the Institute for Scientific Information (ISI) or by the Dutch Interuniversity Centre for Educational Sciences (ICO). In addition to ISI, ICO recognises a few more journals dedicated to teacher education and teacher educators, for example 'Studying Teacher Education'. The academic forum regards the quality of these journals as adequate. Among others, these journals use the quality criterion of 'double blind review' in judging articles.

It is more difficult to find a comparable quality criterion for books. We assume that Ph.D. dissertations do meet quality criteria, but also take note that the information from Ph. D. dissertations relevant to this review study has very often also been published in an article. We know that articles in some relevant handbooks are solidly reviewed, but in most cases books are a grey area when it comes to guaranteeing the quality.

Hence, we decided to use ISI- and ICO-articles as the primary source in answering our research questions. Where it seemed sensible, we used book publications as an additional source. These mostly proved to be books that were frequently referred to in the selected ISI- and ICO-articles. In this review study, references to additional publications are marked with an asterisk (*).

Another point of attention in this orientation phase was to determine the period of time we would focus on. We chose the period 1991-2011, because before the nineties of the previous century, hardly any studies on teacher educators had been published (as is stated by Wilson, 1990*; Ducharme, 1993*; Zeichner, 1999*; Buchberger, Campos, Kallos, & Stephenson, 2000*).

Finally, we had to decide which search engines to use. We tried out which would lead to the best quantitative and conceptual saturation. This proved to be a combination of Web of Knowledge, Science Direct and Tandfononline. The use of these three, combined with the search terms 'teacher educator(s)', 'teacher trainer(s)', and 'mentor teacher(s)', led to the results represented in Table 3.1.

Table 3.1. Overview of search results for the terms teacher educator, teacher trainer, and mentor teacher using three search engines, for the period 1991-2011

Search engine	Search terms	Number of (additional) hits
Web of Knowledge (in title and topic)	Teacher educator(s) Teacher trainer(s) Mentor teacher(s) Search terms in title and subject[1]	979 hits
Science Direct (in title, keyword and abstract)	Teacher educator(s) Teacher trainer(s) Mentor teacher(s) Search terms in title, keyword and subject	+ 139 additional hits
Tandfonline (in title, keyword and abstract)	Teacher educator(s) Teacher trainer(s) Mentor teacher(s) Search terms in title, keyword and subject	+ 142 additional hits
Total		1260

Selection phase

Starting with the 1260 articles we had found, the second phase consisted of the further selection from this body of literature. Based on the journal titles and the abstracts, we narrowed down our search using two criteria:
1. the article should have been published in an ISI or ICO-journal;
2. the teacher educator, teacher trainer or mentor teacher should be the focus of the study reported on in the article.

The choice of this second criterion was important, because there are many studies on teacher education - for example on the learning of student teachers - that contain recommendations for teacher educators, but they basically do not focus on teacher educators. Such studies were not included in our selection.

Two researchers independently used these two criteria in judging the first 300 out of the 1260 abstracts. This led to a Cohen's Kappa of .80. Because of this high inter-rater reliability, the other abstracts were judged by only one of the researchers. In case of doubt, however, a second researcher was consulted. This selection procedure resulted in a list of 405 articles.

4. Classify the Documents

In steps 4 and 5, according to Randolph, the selected studies should be classified and summarised into a database. Randolph emphasises that this is an iterative process. We carried out these two steps as follows.

The 405 studies were read in their entirety by one of the three researchers with the aim of selecting those articles that offered information about the professional roles, the professional behaviour and the development of the professional roles or professional behaviour of teacher educators. A list was made of the relevant

articles, mentioning the core concept(s) studied in these articles, and also including some additional information about the studies. We removed some studies dating back to the beginning of the nineties, in which themes related to the core concepts were mentioned, but which were obviously outdated (for example a study asking for the attention of teacher educators to the gap between theory and practice, but not offering empirical underpinning or options for behaviour). We also discovered that the criterion that an article should have been published in an ISI- or ICO-journal was not in itself a watertight quality guarantee. Hence, we also removed a few articles because of the lack of quality (for example in cases where a description of the methods used was missing or was very superficial). We found that approximately 130 articles were useful in answering our leading questions. These articles offered information about the professional role, the accompanying professional behaviour and/or the professional development of teacher educators.

5. Create Summary Data Bases

Using the lists of articles created in step 4, we summarised our findings and created a database in which for each of the selected studies we described:
1. The country or countries in which the study had been carried out;
2. The central research question(s) or the focus of the study;
3. The method(s) used;
4. The data sources;
5. The number of teacher educators that had been objects of study;
6. The number of others, for example students that had been objects of study;
7. The roles and/or accompanying behaviour on which the study provided information;
8. The professional development of roles and/or accompanying behaviour on which the study provided information.

Table 3.2 shows the format of the database.

Table 3.2. Format of the database for this study

Article	Coun-try	Research question/ Focus	Methods	Data Sources	N Teacher educators	N Others	Roles and Behaviour	Develop-ment Roles and Behaviour

6. Identify Constructs and Hypothesised Causal Linkages

Randolph remarks that the goal of the sixth step "unlike meta-analysis, is to increase the understanding of the phenomena being investigated" (p. 10). We followed a grounded theory approach (Strauss, 1987*; Strauss & Corbin, 1998*) to analyse the data, and used an inductive analysis (Patton, 2002*). We chose this approach, because no ready-made frame of reference was available for answering our research questions.

Our procedure was as follows. First, using the database, we identified what professional roles of teacher educators were being distinguished within the selected literature (Research Question 1). This was sometimes quite complicated. In some studies, roles were named and described explicitly, but other studies only presented more abstract descriptions. Besides, similar names for a role appeared not always to lead to similar descriptions, and similar descriptions not always led to the same name for a role. After discussing these issues among the three researchers, one of them carried out the overall analysis, which was then checked by the other two. Based on this procedure, we distinguished six roles.

During the process, it became clear that, after analysing about 50 studies, no more roles were to be found, so conceptual saturation (Van Veen, Zwart, Meirink, & Verloop, 2010*) had been reached.

Next, we analysed which critical features, according to the selected literature, characterise a professional role and the accompanying professional behaviour (Research Question 2). The number of studies we found for each of the six roles, and the accompanying behaviour varied in quantity and quality. As a result, some aspects were mentioned only a few times in small, qualitative studies. Therefore, we put together related aspects. In this way, we achieved a strengthened empirical basis. Isolated aspects from small qualitative studies not found in other studies, were thus not included in this review.

Hence, it is important to note that we only formulated a critical feature for a role, and/or the accompanying behaviour, if we found several studies that mentioned (aspects of) such a critical feature. Especially because many of the studies we found were small-scale and qualitative (case studies, interview studies, self-studies), we have carefully guarded the empirical underpinning of the critical features we identified.

For some roles and behaviours, the number of selected studies was small and/or the results were not very consistent. As a result of our careful procedure, for two out of the six roles we only found one critical feature.

We followed the same procedure for the analysis of the critical features of the professional development of each of the roles and the accompanying behaviour (Research Question 3). For three of the six roles and the accompanying behaviour we found hardly any studies that answered research question 3. Hence for these three roles we could not formulate critical features for the professional development.

To enhance internal validity, for each role two researchers independently analysed at least part of the studies on that role and the accompanying professional behaviour. We did the same for the studies on the development of the roles and behaviour. Especially with regard to studies focusing on several roles, this proved to be important in order to arrive at a consistent description across roles, behaviour and development. In the few cases the researchers arrived at different outcomes, the differences were discussed, and the relevant studies were analysed again, until agreement was achieved.

7. Search for Contrary Findings and Alternative Interpretations

During the year we, the three researchers, worked on this review study, we met every three weeks. In the meetings, we critically discussed the steps described above. We also looked for alternative interpretations, especially during the time step 6 was being carried out. After step 6 had been carried out, we wrote a draft text that included a description of the methods used and a first version of the results we had found. This text was sent to our 'critical friends' (see step 8). Their comments led to a sharpening of our interpretations.

8. Use Colleagues or Informants to Corroborate Findings

A draft version of the Methods and Results chapters of this study, together with an overview of the selected articles, was reviewed by seven critical friends, experts in the field of teacher education, from different countries[2]. We asked them to comment on the trustworthiness and transparency of the methods, on the completeness of our literature selection, and on other aspects of their own choosing. They all wrote underpinned, mostly positive, reactions. Below, we summarise their critical remarks and comments. We also describe what we did with their comments.

Goal and concepts
In most comments, questions were asked about the exact aim of the study and about how we had defined its core concepts. Although we had explained in an accompanying letter to them that we would describe this in the first chapters of the study, they clearly missed this information in the draft text. Their questions, however, proved to be helpful in precisely formulating the core concepts and in writing the first two chapters.

Context
Our critical friends emphasised that we should take into account that the contexts of studies differ from country to country and sometimes even within a country. This has consequences for the meaning of the wording used. Sometimes, they also offered suggestions coloured by specific ideas about teacher education or research. These comments enhanced our already present awareness that, where relevant, we should make explicit how visions and meanings were context-related.

Method
With regard to the method, our critical friends pointed to three aspects, mainly related to steps 3 and 4, which required further clarification.
   Firstly, they mentioned that the choice of search terms also determined the results that would be found. As explained above (step 3), our choice was partly pragmatic. Search terms related to the term 'teacher educator' proved to be the most productive, while, for example, searches with the combination of the terms 'teacher educator' and 'role' proved not to be efficient.

More specifically, some critical friends pointed to the consequences of the choice of the search term 'mentor teachers' to the results. This was a choice we had also struggled with. In our view, because of the increasing importance of school-based teacher education, studies on school-based teacher educators should be included in our review. So, in the orientation phase, we tried out which search term would work best. The term 'school-based teacher educator' proved to be too narrow. In contrast, the term 'mentor teacher' was rather broad. Moreover, the tasks and responsibilities of a mentor teacher vary per country and context. For example, in some countries the mentor teacher is the person responsible for coaching students inside the university, while in other countries the mentor teacher is the school teacher who coaches the student teacher in the school practice component of the teacher education programme. Hence, using the search term 'mentor teacher' would cause some vagueness. Nevertheless, we decided to use it and to read the selected studies carefully to decide whether or not the research described was about school-based teacher educators. We did so by keeping in mind the research questions and central concepts of our study while selecting relevant literature.

The second methodological aspect mentioned by our critical friends also concerned step 3. The choice of only including in our selection articles focussing on teacher educators meant that studies were missing that did not focus on teacher educators but, for example, on professional development schools or on subject matter, curriculum development or assessment in teacher education. They rightly noted that those studies could also offer useful insights into the professional roles, behaviour and development of teacher educators. In the context of this review study, however, we had to make choices and it would be impossible to include all studies on teacher education in our selection. The number of studies would have been too large if we would have taken into account all publications in which teacher educators were discussed. All the same, we recognised that our choices had influenced the results we had found.

The third methodological aspect eliciting questions from our critical friends concerned the way we had taken into account in the process of selecting articles criteria with regard to quality, empirical strength, and validity. The question emerged if it would be possible to code the levels of quality, empirical strength and validity.

As described above, our most important quality criterion was that, in order to be selected, an article had to have been published in an ISI- or ICO-journal. We have already mentioned that this was not a watertight criterion. While reading the complete articles (step 4), we discovered a few articles that in our view could not stand the test of criticism. As a consequence, we did not include these few articles in our selection. In the Appendix to this book, we describe for each of the selected articles the research methods of the study reported on in the article. It was almost impossible to judge the quality of these very diverse and mainly qualitative studies. Because of the large variety in the kind of studies – from quasi-experiments to self-studies – judging the validity in an unambiguous way appeared tricky. Therefore, we decided not to do this.

In our description of step 6, we explained our choice of strengthening the (internal) validity by only formulating a critical feature for a role and/or the accompanying behaviour, and the development of a role and/or the accompanying behaviour, if we found more studies mentioning (aspects of) such a critical feature. In this way, we carefully guarded the empirical support of the critical features we identified. So, we only drew conclusions on critical features if several studies pointed in the same direction.

Completeness
The additional literature suggestions the critical friends offered can be divided into three categories:
1. Suggestions for studies outside the boundaries set by the above described choices we had made. These studies were not included.
2. Suggestions for some articles that were on our first list of 1260 studies, but were not included in the selection. We reread these articles and added a few to our final selection.
3. Suggestions for books and other additional studies. We carefully checked these suggestions and in this review study used as additional references those that were relevant.

Other remarks
Finally, our critical friends offered some editorial comments. For example: we had made a critical comment about the competencies of teacher educators with regard to self-regulated learning. Two critical friends remarked that this general comment was not in line with their experiences. These kind of comments helped us to keep a close watch on the literature as well as on the conclusions we drew based on this literature. The literature, however, was leading in drawing our conclusions, and not the possibly somewhat context-bounded views of individual critical friends.

3.2. THE FINAL DATABASE

The steps described in the previous section led to a final list of 137 articles, which are included in our database (see the Appendix). The database shows that most of the research on the professional roles, the professional behaviour, and the professional development of teacher educators is concentrated in North-America, a few European countries (UK, The Netherlands), Israel and Australia (see Table 3.3).

From the database, we can also conclude that the research in this area shows a strong growth over the previous decade. Out of the selected 137 studies, 130 (95%) originate in 2002 or later years. The database also shows that a major part of the articles (61%) were published in a relatively small number of journals, of which *Teaching and Teacher Education* is represented the most (see Table 3.4).

Table 3.3. Overview of the six countries where most of the selected studies were carried out. Not counted are studies carried out in more than one country

Country	Number of studies
United States	46
The Netherlands	23
UK	14
Israel	9
Canada	9
Australia	8
TOTAL	109 (80%)

Table 3.4. Overview of the five journals in which more than 60% of the selected articles were published

Journal	Number of studies
Teaching and Teacher Education	39
European Journal of Teacher Education	12
Professional Development in Education	11
Journal of Teacher Education	11
Studying Teacher Education	11
TOTAL	84 (61%)

Table 3.5. Overview of the research methods in the selected studies

Method	Number of studies
Case study	36
Self-study	28
Essay	17
Interview study	15
Survey	7
Correlation study	3
Quasi-experiment	3
Descriptive study	3
Document analysis	2
Literature study	2
Comparative study	2
Action research	1
Observation study	1
Combination of methods	17
TOTAL	137 (100%)

In the studies included in our database, various research methods were used. In Table 3.5 an overview of these methods is presented. Mainly used were qualitative

methods, and many studies were small-scale. The method was often a case study, a self-study or an interview study (together 58% of the studies). We also found a relatively high number of essays (12%). The quantitative studies we found were generally limited in scope. This was why a statistical meta-analysis of the literature was not possible.

NOTES

[1]   In Web of Knowledge searching on keywords is not possible.

[2]   We would like to thank our critical friends Ronnie Davey (New Zealand), Clare Kosnik, Jackie Delong, Lynn Thomas (Canada), Melanie Shoffner (United States of America), Perry den Brok and Harm Tillema (The Netherlands) for their contributions to this review study.

4. RESULTS: CHARACTERISTICS OF THE PROFESSION

In this chapter, we present the results of our review study. In Section 4.1, we describe the six professional roles of teacher educators we have found. In the following sections (Sections 4.2 to 4.7), we describe the critical features for each role, and for the accompanying behaviour. Next, we report on the critical features for the development of that professional role and the accompanying behaviour.

4.1. SIX ROLES

As mentioned in Chapter 2, Ducharme (1993*, p. 4) characterises the identity of teacher educators as 'Janus-like'. He even uses the word 'schizophrenic'. Three years later Koster, Korthagen, Wubbels, and Hoornweg (1996*) attempted to describe what teacher educators do. They mention facilitating the learning process of students and teachers, and stimulating them to reflect. Further on, they mention that teacher educators also develop curricula, are responsible for the induction into the profession of teacher, carry out research, and keep in contact with relevant persons and organisations in and outside their institution. In the following years, the discussion about what it means to be a teacher educator continued. Cochran-Smith (2003), for example, points to the shift of responsibilities for the education of teachers from institution-based to school-based teacher educators. Several authors (Murray & Male, 2005; Martinez, 2008; Mayer, Mitchell, Santaro, & White, 2011) remarked that, worldwide, most teacher educators have been a teacher before becoming a teacher educator, although there are also teacher educators entering the profession after a Ph.D. study (Kosnik, Cleovoulou, Fletcher, Harris, McGlynn-Stewart, & Beck, 2011). The numeric ratio between these two groups differs per country (Martinez, 2008; Van Velzen, Swennen, & Jaffe, 2010; Menter, 2011), but overall one can say that most beginning teacher educators have already had a career that has influenced their professional identity.

4.1.1. Teacher of Teachers and Researcher

The profession of teacher educator essentially differs from the profession of teacher (Murray & Male, 2005). A teacher educator is not a primary or secondary school teacher, but a higher education teacher, which – among others – requires a solid academic knowledge base. In higher education, however, teacher educators are also seen as a specific group given the nature of their work. Teachers who become teacher educators, sometimes have the idea that the difference between both professions is small, but they soon find themselves confronted with many new situations.

Bullock and Ritter (2011), for example, conclude in their collaborative self-study that, in their transition from being a teacher to becoming a teacher educator, aspects important to their professional identity were the confrontations with

implicit and explicit expectations in their institutions for teacher education and their own reflections on their competencies as teachers of teachers and as researchers.

Murray and Male (2005) interviewed 28 teachers who had become teacher educators. The analysis of these interviews resulted in the following key aspects of the process of becoming a teacher educator: 1. Developing a personal pedagogy of teacher education; 2. Learning to work in a higher education context; 3. Starting to conduct research and developing an inquiry-based attitude.

Lunenberg and Hamilton (2008*) carried out a collaborative self-study of their own professional development as teacher educators. They conclude that the vagueness of the profession together with the fact that a formal educational programme is missing, means that the influence of one's personal history on the way the profession is practised, seems to be greater than in other professions. They emphasise that the development of a personal pedagogy of teacher education, especially with regard to modelling (being a role model) and stimulating students' reflection, was a key element in their professional development. A second important shift they mention is changing from being a knowledge consumer to also becoming a knowledge producer (cf. Murray & Male, 2005).

Swennen et al. (2010) analysed 25 studies on the transition from teacher to teacher educator. Based on their analysis, they distinguish four sub-identities of teacher educators: 1. The (previous) teacher; 2. The teacher in higher education; 3. The teacher of teachers; 4. The researcher. They also stress that the transition from teacher to teacher of teachers and to researcher is a key in the development towards becoming a teacher educator. They also found that modelling, theoretically underpinning this modelling, and studying one's own practice are stimulating aspects in the professional development of beginning teacher educators.

Taking into account the studies mentioned above, it is not surprising that the roles of teacher of teachers and researcher emerged prominently in our analysis of the 137 selected studies. In Sections 4.2 and 4.3, we discuss the results we have found for these two roles. Based on our analysis, four other roles of teacher educators can also be identified, which we will introduce below.

4.1.2. Coach

For the role of coach, in the literature also named guide, mentor, mentor teacher, cooperating teacher, facilitator or school-based teacher educator, we did not find a generally accepted definition, but widely shared is the basic idea that stimulating the learning process of the student teacher is the focal point of this role. The studies we have found for this role are mostly related to stimulating the learning process of students in the school practice part of a teacher education programme. Section 4.4 is devoted to this role.

4.1.3. Curriculum Developer

Developing a curriculum for teacher education is, according to our initial literature search, object of relatively many studies. An analysis of these studies shows that only in a few of them the teacher educator as curriculum developer is the object of (self-) study. The studies we did find, however, clearly show that the role of curriculum developer is a specific professional role teacher educators can fulfil.

Hence, although we did not find many studies focused on teacher educators, those we did find gave some indications of the way teacher educators can shape this role. In Section 4.5 we further discuss this role.

4.1.4. Gatekeeper

A fifth role that came up from our analysis concerns the responsibility of teacher educators in admitting student teachers to the profession of teacher. Often the studies on this role are focused on the tension between, on the one hand, constructivist views on active or self-regulated learning and, on the other, requirements established in standards and profiles for the profession of teacher. We will return to this role in Section 4.6.

4.1.5. Broker

In the past, the role of mentors or cooperating teachers in the school was often limited to coaching a single student and keeping in touch with a single institution-based teacher educator. This situation is changing rapidly. Schools and mentors increasingly become co-responsible for the teacher education programme. As a consequence, there is a need for teacher educators in both schools and institutions to be able to shape this cooperation. This is the role of the broker or facilitator. According to the studies we have found, stimulating the cooperation between the partners often happens in a community of learners. We further discuss this role in Section 4.7.

4.1.6. Number of Studies for each of the Six Roles

For each of the six roles, Table 4.1 shows the number of studies we have found contributing to answering research questions 2 (second column) and 3 (third column).

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Table 4.1. Studies describing critical features of a professional role and/or behaviour (a), and studies describing critical features of the development of a role and/or behaviour (b)

Role	*Number of studies on role and behaviour (a)*	*Number of studies on development of role and behaviour (b)*	*Total number of studies on a or b*
Teacher of teachers	33	41	67
Researcher	13	18	26
Coach	18	12	25
Curriculum developer	14	0	14
Gatekeeper	8	0	8
Broker	10	1	11

4.2. TEACHER OF TEACHERS

The role of teacher of teachers evolved as the most prominent in the literature we used. We found 67 relevant publications. In these publications, the distinction between the profession of teachers and that of teacher educators is a prominent theme.

Already in Chapter 4 we mentioned that most teacher educators had been teachers in primary or secondary education before being appointed as a teacher educator. This is not surprising, as experience as a teacher is an important criterion in the recruitment of teacher educators (Twombly, Wolf-Wendel, Williams, & Green, 2006). Teachers take with them their teaching experience, their ability to communicate and to engage students, their sensitivity to group-dynamics, their ability to create a safe and stimulating learning environment in the classroom, their ability to motivate students and to support reflection. They also have their flexibility and organisational skills (Van Velzen et al., 2010). Additionally, they possess specific content knowledge of subject disciplines (Greensfeld & Elkad-Lehman, 2007). But, even with all of these qualities, they are not yet teachers of teachers.

4.2.1. Role and Behaviour

We have found seven crucial factors for the role of teacher of teachers and the quality of the behaviour within this role. These factors can be put into four categories:
I.   Second order teaching
II. Promotion of self-regulated learning
III. Explicit modelling
IV. Dealing with tensions and dilemmas.
Most of these factors require a specific pedagogy of teacher education rooted in constructivism (Korthagen & Kessels, 1999*; Korthagen, Loughran, & Russell,

2006). From the perspective of constructivism, themes such as the promotion of active and self-regulated learning of students, modelling and making pedagogical behaviour explicit including dealing with tensions, are important aspects of the role of teacher of teachers (Loughran & Berry, 2005; Berry, 2009).

I. Second order teaching
In their interview-based study of the professionalism of teacher educators in England, Murray and Male (2005) distinguish between first and second order teaching. First order teaching refers to the teacher who teaches pupils; second order teaching to the teacher educator who teaches (prospective) teachers. Also Berry (2009), Harrison and McKeon (2008), and Swennen, Lunenberg, and Korthagen (2008) indicate that there are two such levels. Important factors determining the quality of second order teaching are:

1. The ability to work with adult learners in higher education
The transition from teacher to teacher educator implies a transition from primary or secondary education towards higher education and from teaching children to teaching adults (McKeon & Harrison, 2010). The study by Murray and Male (2005), based on 28 beginning teacher educators, confirms earlier findings from Kremer-Hayon and Zuzovsky (1995*) that teachers who become teacher educators have difficulties to translate pedagogical skills acquired in primary or secondary education to working with adults. They search for suitable ways of transferring knowledge and give shape to discussions (Mueller, 2006); it means that they should acquire knowledge about how (young) adults learn and discover how they can support the learning of these adults (Murray & Male, 2005). In their survey study, Swennen et al. (2010) confirm that the transition towards higher education is problematic for beginning teacher educators and that most of them express a lack of guidance.

2. The ability to articulate tacit knowledge and underlying theory
Smith (2005) asked 40 beginning teachers and 18 teacher educators from Israel what it means to be a good teacher educator. About two-thirds of the beginning teachers indicated they expected from good teacher educators the ability to make explicit the practice and underlying approach of their pedagogy of teacher education. It is remarkable that not a single teacher educator mentioned this item. In their study of values in teacher education, Willemse, Lunenberg, and Korthagen (2008) too, stress the importance of articulating tacit knowledge in the pedagogical domain: teacher educators should develop a "moral language" to make their tacit knowledge explicit. Articulating tacit knowledge is also emphasised by Mueller (2006) as an important aspect of her role as a teacher of teachers.

II. Promotion of active learning
Another important topic that surfaced after the turn of the millennium, was the promotion of student-directed, or self-regulated, and active learning, both in schools and in teacher education (e.g. Tillema & Kremer-Hayon, 2002). This

seems a direct consequence of the increasing international attention to constructivist views of learning. Within this category we found one important factor:

3. Having a vision and being able to promote active (self-regulated) learning
The study by Bronkhorst, Meijer, Koster, and Vermunt (2011) has as its main research question how teacher educators can stimulate student-directed learning, and encourage that this leads to meaning-oriented learning and the development of deliberate practice among their students. Through interviews with twelve Dutch expert teacher educators, they arrived at twelve pedagogical principles, such as challenge student teachers' assumptions, include diverging perspectives, model meaning-oriented learning and explicate teacher education pedagogy.

However, we may question to what extent teacher educators share these principles and act accordingly in their practices. Donche and Van Petegem (2011) studied the learning and teaching strategies of 119 Flemish teacher educators. Especially their finding that these teacher educators show a preference for external steering of the learning process of prospective teachers indicates that the importance of the promotion of active and self-regulated learning is not yet commonly shared, or at least not translated into practice. Goubeaud and Yan (2004) conducted a secondary analysis on data of 524 teacher educators from the National study of Postsecondary Faculty (NSOPF-93), collected by the US Department of Education, to examine the instructional practices of teacher education faculty. A similar tendency emerges in this study: though teacher educators differ from other teaching staff in the university in their instructional methods, still more than half of them used lectures as their main instructional method. A little bit more than a quarter of them used discussion and only six percent used group work as their main instructional method. Also, from interviews with Israeli and Dutch teacher educators (Kremer-Hayon & Tillema, 1999) comes an image that the promotion of active and self-regulated learning is not common practice among teacher educators. In this study, the teacher educators had a positive attitude towards self-regulated learning, but said that they were hindered by conditions when it comes to implementation. The authors warn us that the introduction of such views in teacher education is a complex endeavour, and conclude on the basis of their study:

> Teacher educators stress the need to motivate and stimulate students whereas students indicate they need support and fear becoming isolated learners in self-regulated learning, not having enough opportunity for cooperative learning. These concerns may be justified in that self-regulated learning requires skills in self-management and goal setting which need to be developed in students and implemented prior to and alongside programmes in teacher education. (p. 519)

The studied teacher educators reported to be bound by curriculum restrictions and time constraints. When asked about activities that might promote self-regulated learning, nobody refers to the affective dimension or metacognition. The activities

these teacher educators mention are less demanding for students in terms of cognition. The subsequent small-scale studies by Tillema and Kremer-Hayon (2002, 2005) and Cabaroglu and Tillema (2011) show that teacher educators in the Netherlands, Israel and Turkey experience two interconnected dilemmas: (a) the tension between theory and practice and (b) the tension between teacher-directed and student-directed learning. Interviews with them show that cultural and contextual differences between these groups of teacher educators have consequences for the extent and manner of implementation of self-directed learning.

Case-studies about the behaviour of teacher educators in their role of teachers of teachers confirm that further improvements are possible regarding the promotion of active learning (e.g. Dozier & Rutten, 2005). Andrew (2007) used the results of the already mentioned study by Goubeaud and Yan as a starting-point for a multiple case-study and interviewed and observed mathematics teacher educators. The interviews showed that teacher educators desired to implement teaching methods which can, according to Andrew, be labelled as constructivist. However, during observations it became apparent that their practice was only partially congruent with their conceptions. Lunenberg and Korthagen (2003, 2005) drew similar conclusions based on their multiple case-study of the promotion of active learning by Dutch teacher educators, who were interviewed and observed as well. Moreover, the authors observed that teacher educators did not make their exemplary behaviour explicit, nor did they explain it.

Finally, in her case-study, Holt-Reynolds (2000) points to the risk that teacher educators should be sensitive to, namely that prospective teachers conceive constructivism as a pedagogical instead of a learning theory, with the result that the means becomes an end in itself and that they focus on generating discussions instead of enhancing new learning. Holt-Reynolds concludes:

> We will need to consciously create opportunities to hear in the midst of prospective teachers' noisy enthusiasm for constructivist practices their silence in response to critical questions about what students should learn through the activities and how teachers work to ensure that learning. (p. 30)

III. Modelling and making modelling explicit
4. Two levels of modelling
As stated above, the retrieved studies describe modelling as a characteristic feature of the pedagogy of teacher education. One of the first publications on this theme is the case-study by Wood and Geddis (1999). Based on their collaborative self-study, Loughran and Berry (2005) describe modelling at two levels. The first level is concerned with exemplary behaviour of the teacher educator: in teacher education classes, the teacher educator practises the behaviour expected of student teachers in their teaching ('teach as you preach'; 'walk your talk'). At the second level, the teacher educator makes the pedagogical grounds of his or her choices explicit and explains the reasoning, feelings, thoughts and actions accompanying these choices. Loughran and Berry developed a rich variety of strategies to promote this meta-learning, such as the teacher educator thinking aloud, journaling,

discussions during and after class with groups and individual student teachers (p. 194). In this way, the teacher educator makes his or her approach explicit and accounts for it.

5. Modelling in practice
According to the retrieved studies, in-practice modelling by teacher educators is a difficult issue. Modelling requires that the teacher educator calls his own role into question and takes a vulnerable stand. An observation study by Lunenberg, Korthagen, and Swennen (2007) on the practice of modelling shows that, only incidentally, six out of the ten observed teacher educators made their exemplary behaviour explicit. Four of them also made a connection with the practice of the students. Never was their explanation combined with theoretical references. In a subsequent study of three teacher educators, a workshop was given to promote modelling (Swennen et al., 2008). This study shows that these teacher educators lacked a professional language and theoretical knowledge to be able to make their exemplary behaviour explicit and legitimise it effectively. Also from the study by Willemse (2006*; Willemse et al., 2008) on the knowledge and practice of teachers of teachers regarding moral education, it becomes clear that teacher educators struggle with finding a language to make explicit how they model values in practice.

6. Attention for the affective side of modelling
The results of the study by Willemse et al. (2008) can make us aware of the affective side of modelling. Frequently, students name attitude, empathy, understanding and availability as important aspects of the exemplary role of teacher educators. Kim and Schallert (2011) illustrate the process by which a teacher educator builds a caring relationship with three students, making use of online communication. Their findings show the significance of the role of trust as a mediating factor in the development of caring relationships. But they also point out that teacher educators who are committed to caring for their students, reflect on their own strengths and limitations, too. A study by Vagle (2011) yielded similar results. He joins other calls for examination of the self in teacher education practices – in particular calls for compassionate, mindful, caring, thoughtful, and tactful pedagogies. This implies, according to him, that the teacher educator carefully examines his or her own practices, and reflects how those practices are driven by particular assumptions and strongly held beliefs. Also, he stresses that these caring and tactful pedagogies need to be aimed at what is at stake in a broader societal sense, and how these pedagogies reside in relationships, discourses, systems and practices in teacher education.

Several North-American studies dealing with diversity stress the affective dimension of modelling, too. In her self-study, Cochran-Smith (2000) reflects on her experiences as a white teacher educator with a course focussing on the examination of race, class, and culture as part of a teacher education curriculum. Two fields of tension emerge from this study. The first is the circumstance that teacher education students are predominantly white, while their next-door neighbours are schools and communities populated by African, Latino and Asian

immigrants. The second is the tension between the cognitive approach towards diversity in this course, and the often strong personal feelings and emotions which come along with this subject.

The self-study of Bair, Bair, Mader, Hipp, and Hakim (2012) also refers to these two areas of tension. They add the importance of reflection of teacher educators on their own feelings and interpretations, as a condition for supporting the professional development of their students in this area. This reflection is influenced by personal characteristics (e.g. the awareness of being culturally different, and the choice of masking or disclosing this) and contextual characteristics, such as the curriculum and the feedback of students and the institution. They also stress the importance of talking with colleagues, in order to pay more attention to the affective side of modelling. This is not always easy:

> As much as we have benefited personally from this self-study, the process also brought many challenges. Self-study required us to be unflinchingly honest. Self-scrutiny, especially of our emotions, was an exhausting process. There was an element of risk involved in laying bare our feelings of vulnerability. While it was hard enough to confront emotions privately, sharing them with colleagues was harder still. Collaborative relationships do not just happen; they need to be nurtured and they take time to develop. This is even truer in cross-cultural collaboration, with its potential for multiple interpretations of the same reality. (p. 108)

The self-studies by Galman, Pica-Smith, and Rosenberger (2010) and Adler (2011) confirm these conclusions.

IV. Dealing with tensions and dilemmas
7. Tensions
We already referred to tensions teacher educators are confronted with in their development of a pedagogy of teacher education. Berry (2007*) conducted systematic research on this topic and distinguishes six main tensions:
1. Telling and growth (how to find a balance between the desire to tell prospective teachers about teaching and providing opportunities for prospective teachers to learn about teaching themselves);
2. Confidence and uncertainty (stick to established approaches to teaching or move away to explore new, more uncertain approaches to teacher education);
3. Action and intent (discrepancies between goals teacher educators set out to achieve in their teaching and the ways in which these goals can be undermined by the actions chosen to attain them);
4. Safety and challenge (creating a safe environment for students and pushing students beyond the climate of safety, necessary for learning to take place);
5. Valuing and reconstructing experience (helping prospective teachers to recognise the value of personal experience in learning to teach, and helping them to see that there is more to teaching than simply acquiring experience);
6. Planning and being responsive (implementing a predetermined curriculum, and responding to learning opportunities arising within the context of practice).

Berry (2009) stresses that educating (prospective) teachers is never predictable and can never be fully controlled, and therefore requires substantial knowledge, experience, and understanding to do the right thing at the right moment. Teaching teachers requires specific knowledge in specific situations (Koster et al., 2005). By again and again finding the right balance in these tensions, the teacher educator gives shape to the role of teacher of teachers. This is not easy, as is illustrated by the case-study by Gort and Glenn (2010) about an English language teacher educator. According to Clandinin, Downey, and Huber (2009), teacher educators ought to be thoughtful of the tensions arising between what happens in the classroom and the shifting educational landscapes outside their classrooms teachers have to work in, and about working to create spaces in which they can support teachers to come to know what works ´for now´ in these shifting landscapes.

   Another tension experienced by teacher educators is about the relation between theory and practice (Mueller, 2006; Korthagen & Kessel, 1999*). This tension is not very explicit in most of the retrieved literature, but seems to be an implicit and underlying theme for the factors and approaches that help in fulfilling the role of teachers of teachers.

Critical features
In sum, we may distinguish the following critical features in the professional role of teacher of teachers and the accompanying professional behaviour in this role:

1. *Second order teaching*. The teacher of teachers teaches (prospective) teachers instead of pupils or students. This means that the teacher educator should get along with adults in the context of higher education, and should have the knowledge about adult learning and about how to promote adult learning. It requires the ability to articulate experiential knowledge and to bring into practice theoretical knowledge.

2. *Promotion of active and self-regulated learning*. The teacher of teachers should be able to promote active, self-regulated and meaningful learning of students. Research shows that teacher educators have a positive attitude towards this aspect, but often fail to put it into practice.

3. *Modelling and making modelling explicit*. Teacher educators are an example to teachers, but on another level. This implies that they make explicit the pedagogical foundations underlying their behaviour. Additionally, in order to support the affective development of teachers, teacher educators should be able to make their own feelings explicit and reflect on them. Also in this respect, our retrieved studies show that teacher educators hardly put this into practice.

4. *Dealing with tensions and dilemmas*. Dealing with tensions in specific situations requires from teacher educators thorough theoretical knowledge, experience and reflective judgements. By finding the right balance in these tensions at the right moment, teacher educators make sense of their role of teacher of teachers.

4.2.2. Professional Development

As we have indicated already, in their first years teacher educators rely heavily on the expertise acquired as a teacher, but discover that this expertise is not sufficient for the role of teacher of teachers (Van Velzen et al., 2010; Greensfeld & Elkad Lehman, 2007; Noel, 2006). The self-study by Ritter (2007) points out that teachers who become teacher educators are seldom aware of the qualities required for teacher educators. Looking back, Ritter concludes: "I will never again take for granted the skills, expertise and knowledge required to be a teacher educator" (p. 107). For teacher educators entering the profession after a Ph.D. study, the situation is sometimes even harder. They are often wrestling with their professional identity (Bullock & Ritter, 2011).

Many of the retrieved studies deal with the first years of being a teacher educator, when they have to settle down in their new environment (Dawson & Bondy, 2003; Dinkelman, Margolis & Sikkenga, 2006; Gallagher, Griffin, Ciuffetelli Parker, Kitchen, & Figg, 2011; Harrison & McKeon, 2008; McKeon & Harrison, 2010; Murray & Male, 2005; Shagrir, 2010; Van Velzen, Van der Klink, Swennen, & Yaffe, 2010). In some cases, a study evolves from enduring disappointing experiences of teacher educators with the results of their students. Choi (2011), for instance, decided on this basis to figure out how a teacher educator can improve a course on action-research.

Below we describe eight factors, within four categories, accounting for the professional development of teacher educators in their role of teacher of teachers:
I.   Context
II. Building on personal qualities of the teacher educator
III. Support
IV. Research.

I. Context
1. *Availability of a frame of reference*
Several authors (Byrd, Hlas, Watzke, & Valencia, 2011; Greensfeld & Elkad-Lehman, 2007; Koster & Dengerink, 2008; Murray, 2008b; Shagrir, 2010; Snoek et al., 2011) stress the positive effects of a national frame of reference, for instance a professional standard, for the professional development of teacher educators. Shagrir (2010) adds to this the importance of the availability of a knowledge base. In the retrieved studies, the American standard of the Association of Teacher Educators and the Dutch professional standard of the Association of Teacher Educators in the Netherlands were mentioned as examples. According to Murray (2008b) and Koster and Dengerink (2008), professional standards should not be formulated too strictly, in order to prevent them from becoming a straitjacket. Preferably they serve as a frame of reference in promoting understanding of the complex work of the teacher educator and in supporting professional development. In a study by Koster et al. (2008), teacher educators reported positive changes in knowledge and behaviour, as a result of their participation in a standards-based assessment procedure and an accompanying trajectory of professional

development. About one-third of these teacher educators also perceived positive effects in their environment. Additionally, the procedure proved to contribute to self-esteem, moral development and enthusiasm for the profession. After having completed the procedure, these teacher educators were more able to regulate their professional development.

II. Building on personal qualities of the teacher educator
2. Personal qualities
Personal qualities such as openness to new ideas, eagerness to learn, and enjoyment of sharing are, according to Silova, Moyer, Webster, and McAllister (2010), important factors contributing to the professional development of teacher educators. In their study, Drent and Meelissen (2008) stress the personal factor of interest in technological developments and a student-oriented focus:

> Personal entrepreneurship turns out to be the anchor point for stimulating the innovative use of ICT in education. The teacher educators characterised as 'personal entrepreneurs' in this study, created possibilities to experiment with ICT applications, researched the use of ICT in their education, reflected on their outcomes, and exchanged ideas with colleagues. (p. 197)

Above, we already referred to Choi (2011), who considers his embarrassment with disappointing results of students as an important incentive for taking up his valuable self-study. In line with this, Dinkelman et al. (2006) stress that especially less positive reactions of students may be an important catalyst for professional development. Additionally, Byrd et al. (2011), in their study of teacher educators in the field of teaching second languages, stress the importance of a personal interest in the subject-discipline, in students, and personal experiences with and an interest in other cultures as important motivators.

3. (Gaps in) Prior knowledge and experience
Van Velzen et al. (2010) reported that the main challenges of beginning teacher educators were: preparation of lessons, assessment, the use of adequate teaching styles and coping with students' motivation. The beginning teacher educators struggled with finding a balance between providing structure and inviting students to learn independently or in a group. These teacher educators sought support on these themes.

To overcome their primary 'classroom concerns', perhaps the most important need of beginning teacher educators is, according to Dinkelman et al. (2006), the quality, nature and organisation of time. Following Cochran-Smith (2003), several authors (Greensfield & Elkad-Lehman, 2007; Silova et al., 2010) stress the importance of the promotion of "inquiry as a stance". This means that teacher educators learn to pose questions and make use of empirical data, to improve and deepen their teaching practice. Chauvot (2009), Byrd et al. (2011) and Greensfeld and Elkad-Lehman (2007) refer to experiences and interactions with students as important sources for informing teacher educators about their gaps of knowledge and experience, and for supporting their development.

III. Support

The learning of teacher educators is usually informal workplace learning (Van Velzen et al., 2010). This means that their learning is seldom organised in a systematic manner and that the quality of the learning depends on the learning opportunities offered in the workplace. Some of the following aspects are related to this.

4. Coaching by a mentor

Several studies have the coaching of beginning teacher educators by a mentor (mostly an experienced colleague) as their central theme. Mayer et al. (2011) stress the critical role of a significant mentor in helping to understand the culture of the university and the role of academics, and to find a balance between research and teaching in their work. A study by Murray (2008a) shows that, in England, only one third of the institutions for teacher education had a structured induction scheme for new colleagues. According to this study, the role of mentor was sometimes taken up by the head of the department or another executive, with the risk of conflating appraisal and probationary requirements with mentoring and coaching. Additionally,

> Care should be taken to ensure that provision for work-based learning does not generate only 'local' or parochial knowledge of teacher education … Induction … also needs to reflect the accepted discourses and practices of teacher education as a professional discipline in the university sector. (p. 131)

In the studies by Harrison and McKeon (2008, 2010), all interviewed teacher educators were assigned a mentor, but the mentoring took place incidentally, and the mentoring sessions were without an agenda and reports. The teacher educators did not have a clear vision on what to expect from mentors.

We may conclude that many beginning teacher educators only sporadically receive a kind of mentoring. Hence, their professional development is often individual, incidental, spontaneous, unconscious (Smith, 2003), and based on trial and error (Harrison & McKeon, 2008). Notably in their first period as teacher of teachers, they rely on their expertise as a teacher out of necessity (Dinkelman et al., 2006).

5. *Learning from and with colleagues*

Many teacher educators indicate that they learn from colleagues in daily practice, at the micro-level within the department or team (Murray, 2008a; Harrison & McKeon, 2008, 2010; Van Velzen et al., 2010). In their Australian study, Schuck, Aubusson, and Buchanan examined the value of peer observations and subsequent professional conversations and their contribution to professional development. As important conditions, they mention a strong mutual professional and personal relation, based on willingness to take risks, respect for each other's expertise in teaching, and the ability to reflect collaboratively on the teaching and learning of the participants. Dawson and Bondy (2003) describe a similar experience in the U.S. Silova et al. (2010) report on a project in Latvia, in which beginning and

experienced teacher educators participated in a network aimed at collaborative learning. Key factor for positive outcomes was a common approach, based on "inquiry as a stance". Williams and Power (2010) describe how "core-reflection" helped them in exploring their professional identities in their mutual professional relationship. Also, Chauvot (2009) stressed the importance of interactions with colleagues, in committees and colloquia within the university department and at conferences.

6. *Participation in a community of learners*
Participation in a community of learners stimulates the professional development of teacher educators (LeCornu & Ewing, 2008). Based on their study of eight teacher educators in a professional development community, Hadar and Brody (2010) developed a layered model to understand the effects of such a community. The first layer is called "breaking of isolation" and is focussed on acquaintance, a shared topic, interdisciplinary discourse and a safe environment. The second layer is called "improvement of teaching", which includes skill acquisition, classroom implementation, documentation and collegial reflection. As the professional development community progresses, the third layer, called "professional development", emerges. It consists of acquiring a disposition towards teacher thinking, a sense of accomplishment and a feeling of personal efficacy. It leads to adopting a broader pedagogical outlook. In a study by Draper (2008), participation in a professional development community also led to a shift of focus from 'teacher education' towards 'teacher educator education'.

The study by Greensfeld and Elkad-Lehman (2007) indicated that communities of learners, particularly those aiming at inquiry, creation and representation of new knowledge, contribute to the process of change in thinking. In this respect, they explicitly mention the importance of working in a partnership with schools and in a companionship with a colleague, aimed at carrying out research in education. Poyas and Smith (2007) reported similar outcomes in their study on the experiences of teacher educators, who, in a series of meetings based on the notion of a 'community of practice', aimed at elevating pedagogical content courses to a higher level. The study by Gallagher et al. (2011) indicated that, through authentic conversations in a self-study community of practice, there are more opportunities of finding resonance in each other's stories. These conversations helped to promote professional development amongst all members.

7. *Participating in a course*
In a study by Murray (2008a), eight out of 35 new teacher educators had taken part in a Postgraduate Certificate Teaching in Higher Education programme. Other new teachers seemed to have been exempted from this qualification, often because they were already qualified school teachers. This is confirmed in the studies by Harrison and McKeon (2008, 2010), who have interviewed new teacher educators several times during the first phase of their career. The teacher educators who followed the course for this certificate reported a limited usefulness, because of their extensive teaching experience. The course had its focus mainly on teaching and not on

getting acquainted with the research culture in higher education and with linking teaching and research, while the latter themes were the problematic ones for teacher educators, coming from the world of primary and secondary education into the world of higher education.

In a study by Lunenberg (2002), a group of experienced teacher educators designed a two-year curriculum especially for university-based and school-based teacher educators. The competencies to be acquired were mainly derived from the Dutch professional standard for teacher educators, and subsequently from a literature study and ten case-studies on teacher educators. These case studies showed that these teacher educators acted as a good role model, but none of them explained their pedagogical and educational choices systematically.

While this study does not report on the realisation and outcomes of a curriculum, the study by Shagrir (2010) does. She studied which elements in a programme for novice teacher educators, offered by the MOFET-Institute in Israel, contributed most to their professional development. The one-year programme (one day a week, 112 hours) served university- and college-based lecturers as well as school-based mentors of student-teachers. The data collected reflected as most important elements: the interaction with practice, the collegial support group, the availability of a professional coach guiding the participants throughout the year, and the opportunity to work with colleagues towards developing and grounding the profession. The standards of ATE proved to be a useful frame of reference. Moreover, the cooperative learning of teacher educators from different universities and schools proved to be a great advantage. It enabled them to discover new models and frames of teaching and learning, and to develop interpersonal working skills. Regarding the benefits and results of the programme, the study revealed three main domains: building a professional self, being a member of a community of professionals, and improving the teacher educator's professional skills.

A study by Kosnik et al. (2011) deals with the design and realisation of a Canadian initiative, aimed at a group of doctoral students who wanted to become teacher educators. Most of these twelve doctoral students had teaching experience. The community, called "Becoming Teacher Educators" (BTE), had monthly meetings on a voluntary basis for three years. Activities included discussing scholarly articles, observing and interviewing teacher educators, lectures by and discussions with guest speakers, reviewing websites of schools of education, presentations by members of the BTE group on their research, and discussing their teaching experiences. According to this study, the participants in this trajectory developed the skills to be successful teacher educators. The development of their professional and academic identities was also strongly influenced by the project.

IV. Research
8. *Studying one's own practice*
Many authors, among them Dinkelman (2003), Gallagher et al. (2011), Geursen, De Heer, Korthagen, Lunenberg, and Zwart (2010), Loughran and Berry (2005), Schuck et al. (2008), Wood and Geddis (1999), and Zeichner (2007), maintain that self-studies are an excellent way for teacher educators of reflecting in a systematic

and well-founded manner on their own practices as teachers of teachers. Zeichner and Liston (1996*) state that "self-study highlights the reflective process and yields knowledge about practice that does not arise from daily practice alone" (p. 9).

Shteinman, Gidron, Eilon, and Katz (2010), one of the rare publications explicitly dealing with the professional development of *experienced* teacher educators, stress that researching one's own practice and writing about it not only leads to the improvement of practice, but also to one's development as a 'reflective practitioner'. Based on interviews with 18 experienced Israeli teacher educators, they found that all of them felt that "writing enabled integration of their theoretical and practical knowledge to a new kind of 'learning' that developed during the writing process" (p. 352-353). The teacher educators evaluated their own learning as more productive because of doing the work collaboratively. They stress that it strengthened the position of the teacher educators within the academic community. Teachers of teachers who work on their own professional development in this way, also take on the role of researcher. This role will be elaborated in Section 4.3.

Critical features
From the above we may derive the following critical features regarding the professional development in the role teacher of teachers and the behaviour in this role:

1. *Context*. The availability of a frame of reference, such as a professional standard or knowledge base, is important in guiding the professional development of the teacher educator as a teacher of teachers, and in promoting self-confidence.

2. *Building on personal qualities of the teacher educator*. Personal qualities of teacher educators, such as eagerness to learn and interest in the subject-discipline and students, are important. Moreover links with (gaps in) prior knowledge and experience improve professional development.

3. *Support*. Informal learning from and with colleagues, but also through peer-coaching, seminars and conferences, and within professional learning communities, is supportive of professional development in this role. Although, according to the retrieved studies, the assignment of a mentor to a novice teacher educator occurs regularly in practice, the mentoring turns out to be limited. Programmes for teacher educators have to be specifically tailored to this profession. The research on such programmes is still limited.

4. *Research*. Studying one's own practice proves to be productive for the professional development in the role and for the behaviour as a teacher of teachers.

4.3. RESEARCHER

On the basis of the selected studies, we conclude that the conviction that teacher educators should do research is increasingly shared by institutions for higher

education, i.e. universities, but also polytechnics and colleges (the so-called *new universities*). This is not only true for Western countries (Gemmell, Griffiths, & Kibble, 2010; Jaruszewicz & Landrus, 2005; Murray, Czerniawski, & Barber, 2011), but also for countries such as Saudi Arabia (Borg & Alshumaimeri, 2012*) and South Africa (Chetty & Lubben, 2010). However, in practice the situation is quite complicated, as we will see below.

Our discussion of the critical features regarding the role and the behaviour of the teacher educator as a researcher is based on 26 articles found using our selection method.

4.3.1. Role and Behaviour

In the literature, we have found eight features, which can be grouped into three categories, as being critical to the role and the behaviour of the teacher educator as a researcher. These categories are:
I.   Views of the role of researcher;
II. The practical elaboration of the role of researcher;
III. The focus of research.

I. Views of the role of researcher
1. Acknowledgment of the role of researcher

The view that the role of researcher is a feature of a good teacher educator, is not supported by all teacher educators. A study by Smith (2005) showed that only half of 18 teacher educators who filled in a questionnaire found that good teacher educators are involved with research. None of the 40 teachers in Smith's study mentioned this as a feature of a good teacher educator. This concurs with findings from Wold, Young, and Risko (2011), who sent a questionnaire to 61 teachers. Only 6% of these teachers found that their quality as a teacher was dependent on the fact that their teacher educator did research.

Murray et al. (2011) interviewed 20 teacher educators in England and found a lot of different views concerning the question of whether doing research should be part of their work or not.

2. Friction with the role of teacher of teachers

Such findings from Murray et al. are in contrast with the increasing emphasis institutions of higher education put on research by teacher educators, and thus on their role as researchers. Sometimes teacher educators struggle with this contrast. They feel the attention to their role as researchers undermines the importance of their role as teachers of teachers (Mayer et al. 2011; Jaruszewicz & Landrus, 2005). At the same time, teacher educators often identify themselves with their role as teacher of teachers. This has become clear from a study by Griffiths, Thompson, and Hryniewicz (2010), who interviewed six teacher educators and their six research supervisors. The teacher educators saw themselves primarily as teachers of teachers and found it hard to view themselves also as researchers. This concurs with findings from the collective self-study by Gemmell et al. (2010).

3. Meaning of the role of researcher
Those teacher educators from the study Murray et al. (2011) who did consider research as part of their work as a teacher educator, had different ideas of what this would mean. For some of them, doing research meant reading and reflecting, which seems to refer to a conception of research that approaches the notion of *scholarship.* For others, it meant doing research oneself, and publishing about it (compare Atkinson, 2001* and Boyer, 1990*). In addition, the 20 interviews held by Chetty and Lubben (2010) among teacher educators yielded a variety of views of the role of researcher, for example including being a coach of research carried out by students. For Houston, Ross, Robinson, and Malcolm (2010) such differences in views formed the starting point of their collective self-study, in which they focused on the question of how they wanted to elaborate their role as researchers.

II. The practical elaboration of the role of researcher
4. Lack of time, information, and support
A study by Jaruszewicz and Landrus (2005), based on a questionnaire sent to 57 teacher educators and focusing on the practical elaboration of their role as researchers, shows the practical problems they encounter. Lack of time and lack of information were important obstacles, but also lack of support, both from their research supervisors and from research assistants. Murray and Male (2005), Borg and Alshumaimeri (2012*), and Gemmell et al. (2010) also stress the time aspect. In a study by Griffiths et al. (2010), too, lack of time, information, and support are important limiting factors as far as the role of researcher is concerned:

> Unanimously the main barrier to research cited by both teacher educators and research mentors was time, or rather lack of time: 'a massive issue', as one teacher educator put it. Teacher educators have highly intensive teaching timetables and there is very little time left over for research. […] Teacher educators theoretically had a minimum of half a day per week research time, but in practice this tended to disappear. Apart from the intensity of the teaching load itself, teacher education programmes follow a school year rather than a university year, therefore there is less time overall for research; regular validation and inspections by government agencies are an added pressure. (p. 253)

5. Ambivalence
Regarding the time aspect, Griffiths et al. (2010) also conclude from their study that an ambivalence seems to play a role. On the one hand, many teacher educators are overburdened by teaching and organisational tasks, and many have little research time available. On the other hand, as a result of their background as a teacher, they tend to give priority to the contact with students over doing research:

> In addition, the teacher educators saw teaching as the central and most important part of their work, and therefore this tended to be put first, particularly the student-teachers' needs. (p. 253)

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6. No research culture
Several authors maintain that the above aspects are connected with the fact that, in general, a research culture is missing within institutions for teacher education (Gemmell et al., 2010; Griffiths et al., 2010; Houston et al., 2010), which makes it difficult for teacher educators to shape their role as a researcher.

III. The focus of research
7. Traditional research focus
There are three dominant research foci of teacher educators as researchers: (1) the (school) subject, (2) pupils and/or teachers, and (3) one's own teaching practices. Based on their research among 82 teacher educators of a prominent university in Saudi Arabia, Borg and Alshumaimeri (2011*) conclude that for teacher educators their discipline or primary or secondary education are their traditional research objects. Related to this is the idea that the roles of teacher of teacher and researcher represent separate worlds and that a researcher is an objective outsider, collecting mainly quantitative data (Griffiths et al., 2010).

8. Research into one's own practices
Increasingly, teacher educators carry out research into their own teacher education practices, as has become clear from the enormous growth of the self-study movement over the last fifteen years. This choice has a content aspect (knowledge development by the professional community itself), but also a practical side; it is a matter of *"double dipping"* (Jaruszewicz & Landrus, 2005): data are often easy to collect and research outcomes not only yield academic output, but also contribute to the improvement of one's own practices. Cochran-Smith (2005) states that this kind of research deserves more attention, as it can offer important contributions to our knowledge about teacher education. However, she also discusses that this standpoint is under discussion in academic circles (see also Griffiths et al., 2010). The most important critique of research into one's own practices is, on the one hand, the quality and generalisability of the often qualitative research (Lunenberg, Ponte, & Van der Ven, 2007), and, on the other hand, the absence of a research programme in which the cohesion between individual studies is guarded (Zeichner, 2010).

Critical features
Summarising, we found three critical features for the role of researcher and the behaviour in this role:

1. Views of the role of researcher. In order to be able to function well in the role of researcher, teacher educators themselves need to acknowledge the importance of this role. Such acknowledgment is not common. Teacher educators often put more priority on their role as a teacher of teachers. In addition, more clarity is needed about what it means to be a researcher, as teacher educators who do consider this role as part of their profession, differ in the way they interpret the role.

2. The practical elaboration of the role of researcher. Practical issues, such as time and information require attention, and also the provision of suitable support. In addition, teacher educators themselves should give more priority to their role as researchers, which can be promoted by creating a research culture within institutions for teacher education.

3. The focus of research. In general, there are three dominant research foci: the subject, primary or secondary education, and the teacher educator's own practice. This variety of foci is accompanied by a debate about goals, methods, and quality criteria, in particular when research into one's own practices is at stake. It would be helpful if there would be more clarity about and acceptance of research into one's own practices, which can be improved by clear methodological guidelines for such research.

4.3.2. Professional Development

Many issues mentioned in the literature point to the need of professional development of the teacher educator as a researcher, such as the tension between, on the one hand, the view of institutions for higher education that teacher educators should do research, and, on the other hand, the ambivalence of teacher educators themselves regarding this role, the practical problems that teacher educators encounter in their role as a researcher, and the lack of clarity with regard to the type of research which is suitable and acceptable. We will now discuss the research that has focused on the professional development of the teacher educator as a researcher.

We found fifteen factors that are mentioned in the literature with regard to the development of the role of the teacher educator as a researcher and the accompanying behaviour. We have put these factors into three categories:
I.   Context;
II. Factors in the teacher educator-researcher himself or herself;
III. Specific incentives to start as a researcher and to keep going.
These three categories are not completely separable, as the various factors in the three categories show much overlap.

I. Context
1. Creating a research culture
Important to the professional development in the role of researcher is the creation of a research culture within the workplace, in which the experiences and attitudes of teacher educators with regard to research receive explicit attention through presentations, discussions, and other exchanges (Houston et al., 2010). Based on their study of teacher educators in Saudi Arabia, Borg and Alshumaimeri (2012*) too, consider this an important factor:

> (…) overall, respondents felt the context they worked in was only moderately conducive to research activity. In particular, there was a perceived tension

among respondents between institutional expectations and the actual support they received in relation to their research activity. (p. 354)

2. Making institutional expectations and requirements explicit
Too often institutional expectations and requirements remain implicit, or they are considered self-evident by others who do have research experience, whereas this is not the case for those to whom the area of research is new. This is why it is crucial that institutional expectations and requirements regarding research activities by teacher educators are made explicit (Borg & Alshumaimeri, 2012*). As Griffiths et al. (2010) state it, research should be "on the agenda" within institutions for teacher education.

3. Providing clear information
Emerging from, for example, the research by Griffiths et al. (2010) is the importance of giving clear information about research facilities. This concerns, for example, access to journals, possibilities for study leave, and the criteria for promotion within the profession.

4. Providing support
Support is needed when teacher educators design and carry out research (Borg & Alshumaimeri, 2012*; Geursen et al., 2010), especially in the form of frequent and personal coaching, in which feedback and advice is provided and trust is being built (Griffiths et al., 2010).

Several initiatives have surfaced aimed at supporting teacher educators in carrying out research. For example, Lunenberg, Zwart, and Korthagen (2010) facilitated a group of teacher educators in carrying out self-studies that both contributed to their own development, as well as to the knowledge base of the community of teacher educators. Their study shows that such support is much needed and helps teacher educators in overcoming obstacles they encounter when starting to take the first steps on the road of self-study. One such obstacle is becoming a beginner again:

> Teacher educators starting a self-study are often experienced professionals. At the same time, with regard to research they are novices. Hence, experienced teacher educators starting a self-study have the courage to expose themselves and become vulnerable. (p. 1285)

The approach described by Lunenberg, Zwart, and Korthagen concurs with a study carried out by Gallagher et al. (2011), who describe an approach to the professional development of pre-tenure teacher educators through the establishment of a self-study group. This group evolved into what the authors call "a community of scholars" (p. 884), a process stimulated by the fact that the participants were "in the same boat" (p. 885) concerning issues such as promotion and tenure. Gallagher et al. present evidence as to how teacher educators can work together to build a culture linking teaching practice to scholarship. A strong feature of their community was the authentic conversations about individual and collective

concerns, which built trust and allowed for the mutual vulnerability that Lunenberg et al. (2010) also pointed to. Important is also that facilitators are easily accessible (Lunenberg et al., 2010, p. 1282, speak about "a sense of being next door").

5. Identifying and offering additional support and resources
What is also important is identifying additional support and resources that teacher educators need for their research activities. This kind of support can take many forms, for example taking care of physical and financial resources, courses, formal and informal acknowledgment (Borg & Alshumaimeri, 2012*), and the availability of experts (Lunenberg et al., 2010). Katz and Coleman (2005) mention the importance of statistical support by facilitators. Also, courses and methodological training can offer important support. They can build trust in the beginning researcher, as concluded by Harrison and McKeon (2010) on the basis of a study of three teacher educators. This issue is also mentioned in an essay by Lin, Wang, Spalding, Klecka, and Odell (2011). Very important is the engagement of experienced researchers who can offer tailor-made methodological help and who can suggest research instruments fitting the needs of the teacher educator-researcher at that moment (Lunenberg, et al., 2010).

6. Planned and protected time
Helpful is planning and protecting time for research (Griffiths et al, 2010), for, as noted above, teacher educators continuously experience time pressure (Borg & Alshumaimeri, 2012*):

> Following from induction, many teacher educators thought that 'dedicated' research time should be timetabled, because this would help them preserve research time and 'give them permission' to do it. A (new university) teacher educator suggested faculty research days, in addition to the scholarship days that already existed: 'This is time for you to do your research. I don't see any evidence of that'. (Griffiths et al, 2010, p. 258)

7. Role models
Griffiths et al. (2010) point to the importance of role models. Through guidance from more experienced researchers functioning as role models, or through cooperation with other researchers, teacher educators can develop the knowledge, skills, and attitudes needed for doing research. In this context, Lin et al. (2011) advocate an apprenticeship model. In such a model, an experienced teacher educator-researcher can, for instance, model how to deal with the continuous pressure on research time coming from practice. Harrison and McKeon state that beginning researchers can start with carrying out 'low risk' research activities, which may help them to gradually become part of a research culture.

8. Collaboration structures
Helpful is the promotion of collaboration between teacher educators in carrying out research, which can include creating possibilities for exchanges about research and for learning from each other (Gemmell et al., 2010; Houston et al., 2010; Kitchen

& Stevens, 2008; Lunenberg et al., 2010). Griffith et al. (2010) state that *peer support* is important. McGee and Lawrence (2009) discuss that this creates safety. On the basis of a joint self-study trajectory of five Dutch teacher educators, Geursen et al. (2010) state that collaborating on research can stimulate a sense of *professional intimacy* which furthers deeper analyses of one's own practices (see also Fitzgerald, East, Heston, & Miller 2002*). McGee and Lawrence (2009) note that collaboration on research is more productive if there is a shared research question linked to the teacher educators' practices.

9. Institutional reflection and reframing

At the institutional level, reflection and possibly reframing should take place with regard to conceptions about research, because - as mentioned above - exactly in this respect teacher educators experience problems:

> The way in which their institutions define scholarship and classify research efforts are not necessarily consistent with the kind of work they are engaged in. (Jaruszewicz & Landrus, 2005, p. 110)

According to Lunenberg and Willemse (2006), to teacher educators a form of research is productive in which the focus lies on unique practical situations and in which the value of personal experiences is acknowledged.

In fact, a reframing seems necessary within the whole professional community of teacher educators, as Day (1995*) states. This statement is in line with Cochran-Smith (2005), who puts forward a critical comment, stating that:

> […] there are currently competing agendas and viewpoints about the worth of research conducted by teacher educators themselves on their own practice, their own knowledge and perspectives, and their own students' (i.e., prospective teachers) learning. […] On the one hand, there is now more research being conducted about teacher education by teacher educators themselves than at any previous time. This trend reflects a reconceptualization of the role of the teacher educator and a rethinking of the kinds of knowledge and skills teacher educators ought to have. On the other hand, in some of the most influential syntheses of the teacher education research literature, research conducted by practitioners about their own work is discounted and ignored because it does not meet standards for rigor or because it is considered to have very little value in terms of generalizations across contexts. (p. 224)

Murray et al. (2009) conclude:

> The time may also be right for a re-framing of what 'counts' as research activity for teacher educators whose busy day job is practice in teacher education […]. Any such reframing of research and scholarship activities in teacher education could be part of a long term and intra-professional challenge for teacher educators, one that establishes a new language of learning and scholarship. (p. 949)

10. Writing

Writing about practical experiences promotes teacher educators' professional development and helps them elaborate theoretical insights, for example by writing a book about them. Shteiman et al. (2010) report about good experiences with this approach in Israel, where funding is available for such writing projects, and also other support from the MOFET Institute, which focuses on the professional development of teacher educators. These authors state that this elevates the status of teacher educators, while at the same time the available knowledge about the theory and practice of teacher education is broadened.

II. Factors in the teacher educator-researcher himself or herself
11. Developing personal qualities

Important is the development of personal qualities in the teacher educator-researcher, such as motivation, passion, and steadfastness. The best way to start on the path of research is, as Wilson (2006) states, beginning it:

> The best way to learn research is to do research, even though most of us know that immersion is not always the best teacher - whether one is learning to be a teacher or to be a researcher. (p. 323)

12. Broadening one's perspective

Gemmell et al. (2010) describe a joint self-study trajectory of nine Scottish teacher educators that shows how they needed a shift in perspective in order to change their attitudes with regard to research. They had to abandon the idea that their work was all about teaching teachers, or that research was something they only learned about through the publications of others. Hence, what is especially helpful to teacher educators is a broadening of their perspective on research by learning about various forms of research. For example, in contexts where quantitative research is dominant, the teacher educator can deliberately dive into publications on qualitative research methods (Borg & Alshumaimeri, 2012*; Gemmell et al., 2010). As stated above, it is important to promote that teacher educators learn about and start to value a non-traditional view of research (Houston et al., 2010), especially a view aimed at the development and improvement of their own practices (practice-oriented research, action research, self-studies) (Gemmell et al., 2010). This requires a reframing within institutions or within the professional community as a whole of what is or could be research (see factor 9), but also at the level of the individual teacher educator, as teacher educators often think that research has little to do with their everyday work, or adhere to a rather technical view of research (Harrison & McKeon, 2010). However, research focused on one's own practices should also contribute to the professional field as a whole (Borg & Alshumaimeri, 2012*). Research is more than a personal reflection (Murray, 2010). However, this is sometimes problematic: Zeichner (2007) states that teacher educators often have a limited focus in which they only give attention to their own practices at the cost of contributing to the existing scholarly knowledge and the development of the professional community of teacher educators.

III. Specific incentives to start as a researcher and to keep going
13. A motivating focus
McGee and Lawrence (2009) discovered that teacher educators are more focused on the learning of their students than on their own learning, and that this phenomenon can be deliberately used for connecting their research questions to this interest. This concurs with a conclusion by Murray et al. (2009) from a project aimed at helping teacher educators do research, namely that it is important to build on the professional values and missions of teacher educators when promoting a research-oriented attitude:

> […] the project needs to work with the existing institutional structures, interests and expertise and with the teacher education researchers' personal agency and habitus […], and underlying senses of professional values and missions. Of central importance here, we suggest, is how the relationships between research, scholarship and teaching are conceptualized both individually and institutionally. (p. 949)

14. Going public
Very stimulating is going public with one's own research, at conferences and other professional meetings (Geursen et al., 2010; Griffiths et al., 2010; Lunenberg et al., 2010). Even writing a paper proposal is an important incentive for development (Kosnik et al., 2011). It is very stimulating when a teacher educator knows that a presentation about his or her own research has been scheduled. Going public with one's own research also provides a counterbalance to the above mentioned concern expressed by Zeichner about the often limited focus that teacher educators sometimes adopt.

Having to report about one's own research is also stimulating when such a report only takes place within one's own institution. When the teacher educator researcher knows that a report or presentation about the research should be delivered, this is an important incentive for working hard to arrive at tangible results. Griffiths et al. (2010, p. 259) state that an essence is "having to be accountable for research time".

15. Rewards
Important is the rewarding of completed research with a title or a higher position, for example as an associate professor, or any other form of acknowledgment (Griffiths et al., 2010). Another possibility is, for example, giving an award or providing extra research time (Lin et al., 2011).

Critical features
From the above list, we can derive the following critical features determining the development of the professional role of the teacher educator as a researcher and the professional behaviour of teacher educators in this role:

1. Context. Important is building a supportive context through work environments in which there is a research culture with an appropriate view of research, in which institutional expectations and requirements are made explicit, and in which various

ways of support are provided (frequent supervision, training, availability of resources, and so forth), and in which collaboration is promoted.

2. Factors within the person of the teacher educator-researcher. Important is attention to the development of personal qualities, such as motivation, passion, and steadfastness, and to a broadening of perspectives with regard to possible forms of research.

3. Specific incentives to start as a researcher and to keep going. Professional development in the role of researcher is promoted by specific incentives, such as going public with the research, reporting about it, and receiving rewards.

<center>4.4. COACH</center>

Teacher educators and students from all institutions for teacher education agree that practice is an important experiential source of learning and also that the student teacher should be supported while learning from practice (Zanting, Verloop, Vermunt, & Van Driel, 1998). In the literature, the role of the person offering this support is referred to by various terms, such as coach, guide, mentor, or facilitator. We will use the term *coach*. As we discussed in Section 4.1.2, the central aspect of this role is facilitating the learning process of student teachers, a view broadly shared in the literature. Research by Wold et al. (2011) among more than 60 literacy teachers into the impact of various roles of the teacher educator on these teachers' professional development, shows that the teachers consider the role of the teacher educator as a coach as being most influential. The teachers under study report that the most important in this role are qualities such as being generous, forgiving, enthusiastic, approachable, inspiring, irreverent but respectful, helpful but not controlling, and being nonjudgmental.

Coaching of the learning process of student teachers takes place in the institution for teacher education, as well as in the workplace, i.e. the school. In 4.1.2, we noted that the person in charge of supporting the learning in the workplace, is generally named a mentor, mentor teacher, cooperating teacher, or school-based teacher educator. Clear definitions of the various terms are absent in the literature, and conceptualisations differ per country and context (Zanting et al., 1998). Moreover, the term mentor is used both as a description of a position, and for referring to a role. Below, we will use the term *workplace facilitator* for all those supporting the learning of the student in the workplace.

Only a few studies deal with teacher educators working as a coach in institutions for teacher education (institution-based teacher educators). Most of the selected 25 studies dealing with the role of a coach, have a bearing on workplace facilitators. Various orientations are possible regarding this role (Wang & Odell, 2007). Hennissen, Crasborn, Brouwer, Korthagen, and Bergen (2008) published a literature review on the role of the workplace facilitator that we were happy to use for mapping out the factors that are determinant for the role of the teacher educator as a coach and their behaviour in this role.

4.4.1. Role and Behaviour

We found five factors determining the role as a coach and the behaviour in this role. They can be placed into two categories:
I. The task of workplace facilitators;
II. The task of institution-based coaches.

I. The task of workplace facilitators
1. Offering local knowledge
A study carried out in the US by Hall, Draper, Smith, and Bullough (2008) among 264 workplace facilitators shows that they consider coaching as their key activity. This concerns both professional support (giving information about the curriculum and classroom management, serving as a role model), as well as emotional support. The workplace facilitators in this study emphasise professional support over emotional support.

   The most important resources workplace facilitators use in their coaching are personal qualities and experience as a teacher. Cothran, McCaughtry, Smigell, Garn, Kulinna, Martin, and Faust (2008) found as the most important activities of the workplace facilitator: providing contextual subject matter knowledge and experience, and skilful communication. In an international comparative study, Wang (2001) found similar results.

   Workplace facilitators mainly function as a local guide. Hall et al. (2008) conclude that this role conception is limited, as students should develop a broader than only local perspective on education (cf. Zeichner, 2002*; Loughran, 2006*).

2. Practical orientation: giving advice about curriculum and classroom practice
Rajuan, Beijaard, and Verloop (2007*, 2010*) did a study on the cooperation between 20 Israeli students and their 10 workplace facilitators. Both groups experienced a good balance between support and challenge as being the most effective in coaching. Such a balance appeared to be present in most combinations of students and coaches. The students found a personal orientation of the coach the most important, and next, a practical and technical orientation. The coaches, however, appeared to be mainly practically and technically oriented.

   A Dutch study by Crasborn, Hennissen, Brouwer, Korthagen, and Bergen (2010) showed that the image workplace facilitators form about their students is often implicit or rudimentary, which leads to giving advice instead of asking questions, discussing, and giving attention to problem solving. In the stimulated-recall interviews the researchers held with the workplace facilitators under study, these coaches themselves considered only 20% of their conversations as reflective. A case-study by Perry, Hutchinson, and Thanberger (2008) showed another perspective, namely that workplace facilitators are in fact able to give the latter type of support, but on the basis of recorded conversations they conclude that offering information and support was more helpful to the students than asking questions and modelling. In a second study, Crasborn, Hennissen, Brouwer, Korthagen, and Bergen (2011) conclude from the literature that the topics most

discussed in the dialogues between workplace facilitators and students are instructional and organisational situations and, to a lesser degree, pupils, classes, and subject matter. This concurs with a study by Strong and Baron (2004), who found that teaching was the most important topic in such conversations. Wang (2001) studied 23 workplace facilitators in the US, UK and China. He states that, in their interactions with students, workplace facilitators mainly focus on aspects of the curriculum (goals, learning activities, instructional materials, plans and schedules) and on pedagogy. Whether the emphasis is more on the curriculum or on the actual practice of teaching seems to depend on the national context. In the US, there is much attention to individual pupils and the curriculum, which to a large degree can be made specific by the teacher himself or herself. In China, where the national curriculum limits teachers' autonomy in making decisions about the curriculum content and assessment, the focus is more on helping novices learn how to teach the standardised curriculum and develop a shared understanding about norms. The UK takes a middle position.

The emphasis on giving advice is also found by Barrera, Braley, and Slate (2010) in their study of 46 workplace facilitators who supported beginning teachers in schools in Texas (US). This may be related to a lack of clear information about expectations: the coaches reported to feel a need for well-defined goals and more clarity about their duties and responsibilities.

3. Promoting reflection aimed at transfer
In the studies cited above there is frequent emphasis on the increasing part school-based teacher educators play in the education of teachers. As a result, attention is needed for the tasks and role conceptions of workplace facilitators (Yendal-Hoppey, 2007). Loughran (2006*) offers building blocks for this. He states that the workplace facilitator should create a context that makes it possible for the beginning teacher to become engaged in a discussion about, a reflection on, and critique of views and practices of teaching. However, from studies by Burn (2007) and Van Velzen and Volman (2009) we learn that a problem occurs when giving such tasks to workplace facilitators. They appear not able to provide reflection aimed at transfer, as they are not competent at connecting their practical knowledge with theoretical concepts. This is also the reason why the exemplary role of workplace facilitators often remains implicit; they do show exemplary behaviour, but hardly make this behaviour or the thinking leading to explicit (Levine & Marcus, 2010*). Zanting et al. (1998) and Margolis (2007) stress that workplace facilitators should do this more often.

The study by Rajuan et al. (2007*, 2010*) already mentioned above, show that Israeli workplace facilitators scored significantly low on academic and critical orientation. This was similar in their students, which might be a result of the orientation of their coaches. A case-study by Bullough (2005) on the identity development of one workplace facilitator showed how complicated collaboration structures between the institution and the school were. As a result of the lack of clarity about what was expected from her, the coach took on a 'caring mother role'.

Another view is presented in a study by Whitehead and Fitzgerald (2007) of an interesting and successful project based on "a living theory approach to action research" as described in the work of Mc Niff, Lomax, and Whitehead (1996*) and McNiff and Whitehead (2002*). Based on an initiative from and supported by the university, the workplace facilitators and students collaborated developing and giving lessons, and afterwards systematically discussed video recording of these lessons. In the first stage, this was a lesson by the workplace facilitator; in the second stage a lesson given by the student. In this project, the emphasis was on developing a reflective dialogue. Through this approach, reflection was promoted in both the mentor and the student. As one of the participants said: "We weren't just getting a lesson on a lesson: we are getting a lesson on reflection as well" (p. 7). Based on the collected data, the authors conclude that a real learning community was created.

II. The task of institution-based coaches
4. The caring therapist
The few studies we found on the institution-based coach mainly deal with pitfalls connected with the role of a coach. Boote (2003) discusses the shift from traditional perspectives on teacher education towards a constructivist view, and notes that, as a result of this shift, an increasing number of teacher educators consider themselves mainly as coaches and less as teachers of teachers. Boote explores the boundaries and pitfalls of this role conception, which he rather ironically refers to as a 'belief-and-attitude therapist'. Nicol, Novakowski, Ghaleb, and Beairsto (2010) examined the tension between the role of a coach who mainly focuses on care, and a role in which the focus lies on inquiry in the role of a teacher of teachers. The institution-based teacher educator in this study mainly focused on care. This teacher educator built primarily on her experiences as a teacher and shared these with the students. This means that the role conception of such an institution-based teacher educator resembles that of many workplace facilitators.

These findings from Boote and from Nicol et al. raise the question whether institution-based teacher educators are in fact able to enact the broader conception of the role of coach proposed by Loughran (2006)*, and whether they are competent at creating a context that engages the beginning teacher in a discussion about and critical reflection on education.

5. Fading boundaries: overlapping tasks
The tasks, and thus the roles, of on the one hand institution-based teacher educators, and on the other the workplace facilitator, are increasingly merging, as we saw above. In addition, Poyas and Smith (2007) note that a growing number of teacher educators combine working in school and in the institution. This asks for more precise definitions of the roles and tasks of all those involved. Moreover, for those teacher educators who often are expert teachers whose roots are in the school, a specific challenge is the expression of their experiences in professional terms:

They joined the college faculty on the basis of an actual identity as expert teachers. Their stories talk of professional activities and beliefs in a discursive manner that suits their primary field of practice, the school. However, when they start teaching methods courses in an academic context, they struggle to adapt these stories and to define their professional expertise. The professional knowledge they hold is expected to be verbalised and made accessible to pre-service teachers and to college faculty. (Poyas & Smith, 2007, p. 332)

Critical features
In sum, we have found the following critical features regarding the role of coach and the accompanying behaviour:

1. The task of workplace facilitators. The workplace facilitators should not only take an advisory role and introduce novice teachers to the school, but they should ask more questions and promote discussion and reflection. While doing so, they should go beyond the local context. However, from the studies we discussed, a rather limited role conception of the workplace facilitators arises. They often conceive their task as restricted to their own location. They base their behaviour on their personal qualities and their experiences as a teacher, and focus on giving advice to students about practical issues in the specific school situation, such as designing and giving lessons, and relating to pupils. In general, workplace facilitators insufficiently make their own teaching behaviour and the underlying thinking explicit. In conclusion, they should be better prepared for a broader task conception.

2. The task of institution-based coaches. For institution-based coaches too, there is a challenge. They should find more of a balance between their role as a coach and their role as a teacher of teachers, and they should more clearly mark off their own tasks from those of the workplace facilitator. In addition, they should avoid the role of a 'caring therapist', should give more attention to discussion and to critical reflection on education.

4.4.2. Professional Development

In all of the selected studies on the professional development of the coach, the focus is on the school-based teacher educator. However, as already noted, a growing number of teacher educators combine work in a school and in the institution for teacher education (Poyas & Smith, 2007), and this asks for further and joint professional development of all those participating in the process of educating teachers. In this context, it is remarkable that so little has been published about the professional development of institution-based teacher educators regarding their role as a coach.

From the studies in our selection, we have derived four factors determining the professional development of the teacher educator as a coach. We could put these factors into two categories:
I. Goals and context;
II. Forms of support.

I. Goals and context
1. Towards a research-oriented attitude in the workplace facilitator
As discussed in 4.4.1, the participation of workplace facilitators in the education of teachers is growing. This influences the goals of the professional development of workplace facilitators. Burn (2007), for example, emphasises that through a more research-oriented attitude in workplace facilitators, an identity change can take place from experts in teaching to professionals who put their own teaching under discussion and both the students' and their own professional development. Although this may sound attractive, Burn warns us that

> combining research with teacher education, however, means asking mentors to adopt simultaneous roles as learners and teachers; something that can only be done if they and their partners fully recognise the critical role that their existing knowledge bases play in the construction of new professional knowledge. (p. 463)

2. A strong partnership between schools and the institution for teacher education
Support from their own school and from the institution for teacher education is important to the professional development of workplace facilitators, in particular in order to overcome an isolated perspective on one's own practice (Burn, 2007). In this respect, various studies (Barrera et al., 2010; Crasborn, Hennissen, Brouwer, Korthagen, & Bergen, 2008; Crasborn et al., 2010; Dever, Hager, & Klein, 2003) emphasise the importance of a strong partnership between institutions for teacher education and schools as a prerequisite to effective professional development.

II. Forms of support
3. Training
The Dutch studies by Crasborn et al. (2008, 2010) and Hennissen, Crasborn, Brouwer, Korthagen, and Bergen (2010) describe a training for workplace facilitators, based on the principles of 'realistic teacher education' (Korthagen, Kessels, Koster, Lagerwerf, & Wubbels, 2001*) and micro-teaching. The training resulted in significant behavioural changes, visible in the conversations of the workplace facilitators with their students: they became more of "encouragers", and less advisers and instructors, and they used the available time more efficiently (Crasborn et al, 2008). The researchers also found that the coaches became more consciously aware of their behaviour (Crasborn et al., 2010). Moreover, more frequently they used suitable coaching skills and, after training, they indicated in stimulated-recall interviews that there were more reflective moments in their conversations (a growth from 20% in the conversational sequences to 33%). As a

result, there was more attention to the learning process of the student teachers (Crasborn et al., 2010; Hennissen et al., 2010).

Dever et al. (2003), too, report about a study of the training of workplace facilitators. This training was primarily focused on giving feedback. An evaluation of the training showed that the participants became more able to collect objective data when observing students and could give more specific feedback on the students' behaviour. Margolis (2007) supported seven teachers (with four to six years of experience) who became workplace facilitators. Important in this successful experiment was that these relatively new teachers were themselves trained in making their own thinking and dealing with challenges explicit and that they themselves chose to become a coach as a new step in their professional development. Nevertheless, this study showed it took at least six months before the workplace facilitators were able to explain their approaches, choices, and dilemmas to their students. Co-teaching by the workplace facilitator and the student teacher deepened the process and promoted joint learning, and also learning from each other's mistakes.

4. Communities of learners
Similar to what we saw in the discussion of the role of teacher of teachers, the professional development of workplace facilitators appears to be promoted by participating in communities of learners. Cochran-Smith (2003) describes a study in which institution-based and workplace facilitators used "inquiry as a stance" for improving the coaching of student teachers. Doing research together, continuously asking each other questions, and using data from practice, did indeed lead to fundamental developments. For example, it promoted a move away from an emphasis on an existing checklist for the evaluation of students towards a 'narrative profile with …

> rich vignettes from practice, journal entries, lesson and unit plans, observation notes, excerpts from student teachers' interactions with children and teachers, and other documentation of the student teacher's work in the school and classroom. This narrative profile is jointly constructed two times a year by the student teacher, the cooperating teacher, and the supervisor. Rather than general impressions or abstract categories, we use concrete examples to construct a dynamic portrait of the student teacher in action. (Cochran-Smith, 2003, p. 15)

Zellermayer and Margolin (2005) studied a community of beginning coaches in a teacher education college in Israel. They base their research on summaries of conversations about four critical events in this community. An example of such an event was that one of the participating researchers made herself vulnerable when discussing her action research. This stimulated the other participants to leave their comfort zone too, and all of them started to participate actively in the joint learning process. This finding concurs with studies by Carroll (2005) and Davey and Ham (2010) that showing that balanced attention to product and process determines the success of the professional development within a community of learners.

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Critical features
We have found two critical features regarding the professional development in the role of a coach and its accompanying behaviour:

1. Goals and context. As the participation of workplace facilitators in the education of teachers is increasing, this requires that they are not only competent at introducing new teachers to the practices in their schools, but also that they are able to support novice teachers in reflection, research, and the (theoretical) underpinning of practical choices. This means that workplace facilitators should themselves develop a research-oriented attitude. In order to realise such professional development of workplace facilitators, close partnerships between schools and institutions for teacher education are necessary. (See also Section 4.7 on the role of broker.)

2. Forms of support. On the basis of the selected studies, we can conclude that training of workplace facilitators (focusing on coaching skills, promoting reflection, making one's own behaviour explicit, and giving productive feedback) and participation in – facilitated – communities of learners (focusing on inquiry and research into one's own practices) are effective forms of support for promoting the professional development of workplace facilitators.

4.5. CURRICULUM DEVELOPER

We have found only 14 studies about the role and behaviour of the teacher educator as a curriculum developer. Regarding this small number of studies and the relatively poor empirical grounding of most of the retrieved studies, we have put all the elements we found into only one category, namely ´*Variety of approaches and practices*´. Subsequently, for reasons of validity and reliability, we confine ourselves to formulating only one critical feature for the role of teacher educators as curriculum developers and the accompanying behaviour. In our selection, we have not retrieved any relevant publications on the professional development of teacher educators in the role of curriculum developer and/or the accompanying behaviour.

4.5.1. Role and Behaviour

Variety of approaches and practices
1. Societal discussions
Ideas about curriculum development in teacher education are influenced by socio-political discussions about the desired qualities of teachers, and subsequently by different conceptions of learning and teaching (Grossman, Hammerness, & McDonald, 2009; Krokfors, Kynäslahti, Stenberg, Toom, Maaranen, Jyrhämä, & Kansanen, 2011; LeCornu, 2010). Grossman et al. and LeCornu describe that, through the years, conceptions of teacher education have changed under the influence of socio-political discussion. Examples of conceptions are: a focus on a

curriculum organised by knowledge domains; a focus on skills and teaching practice; a more reflective orientation in which student teachers go beyond a consideration of technical skills to consider the moral and ethical issues involved in teaching; "realistic teacher education" aimed at creating a better connection between theory and practice, in which teachers' concerns and needs are at the centre; an orientation around 'learning communities'; and curricula organised around a set of core practices in which novices can develop their professional knowledge, skills and professional identity.

Cochran-Smith (2006*) argues that teacher educators are 'public intellectuals', who should play an active role in the (inter)national debate about curriculum development in education, but as yet teacher educators are more likely to be following than leading in the debate.

2. Principles guiding teacher education
The retrieved literature shows that the discussion about basic pedagogical conceptions underlying teacher education is still lively among teacher educators. Moreover, conceptions and principles underlying curriculum development in teacher education seem to be strongly influenced by local habits and preferences. While the one teacher educator strongly believes in the use of autobiographical reflections by students and the sharing of accompanying emotions (e.g. LeFevre, 2011), the other stresses the importance of ICT in the curricula (e.g. Drent & Meelissen, 2008).

We did find some commonly shared principles for the design of teacher education curricula, with implications for the role of the teacher educator as a curriculum developer. One of these is the common principle of linking theory and practice. Korthagen et al. (2006) designed the concept of "realistic teacher education" as a means to effectively link theory with practice. They put the development of the teacher as 'reflective practitioner' at the centre of the curriculum. Important in this respect is to start from the concerns of students (their struggles, needs and practices). The starting point of this approach is that learning about teaching requires a shift in focus from the curriculum to the learner, i.e. the student. The teacher education programme improves learning through the promotion of student research into their own practice, and through close mutual cooperation between students and between students and staff. According to the concept of "realistic teacher education", the teacher educator as a curriculum developer has a clear vision of the nature of relevant knowledge, professional learning, and of meaningful relationships between schools, universities and student teachers. The teacher educator models the teaching and learning approaches advocated in the programme. The Dutch study by Van Tartwijk (2011*) offers a concrete example of such a curriculum.

We also found some Scandinavian studies on the translation of similar principles to teacher education curricula (Krokfors et al., 2010; Arreman & Weiner, 2007). In the Finnish study by Krokfors et al., teacher educators were asked if the teaching in their teacher education institutions should be mainly *'research-led', 'research-oriented', 'research-based',* or *'research-informed'*. The

majority of the teacher educators preferred a 'research-based' curriculum, in which the curriculum is designed around inquiry-based activities rather than based on the acquisition of subject matter knowledge. The aim of this kind of teacher education is "to produce pedagogically thinking teachers" (p. 11).

Struyven and De Meyst (2010) perceive a revival of competency-based curricula in Flanders, but based on a more holistic approach compared to the more fragmented behavioural approaches in previous times. In the current approach, an integral focus on skills, knowledge, attitudes and experience should lead to a successful interpretation of the role of the teacher. Although this study gives information about the preferences for competency-based teacher education among different groups of teacher educators in Flanders, systematic research on how these teacher educators give shape to such a curriculum has not been conducted.

Mainly in the United States, an approach has emerged in which the curriculum is built around *'core practices'* of the teacher profession (Grossman et al., 2009). ´Core practices´ are practices frequently occurring in teaching, which novices can use in classrooms and can actually begin to master. They allow novices to learn more about students and about learning. They preserve the integrity and complexity of teaching, are research-based and have the potential of improving student achievement. A curriculum around a set of core practices is intended to help students develop professional knowledge and skills, as well as an emerging professional identity.

> The practices of teaching would provide the warp threads of the professional curriculum, while the knowledge and skill required to enact these practices constitute the weft. (Grossman et al., 2009, p. 277)

In this way, the gap between theory and practice, which characterised traditional curricula with foundation courses on the one hand and methods courses on the other, should be bridged. Grossman et al. use the example of instructional scaffolding:

> When teaching practices related to instructional scaffolding to preservice teachers, teacher educators can focus on the underlying theoretical principles of why to scaffold instruction so that teachers learn when and under what conditions to provide instructional scaffolding. In addition, teacher educators should provide preservice teachers with opportunities to learn and enact the instructional routines involved in scaffolding instruction. While novices experiment with enacting such practices, they also are developing a professional identity built around their role as a teacher – the practices help elaborate their understanding of what it means to act as a teacher. Professional knowledge and identity are thus woven around practices of teaching. (p. 278)

This kind of curriculum requires a close cooperation between universities and schools. As a result, university-based teacher educators will be more involved in the elaboration of teacher education programmes within schools.

3. Curriculum development in practice
The Australian study by Blaise and Elsden (2007) focuses on changes in their own curriculum. They collected data on the experiences of more than 300 students with a new, competency-based curriculum, in which group work, peer-feedback and group assessment were prominent elements. The authors disclosed the resistance among students to time-consuming group work with a diversity of participants, and the need to explicitly address the inequities and power relationships occurring when individuals are working together. Blaise and Elsden decided to explicitly share with their students the tensions, discomfort and doubts they had. They made space in the curriculum for letting students see how they themselves were questioning and rethinking their pedagogies. According to the authors

> This postmodern strategy acknowledges that a teachers' identity is similarly constructed like the students', and therefore, multiple and open to change. (p. 402)

While the educational principle of competency-based learning was leading in the study of Blaise and Elsden, most of the other studies we found show that teacher educators working within a curriculum lack a shared guiding principle. Willemse, Lunenberg, and Korthagen (2005) describe a Dutch case-study of nine teacher educators who designed a new curriculum for one semester. It was the intention to realise a better integration of pedagogical aims within the teacher education curriculum, especially regarding aspects of moral education. The study reveals that these teacher educators were mainly focused on the development of that part of the curriculum they were individually responsible for, with the result that moral education became only recognisable in some parts of the curriculum. Moreover, objectives were not formulated clearly, with the result that valid assessments became difficult.

Kosnik and Beck (2008) studied the literacy instruction by ten teacher educators in their own Canadian elementary preservice programme. These teacher educators made their own individual choices concerning the way they taught the content of the curriculum. All of them wrestled with finding a balance between theory and practice. Six of them indicated they were teaching from a socio-constructivist perspective.

> They built community, tried to have students work from their own beliefs, presented many options, and used teaching strategies that allowed the students to experience first-hand many of the suggested methods. (p. 121)

However, a closer analysis of the course outlines revealed that many of the courses were highly disjointed, "with the instruction 'skipping' from one topic to the next one" (p. 121). Moreover, students complained that they did not understand the theory presented in their courses and few of them reported using the practical strategies provided.

In a U.S. study, Caroll (2005), himself a university-based teacher educator, describes the design process of a curriculum in a team (the Collaborating Teacher Study Group) together with school-based mentors. According to Caroll, by

fostering interactive talk in this study group around artefacts of mentoring practice, which had been developed by the mentors in the team, the members were able to jointly construct understandings of mentoring. Based on this common understanding, mentors took an increased responsibility for demonstrating their own planning in detail, and for creating checkpoints for assessing the progress of the students. Caroll also analysed his own role in this process, being both a participant and discussion facilitator. LeCornu (2010) and Martin, Snow, and Torrez (2011) also refer to the role of the teacher educator as a 'linking pin' between university and school in curriculum development. We will elaborate this aspect in depth in Section 4.7, where we discuss the role of *broker*.

Critical features
As we indicated above, we have found only a small number of studies on the teacher educator as a curriculum developer. Based on these studies, we identified one critical feature for the role of the teacher educator as a curriculum developer and the accompanying behaviour.

Variety of approaches and practices. Characteristic of the present situation is that the retrieved literature shows a great diversity in approaches and practices. This creates an unclear situation for individual teacher educators in their role as curriculum developers. To a large extent, this role seems to be determined by local circumstances and socio-political discussions. The public debate is influencing the specific teacher education principles considered to be guiding for the development of teacher education curricula in a certain period and context. Mistakenly, the teacher educator seems to be more likely following than leading in this respect.

Recently, the attention to curriculum development in cooperation with schools has been increasing. However, a systematic approach to curriculum development, by starting with clear objectives, is considered to be important, but in practice such an approach is rare.

4.5.2. Professional Development

In the introduction to this role, we already observed that we have not found any studies on professional development in the role of curriculum developer. Hence, we were not able to formulate a critical feature on this topic.

4.6. GATEKEEPER

In the role of gatekeeper, the teacher educator is responsible for the introduction of the student to the profession of teacher. We have only found 8 studies on this role and the accompanying behaviour. Three aspects emerge from these studies, which we have placed into one category, named *Variety in assumptions and practices*. This is the same category we used for the role of curriculum developer. Also similar is that for this role, studies of the professional development of teacher educators in the role of gatekeeper are absent in our selection of studies.

4.6.1. Role and Behaviour

Variety of approaches and practices
Three aspects emerge from the literature. We discuss these below.

1. Standards and profiles
In the selected studies, the rod teacher educators use to measure student teachers against is defined by standards and profiles. Delandshere and Arens (2003) as well as Struyven and de Meyst (2010) state that these standards and profiles are meant to measure competencies, and that this view originates in the increasing emphasis in education on competencies in the previous decades. How student teachers should be supported to reach the competencies as defined in the standards and profiles, has been left to teacher educators and institutions for teacher education. The discussion on this challenge is, according to Struyven and de Meyst (2010), strongly influenced by constructivist ideas emphasising active learning. In practice, their study among 51 teacher educators in Flanders shows that there is a huge variety in approach and in the level of attention to the variety of competencies. They conclude that the quality of assessment procedures is often questionable. On the basis of their empirical study, they state that:

> In fact, the – reliable – measurement of competencies is an important problem due to its holistic approach, job-related nature and the integration of knowledge, skills and attitudes. (p. 1507)

The US study of Goubeaud and Yan (2004) proved that teacher educators use significantly more constructivist inspired assessment methods (like writing essays and papers, and using peer feedback) than other teachers in higher education. Nonetheless, they also use traditional ways of assessment, such as multiple choice tests, to judge whether or not student teachers match the required standards.

2. Portfolios
Constructivist views about active learning have stimulated the use of portfolios in teacher education. Students are asked to compose a portfolio, because of the assumption that this will stimulate their active learning. Therefore, several of the studies of the role of gatekeeper focus on the teacher educator as an assessor of portfolios. As these studies (Delandshere & Arens, 2003; Granberg, 2010; Smith, 2007, 2010; Tillema & Smith, 2007) show, there is a lot of confusion about what should be the content of portfolios, about the reliability and validity of the assessment of portfolios, and about the purpose of the assessment.

According to Tillema and Smith, an important reason for this confusion is the dilemma teacher educators face between their role as coach and their role as gatekeeper (see also Boote, 2003). They feel that using strict criteria does not fit the context and the development process of individual students. A summative evaluation, however, is essential to protecting the profession against incompetent teachers (Smith, 2007), i.e. for the role of gatekeeper. The studies by Tillema and Smith (2007) and Granberg (2010) show that teacher educators differ substantially

in the status they attribute to portfolios, and in their tendency towards a formative or summative assessment of portfolios. The Norwegian/Dutch study by Tillema and Smith shows that teacher educators value most the use of portfolios as instruments for development and as a means for authentic assessment. The way feedback is given and the assessment is grounded, shows a broad variety. Tillema and Smith examined how 34 teacher educators dealt with portfolios in their practices. They also offered an authentic portfolio document to 14 different assessors to compare their quality of rating and the way criteria were used. The dramatic conclusion from this study is phrased by the authors as follows:

> One of the most striking results is the lack of explicit, and above all, shared criteria between assessors in rating the quality of portfolios. This study shows there is hardly any communality, not in the grade giving nor in criteria selection for appraisal. Essentially, this means that the grade the student receives, based on the presented portfolio, is very subjective. It depends to a large degree on who the assessor is and what preferences she or he exercises. (p. 453)

The US study by Delandshere and Arens (2003) of the use of portfolios in teacher education institutions at three universities, is focused on summative evaluation. The results of their study emphasise the usefulness of a portfolio for job hunting. The teacher educators in their study also emphasise that the quality of portfolios is important to the accreditation of their teacher education programme. In contrast, the students feel that the formative function of portfolios (as a means of learning to understand what teaching means and of getting feedback) suffers, because of the emphasis on matching standards.

3. Assessment of school practices
Struijven and De Meyst (2010) and Smith (2007, 2010) also point to another aspect of the teacher educators´ role as gatekeeper: the assessment of the school practice component of the teacher education programme, which is a core element of the programme. Smith (2007) put forward the question what the object of this assessment is, performance or competencies? If one shares the view that competencies are an integration of knowledge, skills and attitudes, then observation would not be sufficient to assess these. If that is the case, a follow-up question arises how observation of the school practice performance of student teachers is related to assessment based on competency-based standards.

Because of the shift of responsibilities from institutions to schools, a shift going on in many countries, the responsibility of the mentor or school-based teacher educator for assessment, especially with regard to the school practice component of the programme, becomes more and more important. Smith (2010) studied the mentors' influence on assessment and found, among others, that it is not obvious that mentors and students agree on the focus of the feedback mentors provide on how students function in practice and on the level they should reach. Smith (2007) states:

To find evidence-based answers to all the questions and issues related to assessment, a dialectic process engaging all teacher educators is required. It requires intensive cooperation between the school and the university. In partnership programs which claim to share the responsibility for teacher education, close cooperation is needed in order to develop mutual trust and full understanding of how the responsibility for assessment is shared. (p. 284)

Critical feature

We have only found a limited number of studies on the teacher educator as a gatekeeper. Based on these studies, we formulate one single critical feature for the role of gatekeeper:

Variety of approaches and practices. Teacher educators are expected to use fixed standards and profiles to decide whether or not a student teacher should be admitted to the profession of teacher. The development of ways along which students learn to match these standards and profiles is the responsibility of teacher education institutions, and varies hugely between these institutions. Due to a constructivist view on learning, portfolios are widely used to assess student teachers. The emphasis on the assessment of portfolios varies from formative to summative. Conducting a summative assessment, however, is essential to the teacher educator in the role of gatekeeper.

The validity and reliability of the assessment procedures in teacher education can be doubted. This is the case for the assessment of portfolios, but also with regard to the assessment of competencies in the school practice part of the programme, even more so because the responsibility for the assessment is increasingly shared with mentors, who often have different perspectives on the quality criteria student teachers should meet.

Above all, it seems that teacher educators struggle with combining the role of coach and the role of gatekeeper.

4.6.2. Professional Development

As mentioned before, we did not find any studies on the professional development for the role of gatekeeper, so no critical issues can be formulated here.

4.7. BROKER

As already discussed in the previous sections on the roles of coach, curriculum developer and gatekeeper, the contribution of the mentor to the education of student teachers is growing. In the past, the cooperation between a school and an institution for teacher education often consisted of a contact between one institution-based teacher educator, one mentor, and one student teacher. The purpose of the cooperation among this trio was limited to the coaching of the student teacher during the practice component of the teacher education programme.

Although the advice of the mentor was often taken into account in the assessment of the school practice component, in most cases only the institution-based teacher educator was responsible for the final decision. A case study by Bullough and Draper (2004) clearly illustrates how the opinion about each other the two facilitators had formed, based on limited contact, led to problems for the student involved. In another case study, Bullough (2005) concludes that the division of tasks and responsibilities between the institution-based teacher educator and the mentor defined the mentor's identity: she focused on interaction and affection, on compassion instead of inquiry.

However, this situation is changing rapidly. Mentor educators become co-responsible for the development of the curriculum, for carrying out parts of the programme, and for the assessment of student teachers. Additional to being a coach, they also become a teacher of teachers, a curriculum developer, a gatekeeper, and even a researcher. Mentors become school-based teacher educators. This change requires adjustment, consultation and joint learning. As a consequence, it also requires teacher educators who are able to lead this process. He An (2009) introduced the name of *broker* for this role, a role often carried out in the context of a community of learners (Wenger, 1998*).

We have found 11 studies on this role and the accompanying behaviour. Only 1 study discussed the development of this role and accompanying behaviour, which was not enough to draw conclusions.

4.7.1 Role and Behaviour

Based on the studies we have found, we can describe three factors defining the role and the accompanying behaviour of the teacher educator in the role of broker. We have classified these into two themes:
I. Goals of cooperation;
II. Competencies of a broker.

I. Goals of cooperation
1. The student as the central focus
The primary goal for intensifying the cooperation between school and teacher education institutions is to better prepare student teachers. In their self-study, Martin et al. (2011) characterise their roles as brokers as:

> critical roles in developing and fostering interactions that could move the student teaching context from one of cooperation, in which the school simply agrees to take student teachers and to comply with university expectations, to one of collaboration, in which university faculty and K-12 teachers work together for joint aims. (p. 308)

Le Cornu (2010) suggests to create communities of learners consisting of institution-based and school-based teacher educators, in which the learning of student teachers is the central focus, and to adjust the roles of the teacher educators in order to suit the student learning best. The need to tune between institution- and

school-based teacher educators to enhance the support for students also arises in several other studies (Bullough & Draper, 2004; Bullough, 2005; Hall et al., 2008).

2. Becoming a collective
Erickson, Brandes, Mitchell, and Mitchell (2005) studied both an Australian and a Canadian project in which models for joint learning of teacher educators and teachers were developed. Important factors for success proved to be: a long-term relationship in a safe environment, agreement on starting points and goals, connecting to the needs of the participants, taking into account different orientations of the participants, and also the time and means available to them.

In line with Bullough, Draper, Smith, and Birrell (2004), who state that the process of forming partnerships needs to be understood less as an administrative and motivational problem than as a question of identity formation and of relationship building, Erickson et al. (2005) conclude:

> The potential of such projects to achieve these aims depends upon:
> (a) a mutually held understanding of what types of classroom practices nurture good teaching and learning,
> (b) a setting where teachers have a strong commitment and control over the project and decide on its direction, and
> (c) a structure that allows teachers and teacher educators to meet regularly in an atmosphere of trust and mutual understanding. (p. 787)

Graham (1998) emphasises that the development of a joint identity of institution-based and school-based teacher educators is not self-evident. Both groups come from different contexts with different foci, tempi, cultures and hierarchies. In his study, the role of broker circulated among the participants. This resulted in a better mutual understanding and a more enduring relationship. Martin et al. (2011) carried out a collaborative self-study to find out how the worlds of the school, the teacher education institution and the student teacher could become better connected. They conclude that creating a 'third space' with a teacher educator based in the school as well as in the teacher education institution involved, is important to connect the complex networks.

II. Competencies of the broker
3. *Shaping the role of broker.* Based on his self-study, Carroll (2005) found that important activities of a broker are focusing the communal attention on specific themes or questions, supporting thinking aloud, and summarizing and consolidating joint insights and products. His study also shows that inviting and responsive leadership is important. Carroll summarised his findings as follows:

> I (…) focused upon the qualities and skills of leadership needed to promote inquiry oriented professional learning, I analyzed the role that I played in developing materials of practice, in designing analytic tasks, in modeling re-voicing moves myself, and in directing the flow of conversation to promote inquiry. Taken together, these dimensions of the leadership role call attention

to the challenges of finding of developing persons with the experience and capacity to fulfil such roles. (p. 472)

He An (2009) adds that the broker needs communication and negotiation skills to guide decision making. Davey and Ham (2010) conclude that the most important points of attention in their collaborative self-study with mentors were: attention to the process and progress of the mentors' research, attention to relationships, a safe environment and a positive atmosphere.

Critical features
The results described above lead to two critical features that define the role and the accompanying behaviour of the teacher educator as a broker.

1. Goals of cooperation. The literature shows that there is widespread agreement about the central goal of the cooperation between school and teacher education institutions, and of the role of the broker in this cooperation: the shaping of the cooperation between teacher educators with different backgrounds and different working contexts so that, together, they can better facilitate the learning of student teachers. The broker should create a third space in which school-based and institution-based teacher educators can develop a joint vision, approach and identity.

2. Competencies of the broker. The professional behaviour of a teacher educator in the role of broker requires specific competencies, such as focusing the joint attention on specific themes, consolidating joint achievements, attention to relationships and stimulating inquiry.

4.7.2. Professional Development

We only found one study of the professional development of the role of broker: the study by Bullough, Draper, Smith and Birrell (2004). These authors emphasise the process of 'professional identity development', because new ways of cooperation and new relationships require the willingness to change their professional identity from all who are involved. This one study, however, offers insufficient basis for defining a critical feature for the professional development of teacher educators as brokers.

5. CONCLUSIONS AND DISCUSSION

Recommendations for Research and Practice

5.1. SUMMARY AND CONCLUSIONS

In this section, our review study will be summarised.

In Chapter 1, we discussed that since the 1990s, there has been more attention to the crucial role of teacher educators in the educational chain. This has led to many studies about and by teacher educators. However, the research in this area has been quite scattered and missing until now was a clear, research-based overview of what is known internationally about the professional functioning of teacher educators. The aim of this review study was to fill in this blank through an analysis and synthesis of the literature, giving answers to the following research questions:

1. *What professional roles of teacher educators can be identified?*
2. *What are the critical features determining the professional roles of teacher educators and the accompanying professional behaviour?*
3. *What are the critical features determining the development of the professional roles and the accompanying professional behaviour of teacher educators?*

Chapter 2 described the theoretical framework. Teacher educators were defined as: all those who teach or coach (student) teachers with the aim of supporting their professional development. A professional role (in this book often briefly referred to as 'a role') was defined as: a personal interpretation of a position based on expectations from the environment and on a systematically organised and transferable knowledge base. Professional behaviour was conceptualised as: a personal interpretation of a position based on expectations from the environment and on a systematically organised and transferable knowledge base. Critical features are features determining the quality of professional roles or professional behaviour, or determining the quality of the professional development of teacher educators with regard to roles or behaviour.

In Chapter 3, we elaborated on the eight methodological steps described by Randolph (2009*) which shaped our research method. We used the keywords 'teacher educator(s)', 'teacher trainer(s)' and 'mentor teacher(s)' in our searches in *Web of Knowledge, Science Direct* and *Tandfonline*. We restricted ourselves to articles from the period 1991-2011, focussing on the teacher educator and published in journals recognised by the Institute for Scientific Information (ISI) or by the Dutch Interuniversity Centre for Educational Sciences (ICO).

A draft version of the review study was reviewed by seven 'critical friends' from the international community of researchers studying teacher education and/or teacher educators. In many respects, this led to a validation of the research method we followed and to a confirmation of the research findings. On a few issues, the

comments of the critical friends helped us clarify text fragments, add literature, and slightly adapt the formulation of a few conclusions.

Finally, we ended up with 137 studies that seemed relevant to our research questions. They are presented in the appendix to this book. A major part of these studies was carried out after the year 2000, and most of them were published in North America, Australia, some European countries, and Israel. Qualitative and small-scale studies were dominant. The research methods most used were case studies, self-studies and interview studies (together they represented 58% of the studies found). The quantitative studies were generally limited in size and the research questions in the studies were quite diverse, which made a statistical meta-analysis impossible.

Chapter 4 discussed the findings of our review study. We identified six professional roles (as the answer to research question 1). Below, for each role we describe the answers we found regarding research questions 2 and 3.

1. Teacher of teachers

We found 67 studies on the role of teacher of teachers, which primarily deal with the pedagogical behaviour of the teacher educator. Critical features of the role of teacher of teachers and the behaviour in this role are:
1. Second order teaching.
The teacher of teachers does not teach the students in the schools, but their (prospective) teachers. This implies that teacher educators should be able to adapt their behaviour to adults within the context of higher education, and therefore need knowledge about (promoting) adult learning. This requires, for example, being able to articulate experiential knowledge and putting theoretical knowledge into practice.
2. Promotion of active and self-directed learning.
The teacher of teachers should be competent at promoting active, self-directed, and meaningful learning of students. In general, teacher educators share this view, but implementing this view is not easy and thus often inadequate.
3. Modelling and making modelling explicit.
Teacher educators are role models to a teacher, although they act at another level than teachers in primary or secondary education. Hence, teacher educators should be able to set good examples of effective teaching, to make this exemplary behaviour explicit, and to underpin their behaviour theoretically. One aspect of this is that they can reflect on their own feelings and are able to make these feelings explicit, in order to support the affective development of student teachers. Such *explicit modelling* seems difficult to teacher educators and they do it only to a small degree.
4. Dealing with tensions and dilemmas.
In order to be able to cope with tensions in specific situations, teacher educators need solid theoretical knowledge, experience and the ability to make wise decisions (practical wisdom). By continuously looking for the right balance in complicated situations, teacher educators fill in their role of teacher of teachers.

Critical features of professional development in the role of teacher of teachers and the professional behaviour in this role are:
1. Context.
The existence of a frame of reference, such as professional standards and a knowledge base, are important in giving direction to the professional development of teacher educators as teachers of teachers, and in promoting their self-efficacy.
2. Building on personal qualities of the teacher educator.
Personal qualities of teacher educators are important, such as the will to learn and interest in their subject and in students. In addition, it is helpful if the professional development builds on the existing knowledge and experience of the teacher educator or fills gaps in this knowledge and experience.
3. Support.
Beneficial is informally learning from and with colleagues, but also through peer coaching, during colloquia and conferences, and in learning communities. Support from mentors of beginning teachers appears to take place in a rather fragmented manner. Learning trajectories for teacher educators should be targeted at their specific profession, but hardly any research has been done into the outcomes of such trajectories.
4. Research.
Carrying out research into one's own practices appears to enhance the development of the professional role and the professional behaviour as a teacher of teachers.

2. Researcher

We found 26 studies dealing with the role of researcher. Worldwide, they show agreement that teacher educators should do research. However, in practice this is not self-evident as teacher educators appear to struggle with the role of researcher.
   Critical features of the role of researcher and the behaviour in this role are:
1. Views of the role of researcher.
Teacher educators need acknowledgment of this role, but at the same time, they themselves tend to give greater priority to the role of teacher of teachers. Moreover, it is often unclear what the role of researcher involves.
2. The practical elaboration of the role of researcher.
Practical issues, such as the available time and information, should receive more attention. Also, more emphasis should be put on providing adequate support and creating a research culture within institutions for teacher education.
3. The focus of research.
Three possible foci for research are: the subject matter, primary or secondary education, and one's own practices as a teacher educator. More clarity about and acceptance of research into one's own practices seems necessary. In this respect, methodological guidelines are helpful.
   Critical features of development in the role of researcher and the professional behaviour in this role are:

5. CONLUSIONS AND DISCUSSION

1. Context.
Important is creating a supportive context, with an appropriate view of research, explicit expectations and requirements, and various forms of support and collaboration.
2. Factors within the person of the teacher educator-researcher.
Important is attention to the development of personal qualities and to broadening perspectives on possible forms of research.
3. Specific incentives to begin as a researcher and to keep going.
Important incentives are making the research public, reporting about it within one's own institution, and rewards.

3. Coach

We found 25 studies dealing with the teacher educator as a coach, which entails giving process support to student teachers both within the institution and in the workplace (in the latter case by the workplace facilitator). There seems to be general agreement in the literature that this is a pivotal factor in educating teachers.
    Critical features of the role of coach and the behaviour in this role are:
1. The tasks of workplace facilitators.
Workplace facilitators should not only give advice and introduce beginning teachers to the practices in the school, but they should also ask probing questions and stimulate discussion and reflection, going beyond the local context. However, the selected studies show that workplace facilitators do this insufficiently, and hardly make their own teaching behaviour and the underlying thinking explicit. This demands a better preparation of workplace facilitators, targeted at a broader task definition.
2. The task of institution-based coaches.
Institution-based coaches should find a balance between the role of coach and the role of teacher of teachers, and should clearly demarcate their task from the task of the workplace facilitator. They should avoid the role of a 'caring therapist', and focus more on discussion and critical reflection.
    Critical features for the development of the coaching role and the professional behaviour in this role are:
1. Goals and context.
The part workplace facilitators play in the education of teachers is growing, and the nature of their contribution is changing considerably as increasingly they become school-based teacher educators. In their new role, they must not only be able to introduce new teachers to the practices of the school, but also to support them in reflection and research, and in the theoretical underpinning of their practical choices. For this aim, workplace facilitators should develop a research-oriented attitude. In order to realise adequate professional development of workplace facilitators, a strong partnership between schools and institutions for teacher education is important.

2. Forms of support.
Effective are training courses for workplace facilitators and participation in (guided) communities of learners that focus on inquiry and research into one's own practices.

4. Curriculum developer

The development of a curriculum for teacher education is an important aspect of the work of teacher educators and the object of many studies. However, we found only 14 studies on the role of teacher educators as curriculum developers. Given this low number of studies, we limited ourselves to formulating one critical feature. We did not find any studies on professional development regarding the role of curriculum developer and/or regarding the accompanying behaviour.

A critical feature of the role of curriculum developer and the behaviour in this role is:

A variety of approaches and practices.
The literature shows a variety of guiding principles for the role of curriculum developer and their behaviour in this role, which creates an ambiguous situation for individual teacher educators. The role of curriculum developer is determined by local circumstances and by socio-political discussions. Regretfully, in this respect teacher educators seem more following than leading. During the last couple of years, there has been much attention to curriculum development in teacher education in cooperation with schools. However, a systematic approach to curriculum development, starting with the specification of goals, seems an exception.

5. Gatekeeper

In the role of gatekeeper, the teacher educator stands guard at the entrance to the teaching profession. We found only eight studies on this role, which is why we have again limited ourselves to one critical feature. We did not find any studies about professional development in the role of gatekeeper and/or the accompanying behaviour, which is why we did not formulate a critical feature for professional development in the role of gatekeeper.

A critical feature of the role of gatekeeper and the behaviour in this role is:

A variety of approaches and practices.
In general, teacher educators use fixed standards and profiles for the teaching profession, but the paths along which students can learn how to meet those standards differ greatly among various contexts. Portfolios are frequently used as a means for formative or summative assessment. There are, however, doubts about the validity and reliability of the assessment of portfolios and also about the assessment of competencies, in particular because workplace facilitators often have

a different perspective on quality criteria. Teacher educators struggle with the combined role of coach and gatekeeper.

6. Broker

The contribution of the workplace facilitator to the education of teachers is growing, which asks for teacher educators who, in the role of broker, are able to realise alignment of programme elements in close cooperation between the institution for teacher education and the schools. We found 11 studies on the role of broker and the behaviour in this role, but only one of them dealt with the teacher educator's professional development in this role. Therefore, we did not formulate a critical feature for professional development in the role of broker.

Critical features of the role of broker and the professional behaviour in this role are:
1. Goals of cooperation.
There is much agreement about the central goal of the role of broker, namely promoting cooperation between teacher educators from different backgrounds and working in different contexts, in order to better prepare students for the teaching profession. In order to realise this goal, the broker should promote the development of a joint vision, approach and identity by educators in the school and the institution for teacher education.
2. Competencies of the broker.
The professional behaviour in the role of broker requires specific competencies, such as relational skills, being able to focus the joint attention of participants in the cooperation towards specific themes, to consolidate results that have been acquired, and to promote a research-oriented attitude of the participants in the co-operation.

5.2. A REFLECTION

5.2.1. Methodological Reflection

Although we feel we found a good balance between the available time for this review study and the amount of literature we studied, some critical comments are called for concerning the research method used.

Looking at the number of studies we found with the three search engines, we can conclude that each next search engine yielded more than a hundred new and possibly relevant publications. Hence, it might be that the use of more search engines would have contributed to finding more publications. However, we used the criterion of *conceptual saturation*, which means that we did not continue our search because after a content analysis of approximately one third of the studies, no new roles or critical features were found. However, it is possible that a further search would have yielded additional insights.

A similar limitation concerns the choice of the three search terms. This review study deals with a field on which many, often closely related terms are in use, which all touch upon aspects that might be important to our study. For practical reasons, however, we had to accept this limitation. This may in particular have led to consequences as far as the term 'mentor teacher' was involved. If we would have used the term 'cooperating teacher', which is more common in the US, we would probably have found a number of other studies. It is possible that this would have led to new insights or slightly different categorisations, although the disadvantage would have been that the results would then be strongly influenced by the American context. Anyway, it may be important to emphasise that for each theme in this review study, the results are partly determined by the choice of the key words, and by the contexts or the countries in which the selected studies were carried out, although we did try to avoid such local 'bias' as much as possible. As a result of the strict application of Randolph's eight steps, which included asking for feedback from critical friends, we believe that the conclusions of our study are valid and reliable.

In our selection, we only included studies in which the teacher educator was the object of study. This means that studies on, for example, effective pedagogies in certain domains or on curriculum development were not included in this review study when the role of teacher of teachers or curriculum developer was not the central focus. Of course, this could mean that studies could exist that do yield guidelines for the behaviour or professional development of teacher educators in such roles, but that they remained outside our selection. However, it was practically impossible to include all those studies in the review. This could be an explanation for the relatively low number of publications in our selection, especially where it concerns the roles of curriculum developer and gatekeeper.

Finally, in our analysis and synthesis of the literature, we restricted ourselves to journals acknowledged by ISI or ICO. From the studies we found, we also removed a few more because the methodological quality of these studies seemed too low. Moreover, we did not systematically include book publications, as it was often difficult to establish their quality, except in the case of Ph.D. theses. The book publications we did use, are listed in the additional list of references and are marked with an asterisk. Of course, findings from studies we did not use could perhaps also have been valid. It is possible that such publications could have contributed to additional insights. However, for practical reasons, we had to draw a line in our selection. In Chapter 3 we have explained our choices as much as possible.

5.2.2. Reflection on the Findings Concerning (the Behaviour in) the Various Roles

In this section, we make some specific remarks about our findings concerning the (behaviour in) the various roles.

Teacher of teachers

The role of teacher of teachers requires a lot of pedagogical expertise, which should be expressed both in the behaviour in this role and in an awareness of pedagogical principles and theories. Moreover, teacher educators should be able to make those principles and theories explicit and underpin their behaviour (*explicit modelling*). The aim of all this is to promote the use of such theories and principles by the students enrolled in the teacher education programme in their work as teachers. As we have noted, this implies, for example, that teacher educators should have knowledge about adult learning, that they are able to promote active and self-directed learning, and that they can cope with all kinds of tensions and dilemmas. Not all of this is easy, and it makes the role of teacher of teachers complex. In practice, teacher educators do not always possess these competencies, and perhaps they do not always realise that they are important. What is helpful in this context is the availability of professional standards, a knowledge base for the profession of teacher educator, and an educational trajectory and registration procedure for teacher educators (see also Chapter 6). Institutions for teacher education could promote or even require that (all) teacher educators actually use those instruments, as until now, the professional development of teacher educators generally only took place on a voluntary basis. It would also be helpful to the professional development in the role of teacher of teachers to bring more structure into the organisation of peer coaching and coaching by more experienced colleagues. Finally, the powerful instrument of research into one's own practices could be used more broadly in order to promote the professional development as a teacher of teachers and to stimulate teacher educators towards scholarship as the basis of their professional functioning.

Researcher

The role of researcher can offer a major contribution to the professionalisation of teacher educators. It is helpful that relatively many studies focus on this role and on factors favourable to the professional development in this role and for optimal behaviour as a researcher. However, the literature also shows that at the institutional level no "quick fixes" exist for promoting the professional development of teacher educators as researchers (Murray, 2010, p. 200). An important reason is that the fulfilment of this role implies a change in the professional identity of teacher educators, and such an identity change takes time. As Griffiths et al. (2010, p. 258) state it: "becoming a researcher is not an overnight process"; it is rather a "slow journey." Moreover, there is a discrepancy between, on the one hand views in higher education about what is solid research and on the other the needs and views of at least part of the teacher educators themselves.

Coach

The coaching of students' learning processes is an important aspect of the work of teacher educators. It is noteworthy that studies on (the development of) the professional role and the professional behaviour of teacher educators as coaches

generally focus on the workplace facilitator. Studies on the institution-based teacher educator as a coach are almost nonexistent, whereas the rare studies we did find, show that this role creates certain pitfalls. Further research in this area seems needed.

Although the trend seems to be to promote cooperation between institutions for teacher education and schools, the selected studies show that, in practice, workplace facilitators have a rather local perspective and define their own role as merely being an advisor. Training and participation in communities of learners seem productive ways for promoting the professional development of workplace facilitators towards a broader role conception.

Curriculum developer

Although Cochran-Smith (2006*) emphasises that teacher educators should play an active role in the socio-political debate about principles guiding teacher education programmes, this is hardly the case. Pedagogical principles appear to be constantly changing under the influence of certain trends, and are often hardly supported by research findings. Studies on the practice of curriculum development by teacher educators are rare. We did not find any studies on the professional development of teacher educators as curriculum developers. However, as mentioned above, there is quite some literature about curriculum development in general, or in the area of pedagogical content matter. This literature may offer guidelines for the teacher educator's role as a curriculum developer, but these studies were not included in our selection if the role of the teacher educator was not an explicit theme.

Gatekeeper

Teacher educators are expected to stand guard at the entrance to the teaching profession. It is remarkable that we did not find any studies discussing an explicit view of teacher educators in the role of gatekeeper or the use of standards in this role, whereas the literature shows that teacher educators struggle with it. The teacher educator as a gatekeeper is expected to give summative assessments of teachers based on standard lists of competencies, whereas teacher educators wish to include their students' learning processes in their evaluations. Another tension emerges as assessments of the practical components of the teacher education programme are often based on observations, whereas the assessment of competencies requires that besides skills, knowledge and attitudes are also assessed. Finally, the contribution of the workplace facilitator to the assessment is often vague. It is noteworthy that we did not find any studies on the professional development of teacher educators in the role of gatekeeper.

Broker

The role of broker is a relatively new one for teacher educators. In a large number of studies, one can find references to this role, but research on this role is still scarce. There seems to be general consensus about the core of this role: the essence is creating cooperation structures between teacher educators from different backgrounds and working in different contexts with the goal of improving the

quality of the education of prospective teachers. The selected studies provide a first indication regarding the qualities the broker should have in order to fulfil this role. Given the trend towards professional development schools, this seems a field on which further research is urgent. Such research should also give attention to the professional development of teacher educators in the role of broker and the accompanying behaviour, topics that are at present absent in the literature.

A missing role?
Finally we note that from our review of the literature no role emerges that we could describe as 'organiser' or 'coordinator', whereas we know that many teacher educators put much time and effort into organisational work and coordinating tasks. Koster (2002*) did an empirical study on the tasks and competencies of teacher educators and found that important task areas are (a) *taking part in policy development and the development of teacher education*, and (b) *organising activities for and with teachers*. An explanation for the fact that in our literature review we did not find a role such as organiser or coordinator could be that this role is considered an integral part of other roles and is thus not studied separately. Only in the literature about the role of broker, organisational aspects and consequences for the teacher educators' behaviour are explicitly mentioned. Another explanation can be that this role is perhaps not specific to teacher educators, because every teacher in higher education fulfils certain organisational or coordinating tasks. Finally, a simple explanation can be that researchers find this area less interesting as a research theme.

5.2.3. Reflection on the Status Quo in the Research

This review study provides an analysis and synthesis of the literature that fills a gap in the research on teacher educators and their work. The roles and critical features we found make visible what until now had remained below the surface in the literature. The critical features offer guidelines for further research, for practice, and for policy. They show the status quo on this field, and as such they may give support to teacher educators, coordinators, or policymakers searching for information about the profession of teacher educators. The list of roles and critical features can also help to further develop a knowledge base for teacher educators and offer building blocks for the professional development of teacher educators. Hence, we consider this review study as a step forward on this field.

The growing empirical basis for the profession
We wish to add some critical comments. When overseeing the literature used in this review study, we draw two conclusions:
1. The literature is unevenly distributed and shows a variety of foci. What is lacking is conceptual coherence, but also clear lines of research and attempts to promote collaboration of researchers. Examples in which researchers try to extend each other's work are rare.
2. Solid quantitative studies are almost completely absent in the literature.

Our first conclusion will not be a surprise, as it was the incentive to carry out this review study and, in this respect, this study represents an important development, as an analysis and synthesis has been made of what has been published in quite scattered sources.

We may conclude that there is a beginning of an empirical basis for the professional behaviour of teacher educators. However, the degree to which an empirical basis for the profession of teacher educator exists, differs per role. Although this study offers an important contribution to the further development of a systematic, structured, and transferable knowledge base, we have not reached the point at which teacher educators can dispose of a robust, research-based foundation for their behaviour in the various roles.

Many studies deal with the central role of teacher of teachers. It is remarkable that this research also shows that in practice, the behaviour of teacher educators is often problematic. This may be a reason for the lack of strong empirical support for specific strategies and pedagogical approaches in teacher education as noted by Cochran-Smith & Zeichner (2005*).

Studies on the role of researcher show a gap between institutional policies and teacher educators' practices. Empirical studies on ways of bridging this gap are rare. Murray (2010) concludes that

> … the hard fact is that, within many other Schools of Education, teacher educators as new researchers may still find themselves struggling to reconcile their practitioner research with definitions of 'acceptable' and 'conventional' research outputs. (p. 206)

According to Murray, the challenge is to develop a "new language of learning and scholarship" (p. 207) which connects workplace learning, research, personal experiences, and teacher education practices.

Most of the research on the role of coach is focused on the workplace facilitator. This research shows that for this role too, there is quite a distance between ideals and reality. In practice, the workplace facilitator mainly functions as a local guide and a practical advisor. The ideal is that workplace facilitators become school-based teacher educators able to put their own teaching practices and those of their student teachers under discussion, in a reflective manner. The available research shows some first examples of professional development activities contributing to such a development.

For the other three roles, too, more research is needed, as discussed above. Regarding the role of broker, we may conclude that there is a beginning of an empirical basis, but this basis is still not strong. This is also true for the roles of curriculum developer and gatekeeper, but we expect that additional building blocks for an empirical basis for these roles can be found in studies on curriculum development and assessment in teacher education (i.e. studies in which the teacher educator is not the central focus).

As far as the improvement of an empirical basis is concerned, the growth of the *self-study movement* is important: increasingly, teacher educators do research into

their own practices. However, in this research strand, methodological rigour, depth and connections with other literature are sometimes missing. Teacher educators carrying out self-studies should give more attention to "going beyond the story", as Loughran (2010*, p. 223) calls it. We believe that this is essential to bringing the profession of teacher educator to a higher level. Teacher educator-researchers could in this respect try to collaborate more and to combine their efforts.

5.2.4. Reflection on the Relation between Research and Teacher Education Practices

The literature shows that many teacher educators feel they can hardly build their behaviour on a robust theoretical framework or on standards formulated by the professional community (Snoek, Swennen, & Van der Klink, 2011). On the basis of our review study, we also conclude that where the literature does offer insights into what kind of teacher educator behaviour is effective in certain roles, the actual behaviour of teacher educators is not always in line with this. The reason seems to be that teacher educators are often insufficiently informed about the literature, and that they are often not focused on strengthening their theoretical knowledge. In conclusion, it seems important to promote scholarship as the basis of the profession of teacher educator. This is true for all six roles that we found.

The link between research and teacher educators' practices can be strengthened considerably. A mere focus on practical skills of the teacher educator seems insufficient. In an in-depth study of six teacher educators, John (2002) found that

> … they all argued strongly for the preparation of teachers by means of improving their student teachers' capacity for professional judgment and decision making rather than by providing extensive practice of skills in a single classroom - or even several. They also called for the exercise of insight, strategic understanding and critical thinking rather than effective performance of learnt skills. Additionally, they desired to develop practical wisdom in their students rather than endlessly refined but situation-specific instrumental knowledge. (pp. 336-337)

We think that many teacher educators will agree with this perspective, but our study shows that in this respect, there is still much work to be done. This is why several authors advocate supporting individual teacher educators' searching for optimal behaviour by means of a systematic induction programme. However, more methodologically strong and systematic research is needed in this area before it is possible to develop an 'evidence-based' induction programme. On the basis of the literature, Murray (2010, p. 205) states that the idea of research into one's own practices should get a central place in an induction programme for teacher educators. This is exactly the kind of research that creates a strong bridge between research and teacher education practices. A good example can be found in Israel, where the existence of the MOFET Institute has led to interesting outcomes regarding the professional development of teacher educators in the role of researcher. This shows that an investment in creating supportive contexts can be

fruitful. Helpful contexts cannot always be realised easily within separate institutions, and it thus seems helpful to organise the professional development of teacher educators at the national level. A less far-reaching form was described by Jones at al. (2011), namely a collaboration structure between seven universities in England, aimed at the promotion of research by teacher educators. Such initiatives to transcend separate institutions may help to positively shape the helpful factors that we have discussed.

5.3. RECOMMENDATIONS

5.3.1. Recommendations for Further Research

On the basis of this review study, we can conclude that there is a need for further strengthening of the empirical basis for teacher educators' behaviour in most of the roles. We have the following recommendations for further research:

1. A coherent research programme

As the current research is small-scale and scattered, our overall conclusion is that it is important to create a coherent research programme on the professional behaviour and the professional development of teacher educators. More international collaboration seems important. The following, more specific recommendations could be leading in such an effort.

2. The professional behaviour of teacher educators

More systematic research is necessary into the professional behaviour of teacher educators. Also, more knowledge is needed about critical features determining the behaviour of teacher educators in their various roles, and on the effectiveness of this behaviour. As studies in this area are often small-scale and isolated, more coherence is urgent. In particular, longitudinal research into long-term effects of teacher educators' behaviour on teachers seems important. In addition, more large-scale and quantitative studies are needed.

3. Professional development

A similar recommendation can be given regarding the professional development of teacher educators. This is also an area on which little is known, in particular about what is effective in supporting teacher educators in their professional growth. Research should focus on relations between on the one hand promising activities aiming at the professional development of teacher educators (for example participating in a training trajectory or carrying out research into one's own practices), and on the other hand at resulting learning processes and outcomes, also in the longer term. Although some research findings seem directly useful to teacher educators and have yielded knowledge directly applicable to their practices, teacher educators are often unaware of this knowledge. Hence, research should also focus on the question of what is helpful to promoting the transfer from research outcomes to the daily work of teacher educators.

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4. Research into one's own practices
Given the impressive contribution to the professional development of teacher educators of research into one's own practices, it is important to promote this kind of research at (inter)national and institutional levels. In this respect, the critical features we derived from the literature could be helpful in creating optimal contexts. What is also needed is evaluative research on self-study research by teacher educators (thus research at a meta-level).

5. School-based teacher education and the role of broker
The trend towards school-based teacher education has an important meaning to society as a whole. Therefore, in the relatively new research area dealing with the crucial role of the teacher educator as a broker, studies should focus on the question of what is effective in teacher educators' behaviour in this role. Here, we should understand the term 'effective' in the sense of what the learning outcomes in teachers are of the teacher educator's behaviour in the role of broker. It is also necessary to do research on the professional development of teacher educators in this role.

6. Research on the roles of coach, curriculum developer, and gatekeeper
We recommend that specific research should be done into (the effectiveness of) the behaviour of teacher educators in the role of coach, and on effective forms of professional development of teacher educators in this role. Such research should focus both on institution-based teacher educators and workplace facilitators. A specific point of attention could be how workplace facilitators can be supported to go beyond their often local perspective.

Research on the role of curriculum developer should focus on the question of how teacher educators, both in schools and in institutions for teacher education, could be supported in the joint development of a research-based curriculum, using new insights into effective pedagogies of teacher education. Here an important aspect is how to avoid teacher educators becoming entangled in local and political conflicts and all kinds of short-term trends, and to promote their ability to defend research-based standpoints and use them for effective curriculum development.
Given the responsibility of teacher educators towards society, in particular in their role as gatekeeper, more research is needed into the validity and reliability of assessment procedures in teacher education, the concrete behaviour of teacher educators in their role of gatekeeper, and their professional development in this role.

5.3.2. Recommendations for Practice

We have the following recommendations for practice:

1. Use of this review study
Teacher educators could make more use of the existing literature on their profession. Given the fact that many teacher educators are constantly struggling with time constraints, this book could be a powerful instrument, as it is a synthesis

of the most important research in this area. We believe it is important that this review study would also be used by policymakers at the national and institutional level.

2. Enhancing professional development
At national and institutional levels, more attention should go to systematic forms of professional development of teacher educators. To this end, the above conclusions and discussion can be helpful. Also good examples from other countries can be used to strengthen the situation in one's own context. As an example, in Chapter 6 we describe a few productive developments in the Netherlands. More attention is needed to the professional development of school-based teacher educators and workplace facilitators, also to help them to transcend a local perspective. Creating communities of learners in which institution-based and school-based teacher educators collaborate, can be a powerful instrument.

3. Trends in the pedagogy of teacher education
Given the lack of evidence about pedagogical strategies and instruments in teacher education, teacher educators and policymakers could be more critical regarding new trends in the education of teachers. Teacher educators could also contribute more actively to policymaking in this area.

4. Assessment and the role of gatekeeper
More attention to the validity and reliability of assessment procedures in teacher education and the concrete behaviour of teacher educators in their role of gatekeeper seems urgent. In this role, teacher educators have a responsibility towards society. Hence, more attention is needed to the professional development of teacher educators in the role of gatekeeper.

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6. THE DUTCH CASE

Quality Improvement in the Profession of Teacher Educators

6.1. INTRODUCTION

As stated in the previous chapters of this book, teacher educators play a crucial role in maintaining and developing the quality of teachers, both at the primary and the secondary level (Liston, Borko, & Whitcomb, 2008). As we have seen in recent years, a variety of scholars have emphasised this implies that teacher educators have a profession of their own, which should be distinguished from the profession of teachers, and that there is a need for the further professional development of teacher educators (Murray & Male, 2005; Swennen, Jones, & Volman, 2010).

Given the fact that many become teacher educators after being recognised as a good teacher, without any additional training for their new job, one might well ask what needs to be done before being a teacher educator will really be a profession in its own right. From the start of this millennium on, the Netherlands has been one of the countries that has taken the lead with regard to the development of the profession and the professional development of teacher educators. In this chapter, we report on these Dutch developments. The chapter is based on three national projects that the authors of this chapter have been involved in.

Occupation or Profession?

Verloop (2001*) describes how an occupation can become a profession. In order to become a profession, an occupation should meet the following criteria: (1) the profession performs a crucial social function; (2) the profession requires a considerable degree of skill; (3) its practitioner draws on a body of structured knowledge; (4) entrance into the profession requires a lengthy period of higher education; (5) the profession focuses on the pre-eminence of clients' interests; (6) professionals have a certain amount of freedom to make their own judgments with regard to what is considered appropriate practice; and (7) the profession is rewarded with high prestige and a high level of remuneration. These criteria concur with a review study by Krishnaveni and Anitha (2007*) on educators' professional characteristics, which also confirms that an occupation involves formal requirements and an extensive formal education in order to become a profession.
In most western countries, the occupation of teacher educator meets the criteria 1, 5 and 6, but the other criteria still seem in need of further attention. Criterion 3, for example, presumes that a well-defined knowledge base is available, while criteria 2

and 4 imply that well-defined programmes exist for the professional preparation of future teacher educators. In sum, criteria 2, 3, and 4 raise the question what and how teacher educators should learn. Answering these questions, theoretically as well as in practice, might also contribute to fulfilling criterion 7.

Based on the review study presented in this book, besides conclusions on the current state of research on the profession of teacher educator and recommendations for future studies, we have also formulated several recommendations for practice that answer this question (see Chapter 5).

Our first recommendation is to strengthen the scholarship of teacher educators, because research shows that teacher educators often feel they lack a frame of reference and a solid theoretical basis for their behaviour. The review study shows that national frames of reference as, for example, the Netherlands and Belgium have developed, are helpful. In the next section, we describe the Dutch professional standard and the procedure linked to the standard that teacher educators pass through to become a teacher educator registered with the Dutch Association of Teacher Educators. We will also summarise the outcomes of a study on this project, which started in 2002.

More recently, Dutch teacher educators can also consult a web-based knowledge base. In Section 6.3, we report on the development of this knowledge base, which started in 2009, and on a study about how teacher educators view and use this knowledge base.

The review study also showed that, even when a frame of reference and a theoretical base are available, teacher educators often do not behave in line with what is known. Hence, teacher educators should be stimulated to learn about and also use the available knowledge to strengthen their scholarship. Therefore, our second recommendation is to organise systematic professional development. To support the difficult search of – beginning – teacher educators for improving the quality of their teaching of student teachers, the suggestion has been put forward in several studies to develop a programme for teacher educators. Building blocks could be a national frame of reference, a systematic knowledge base and, more specifically, learning to carry out research into one's own practice. Such research, if supported by the institutions involved, can bridge the gap between theory and practice, and is a productive form of professional development (Murray, 2010). In the Netherlands, a programme based on these ideas was carried out twice (in 2011 and 2012). In Section 6.4, we discuss this programme and how it was evaluated by the participating teacher educators.

6.2. PROFESSIONAL STANDARDS AND REGISTRATION PROCEDURE[1]

6.2.1. The Project

In 2001, the Association of Dutch Teacher Educators initiated the project "*Professional Quality of Teacher Educators*". In this project, a professional standard, and a procedure for (self-)assessment and professional development have been developed for teacher educators in order to obtain certification.

The foundation area: basic attitudes and beliefs for teacher educators

F1 A teacher educator can work at *three levels*:
- has insight into his/her pupils' development
- facilitates and supervises the student teacher's development
- takes charge of his/her own professional development.

F2 Teacher educators formulate their own *educational vision*, one linked to the reality. They are able to adapt this vision to the pedagogical views of their institution, and to communicate this clearly to colleagues and students. Their educational vision must therefore be outward looking.

F3 A teacher educators *attitudes* are:
- is open to others and is a good listener
- dares to take risks and be initiative
- can offer feedback and is synonymously open to receiving it
- stands by his/her views and can argue them convincingly
- is dedicated, committed and involved
- strives to solve problems with tact and diplomacy.

F4 A teacher educator uses in his/her work the following criteria for *realistic teacher education*:
- takes, as a starting point, the specific practical problems and concerns experienced by teachers and student teachers, including those of the subject matter being taught
- is oriented towards the stimulation of systematic reflection (Note: this reflection is directed towards acquiring subject knowledge, establishing routines, seeking professional growth, etc.)
- makes deliberate use of both interaction between the educator and individual students, as well as between the students themselves
- works in an integrated manner, both with regard to the integration of theory and practice and to the integration of different disciplines
- acquires and maintains knowledge from a variety of sources.

F5 These attitudes and beliefs mean that the teacher educator must be prepared to take and develop initiatives together with his/her *students* in all competency areas. The educator considers the student as a partner qualified to contribute towards the development, implementation, and evaluation of his/her own education and development.

F6 Teacher educators must also be a *model* in all five competency areas. This means, for instance, that they must implement what they consider to be important into their own pedagogical behaviour.

General competencies
The five competency areas are:
(0) ICT competencies
(1) Content competencies
(2) Pedagogical competencies
(3) Organisational competencies
(4) Group dynamic and communicative competencies
(5) Developmental and personal growth competencies
The last competency area listed is a prerequisite for the first five; it is a 'meta-competency' that the other competencies depend on.

Figure 6.1. The first version of the Dutch standard for teacher educators

In the first version of the Dutch standard, the attitudes and beliefs of teacher educators are formulated as 'The foundation: basic attitudes and beliefs for teacher educators'. The knowledge and skills of teacher educators are formulated as 'General Competencies' consisting of five competency areas. Each area contains a set of related elements occurring in the teacher educator's work with some regularity (see Figure 1).

The standard is used as a reference point by teacher educators going through the procedure of self-assessment and professional development. They are asked:

1. to analyse their strengths and weaknesses by using a structured standards-based score form and describe authentic situations demonstrating good practice examples from their own work;
2. to discuss these products with a peer coach who is also a participant in the procedure;
3. to assemble feedback from colleagues and student teachers by giving them a structured standards-based score form to be filled out by at least 30 students and five colleagues;
4. to formulate goals and develop a plan for professional development;
5. to assemble a portfolio containing a description of how they have worked on their professional development and of the outcomes of their professional development.

Participants first come together for an introductory meeting. In this meeting, the procedure is explained and participants select a peer coach. Participation in the procedure is on a voluntary basis. Every participant is assigned two peer assessors. The assessors are selected by the Dutch Association of Teacher Educators. Peer assessors are paid and trained for their work. They evaluate the products and portfolios of the participants, and judge whether a participant will be allowed to receive registration.

In the end, successful completion of the procedures of self-assessment and professional development allows the participant to become registered as a certified teacher educator. After four years of being registered, the certified teacher educators will go through a re-registration procedure.

6.2.2 Research on the Project

Regarding the teacher educators participating in the Dutch project "*Professional Quality of Teacher Educators,*" we aimed at answering three questions:
1. *What goals do they formulate for their professional development?*
2. *What kind of professional development activities do they engage in?*
3. *What are the outcomes of their professional development?*

For our study on their professional development, we used 25 portfolios, completed between April 2001 and December 2003, while also securing permission from those participants to disclose information from their files.

Table 6.1 illustrates the age distribution of the participants.

*Table 6.1.   Age of the participants whose professional development
we studied (n=25)*

Age of the participants	Number of participants
30-39 years	7
40-49 years	13
> 49 years	5

Out of the 25 participants, eleven were working in a teacher education college or department for primary education, and five in a teacher education department for secondary education. Six participants were working in a university teacher education programme, and three in a specific teacher education programme within subject-based colleges such as art and physical education colleges.

This group participated voluntarily in the procedure of (self-) assessment and professional development. They were also members of the Dutch Association of Teacher Educators (VELON).

Koster (2002*) found that a VELON member is, in general, more active in the field of professional development than a non-member. Our research, therefore, focused on a specific group: a relatively active, motivated, and experienced group of teacher educators. And additionally, the members of the group may be characterised as "early adopters", because they participated in the first two years of existence of this (self-) assessment procedure.

Method

To answer our first research question, the elements of the Dutch standard for teacher educators were used to categorise the goals the participants had defined in their own assessments of professional development. Two independent researchers were commissioned to carry out this categorisation.

At times, the participants wrote down goals corresponding exactly to the Dutch standard categories. In other cases, the researchers categorised the goals teacher educators had formulated into one or more elements of the standard. The reliability of the scores of the two researchers was substantial (Cohen's Kappa = .69).

To analyse the data for answering the second research question, we used a model based on the work of Hoekstra and Bakkenes (2004*) and Berings, Gelissen and Poell (2004*). Based on these studies, we selected the following six categories of professional development activities of teacher educators in our study:

1. Learning by doing (non-intentional)
2. Applying or experimenting (intentional)
3. Reflecting on work experiences
4. Learning without interaction
5. Learning through interaction
6. Learning outside of work

Again, two independent researchers performed the categorisation. The inter-rater reliability of the scores of the two researchers was substantial (Cohen's Kappa = .81).

When analysing the data for answering the third research question, which regards the outcomes of the participants´ professional development, we used some studies (Korthagen & Lunenberg, 2004*; Kallenberg & Koster, 2004*) that allowed us to set up distinctions between outcomes at the personal level and those at the collective level:

1. Outcomes at a personal level: change in cognition;
2. Outcomes at a personal level: change in behaviour;
3. Outcomes at a collective level: shared with others.

Two independent researchers performed the categorisation. The inter-rater reliability was almost perfect (Cohen's Kappa = .88).

Results

Goals of professional development:

As explained above, the goals of the teacher educators participating in the procedure of (self-) assessment and registration are categorised in combination with the professional standard for Dutch teacher educators. The number of times standard elements are formulated as goals for professional development is formulated in Table 6.2. In this table, we also list the number of participants who chose a certain area of the professional standard for their professional development. As we can see in Table 6.2, almost all seven areas of the professional standard were used by those participating when formulating their goals for professional development. The exception is area C.4, group dynamics and communicative competencies. Only one participant chose this area for professional development. The reason for such a low score in that area may be due to the fact that teacher educators are in general more experienced teachers, who have previously developed these kinds of competencies during their teaching career.

Out of the foundation (area F), participants frequently selected improving their attitudes as a goal. Taking into account the number of elements in certain areas, four competency areas were chosen quite often: ICT, pedagogical competencies, organisational competencies and developmental / personal growth competencies.

As verified in Table 6.2, participants chose professional development of knowledge and skills 51 times (Areas C.0 to C.5, 20 elements) and the professional development of attitudes and beliefs (Area F, so the sum of F.1 to F.6, 17 elements) was chosen 19 times.

As shown in Table 6.3, we observed that 13 participants chose the development of knowledge and skills, 9 participants chose the development of a combination of knowledge and skills and attitudes and beliefs, and 2 participants chose development of attitudes and beliefs only.

We conclude that participants are more focused on the improvement of their knowledge and skills than on the improvement of their attitudes and beliefs.

Table 6.2. Number of times an aspect of competence is chosen as a goal for professional development and the number of participants who chose a certain area for professional development (n=24)

Area of the standard (see Figure 1)	Number of elements within this area of the standard	Number of times these elements within this area were chosen for professional development	Number of participants who chose this area for their professional development
F 1: Three levels	1	0	0
F 2: Educational vision	3	2	1
F 3: Attitudes	6	12	8
F 4: Realistic teacher education	5	3	3
F 5: Student as partner	1	1	1
F 6: Being a role model	1	1	1
C.0: ICT	1	8	8
C.1: Content competencies	3	6	5
C.2: Pedagogical competencies	7	14	11
C.3: Organisational competencies	3	12	9
C.4: Group dynamics and communicative competencies	3	1	1
C.5: Developmental and personal growth competencies	3	10	9
Competencies outside the standard	1	2	2

Table 6.3. Number of times participants chose attitudes and beliefs and/or knowledge and skills as professional development goals (n=24)

Combination of characteristics of competency	Number of participants
Only attitudes and beliefs (Area F)	2
Only knowledge and skills (Areas C.O to C.5)	13
Combination of attitudes and beliefs (area F), and knowledge and skills (Areas C.0 to C.5)	9

Professional development activities:

The second research question was: "What kind of professional development activities do the teacher educators engage in?" The number of times participants engaged in professional development activities is listed in Table 6.4. When different activities falling under the same category were indicated by the participants, all activities within that one category were tallied.

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Table 6.4. Number of times professional development activities were undertaken by participants, per professional development category

Professional development category	Number of times professional development activities within this category were undertaken	Number of participants who engaged in professional development activities within this category
1. Learning by doing (non-intentional)	0	0
2. Experimenting (intentional)	30	18
3. Reflecting on work experiences	9	7
4. Learning without interaction	15	14
5. Learning through interaction	29	18
6. Learning outside of work	0	0

Although we found a wide variety of descriptions of professional development activities, they all fit into four categories. For each of these four categories we give examples of activities:

1. 'Experimenting': contributing to an aspect of curriculum renewal, writing policy advisements, designing an innovative workshop, organising an excursion, using new materials or techniques, paying more attention to a special group, and stimulating students to broaden their scope.
2. 'Reflecting': making a video of the participant's own lessons and analysing it, describing realistic situations, and devising a report of self-conducted training.
3. 'Learning from others without interaction': reading literature (the most frequently mentioned activity), and conducting written evaluations, which was also included because in such cases there is no personal interaction.
4. 'Learning from others through interaction': following a course (the most frequently mentioned activity), having a conversation with colleagues and or executive staff, video-interaction supported by a colleague, consulting a coach, supervisor or external expert, evaluations with students, and spending more time with colleagues at lunch.

As we can see in Table 6.4, the participants showed a preference for experimenting and interactive learning in professional development activities. Participants often engage in more than one professional development activity within these categories. On the other hand, at least sixteen participants went through a process of professional development without reporting any reflection on their work experiences. Ten other participants went through a process of professional development without reporting reading a book or consulting another source of literature.

The vast majority of the participants engaged in more than one professional development activity. About two-thirds of the participants attempted two to four

professional development activities. Based on the combinations of development categories the participants had chosen, we found that for their professional development they mostly combine 'experimenting' with 'learning through interaction'. We also found that if they did read literature as part of their professional development, this was most often combined with 'learning through interaction' and 'experimenting'.

Outcomes of professional development:
The third research question was "What are the outcomes of the professional development activities for the participating teacher educators?" To answer this question, we checked their portfolios on explicit formulations of the outcomes of their professional development activities. We found that they all reported outcomes related to the professional development goals they had previously articulated, and eleven of those participants also reported further outcomes unrelated to their professional development goals.

Table 6.5 illustrates the number of participants who mentioned outcomes of their professional development activities related to our categorisation: outcomes on a personal (change in cognition or in behaviour) or collective level.

Table 6.5. Number of participants who mentioned outcomes from professional development activities related to goals on a personal or collective level

Outcomes of professional development activities	Number of participants
1 On a personal level: change in cognition	24
2 On a personal level: change in behaviour	17
3 On a collective level: shared with others	10

Nearly all participants mentioned outcomes in category 1, changes in cognition. Examples of documented outcomes in this category are: (1) "[as a result of studying literature] I started thinking about the supervision of teaching practice from different perspectives." (2) "I have become more conscious of the moments I stimulate students." (3) "I know better how I can make use of ICT." (4) "I have become more aware of my role as a teacher educator within my faculty department."

Two-thirds of the participants mentioned outcomes in category 2, changes in behaviour. Examples of these changes are: (1) "Now I pass through the different phases of systematic reflection in a supervision situation without a note." (2) "In my lessons I use a wider variety of pedagogical instruments." (3) "I communicate more effectively with colleagues." (4) "I have experimented with a new teaching method, which has to be adapted on some minor points."

Ten, i.e. a few more than one-third of the participants, mentioned outcomes in category 3, at a collective level. Examples of such outcomes that were shared with others are: (1) "For my department I have written a paper on reflective teaching." (2) "I have made a list of competencies that should be attained during the in-service teacher education, as an aid to student teachers and their teachers." (3) "I

have developed a new course together with a colleague." (4) "I have made for and given to the management of my institution a plan to realise more structural peer coaching between the teacher educators of our institution."

As is shown in Table 6.6, most of the participants have outcomes in more than one category. More than one-third of the participants report outcomes in all three categories.

Table 6.6. Number of times a participant reports a combination of outcomes

Outcomes category	Number of participants (N=25)
1 (cognition only)	5
2 (behaviour only)	1
3 (shared with others only)	0
1 and 2	6
1 and 3	3
2 and 3	0
1, 2 and 3	10

Outcomes in category 3, 'shared with others', only occur together with outcomes in category 1, 'personal level, change in cognition'.

Reflection
In sum, we found that teacher educators who voluntarily participate in a standards-based procedure for (self-)assessment and professional development: (1) are able to set goals for their professional development, (2) are challenged to use a broad variety of professional development activities, and (3) experience that they – and in many cases their professional environment as well – benefit professionally from participating in this procedure.

However, we wonder if this result indicates that a participant's knowledge base is cultivated more by new experiences and feedback from others than by deep reflection and theoretical input.

6.3. A KNOWLEDGE BASE OF TEACHER EDUCATORS

6.3.1. The Project

Since 2002, hundreds of teacher educators have gone through the process of becoming a formally registered teacher educator as described in the section above. They have shown positive changes in their practical knowledge and behaviour. Moreover, the self-confidence of the participants and their enthusiasm seems to have increased. At the same time, however, an important aspect of professional development has been neglected, almost no attention has been given to the deepening of theoretical knowledge. A main reason has been that teacher educators find it difficult to allocate time to study and to find their way in the growing amount of available literature.

The aim of this second Dutch project, which started in 2009, was to help teacher educators in studying and using the available literature by developing a structured knowledge base of teacher educators, i.e. an accessible and inspiring overview summarising the knowledge essential to the professional development of teacher educators.

What is a Knowledge Base?
A knowledge base is intended to help professionals and a professional community in capturing the essential knowledge needed to underpin and improve their professional practices. Since the eighties, several attempts have been made to identify the knowledge that *teachers* should acquire and that teacher educators should thus teach (Shulman, 1987*; Valli & Tom, 1988*; Verloop, Van Driel, & Meijer, 2001*). This work provided a framework for our project to develop a knowledge base *for teacher educators*.

Following Shulman and Shulman (2004*), we defined such a knowledge base as follows:

> A knowledge base of teacher educators is a structured and easily accessible collection of knowledge of the professional community. It includes theoretical, pedagogical and practical knowledge, and offers teacher educators the opportunity to confirm, interconnect, share and further develop their professional knowledge, vision, motivation and practices.

Shulman and Shulman emphasise that a knowledge base is a *dynamic* set of knowledge shared by a professional community, and they distinguish between *shared knowledge* (which every community member should have) and *distributed knowledge* (which should be available in a team or community as a whole, but not necessarily in each member).

The Development of the Knowledge Base
Next, the question arose as to how to structure the available knowledge of teacher educators in such a way that the website could function both as a canon to the novice teacher educator and as a core frame of reference to the experienced teacher educator, as Wilson (2006) suggested. We decided to develop the knowledge base in two stages. To start with, semi-structured interviews were carried out with stakeholders (the board and special interest groups of the Dutch Association of Teacher Educators) and some academics who had not only published extensively on the professional development of teacher educators, but were also involved in the education of teacher educators. The aim of the interviews was to identify possible domains of a knowledge base. Parallel to these interviews, an extensive literature search was carried out. Based on the results of the interviews and literature study, ten domains were identified.

To validate the format, an international expert meeting was organised. Besides experts from the Netherlands, experts from the UK, Australia and the USA participated in "one of the best 'staff development' events I have attended in a long time" (as one of the participants wrote) and discussed the proposed domains. In

general, the participants recognised and acknowledged the identified domains. Some minor corrections were suggested and further refining took place. The main discussion, however, focused on the status of the various domains and the question which domains represented the knowledge every individual teacher educator should have (i.e. what Shulman and Shulman, 2004*, call 'shared knowledge'), and for which knowledge it would be sufficient if available within a team or the professional community ('distributed knowledge'). The outcome of this process is represented in Figure 6.2.

The four core domains are basic, and applicable to all teacher educators. The specific domains take into account the different contexts in which teacher educators work, and their specialisation (e.g. a specific academic domain/subject or pedagogical content). The extended domains are in their most basic form relevant to all teacher educators, but in their full depth they are intended for teacher educators specialising in such a domain.

Core domains

1. The Profession of Teacher Educator
2. Pedagogy of Teacher Education
3. Learning and Learners
4. Teaching and Coaching

Specific domains

1. Programme-specific Teacher Education
2. Subject-specific Teacher Education

Extended domains

1. Context of Teacher Education
2. Organisation of Teacher Education
3. Curriculum Development and Assessment
4. Research by Teacher Educators

Figure 6.2. The ten domains of the knowledge base of teacher educators

The aim of the second stage was to fill the domains with content. A development group was installed, consisting of experts and members of various special interest groups of the Dutch Association of Teacher Educators. Important criteria for inclusion were: being active as teacher educator and being involved in national networks of teacher educators (thus probably having a helicopter view). Also important was to involve a number of persons who had a good overview of

the research on teacher educators. Finally, involvement of teacher educators from institutions for teacher education in different parts of the country was taken into account, in order to assure a broad ownership.

The approach of this group was iterative and interactive. The group members discovered that formulating leading questions could be an inviting way of structuring the domains for colleagues. These leading questions were meant to cover the essence of the domains. For example, the leading questions for the domain *Teaching and Coaching* are: What is teaching? How to take students' ages and experiences into account? How to support collaborative learning? When is teaching or coaching effective?

It was also discussed that these leading questions could be answered from several perspectives. The development group decided to distinguish a theoretical, practical, reflective, and a developmental perspective. Hence, for each domain a matrix consisting of leading questions (rows) and perspectives (columns) was developed.

An important decision of the development group was to invite teacher educator-researchers to contribute to filling the matrix cells. It was felt that this could be an excellent way of stimulating ownership of the knowledge base by the professional community. The willingness to co-operate proved to be strong. Many teacher educator-researchers contributed to the theoretical perspective of the knowledge base by writing encyclopaedic texts. This meant that rich literature studies could be incorporated into the knowledge base.

Even more teacher educators wrote vignettes or sent video clips to fill the cells from a practical perspective. Altogether, almost eighty colleagues contributed to the knowledge base. The reflection and the discussion cells (with questions for reflection and discussion), and the development cells (with suggestions for further reading) were filled by the development group. In the spring of 2011, the website was launched at the annual Conference of the Dutch Association of Teacher Educators.

6.3.2 Research on the Project

Research questions and design
The proof of the pudding, however, is whether or not the knowledge base is experienced as relevant and will be used. In order to investigate this, we carried out a survey among teacher educators. Our leading questions were:
1. *To what extent do teacher educators find it relevant to have knowledge of each of the ten domains in order to perform well in their profession?*
2. *To what extent do teacher educators find the theoretical content of the four core domains useful to their profession?*

Instruments:
In order to answer the research questions, a questionnaire was developed consisting of five parts:
1. A brief introduction about the development of the knowledge base and

instructions on how to fill it out.

2. Some basic questions about the respondent's workplace, years of experience as a teacher educator, and so on.

3. The scoring of the relevance of the ten domains to their work as a teacher educator on a ten-point Likert scale (1 = not at all relevant, 10 = extremely relevant). In order to do so, the respondents could read the leading questions of each domain.

4. Then, the respondents were asked to read the experts´ theoretical texts for a core domain, and to answer questions on the usefulness of these texts, to be scored on a four-point scale. The core domains were evenly distributed over the questionnaires, so that we were able to collect data for each core domain.

5. Finally, the participants were asked if they were missing themes, and if they intended to use the knowledge base in the future.

A trial version of the questionnaire was first tested on two teacher educators, which led to some minor changes in the text and its layout. In the Netherlands, the questionnaire was filled out during a national conference and several workshops for teacher educators. The workshops also offered an opportunity to discuss the relevance and usefulness of the knowledge base, which provided us with some additional insights.

Participants:

Questionnaires were filled out by 125 respondents. There were 118 teacher educators in the sample, 65 institution-based, 49 school-based, and 4 teacher educators working in both a school and a teacher education institution. In addition, 7 coordinators of teacher education institutions were part of the sample. There were 54 male and 71 female participants. The youngest was 26 years old, the oldest 64, with an average of 47. The respondents worked in primary education (n = 47), secondary education (n = 71) or both (N=4). The others (N=3) worked in several other institutions, for example in vocational education. The level of experience ranged from zero months to 35 years, with an average of 8.6 years. 102 respondents were members of the Dutch Association of Teacher Educators, and 51 respondents were formally registered as teacher educators through the registration procedure of this association.

Data analysis:

The results were analysed using descriptive statistics, independent t-tests, and a one-way ANOVA. We used a t-test for comparing the teacher educators with those holding other positions in teacher education in order to see if we could include the respondents working as coordinators or administrators and those working as an advisor ('other' category). The coordinators did not differ significantly on any question, hence we decided to include them in the dataset.

Results

Relevance of the domains:

Table 6.7. Overview of the perceived relevance of the contents of the ten domains of the knowledge base of teacher educators (on a ten-point scale; 1 = not at all relevant, 10 = extremely relevant)

Domains	(N=125)	
	Mean	**SD**
1. The profession of teacher educator	7.5	1.5
2. Pedagogy of teacher education	8.4	1.3
3. Learning and learners	8.7	1.1
4. Teaching and coaching	8.3	1.4
5. Subject-specific teacher education	8.1	1.4
6. Programme-specific teacher education	6.8	1.4
7. Context	6.7	1.4
8. Organisation	7.0	1.4
9. Curriculum development and assessment	7.9	1.2
10. Research	7.7	1.1
Mean	**7.7**	**1.3**

Table 6.7 shows the perceived relevance of the contents of each of the ten domains of the knowledge base on a ten-point Likert scale. Our sample had some over-representations. Members of the Dutch Association of Teacher Educators were over-represented, and also teacher educators educating teachers for secondary education. Hence, we analysed whether subgroups within the sample differed in their outcomes. Concerning the relevance of the domains, no significant differences were found between members and non-members of the association of teacher educators, or between those registered and non-registered. Neither did we find significant differences between males and females, between teacher educators for primary and those for secondary education, and between coordinators and non-coordinators. As far as the coordinators are concerned, this could mean that they are so much part of the community of teacher educators that they have the same preferences. There were, however some differences between the answers of school-based and institution-based teacher educators. This was the case for two domains, where those school-based scored significantly higher than those institution-based, as is shown in Table 6.8. An explanation for the first difference could be that school-based teacher educators are often new to their role and are therefore still searching for what it means to be a teacher educator, and not just a teacher. Possibly, this finding can also (partly) explain why the overall score of the core domain '*The profession of teacher educator*' is less high on relevance than the other core domains, i.e. because most (other) experienced teacher educators may take it for granted that they have knowledge regarding their own profession.

Because being a school-based teacher educator is a new function in most Dutch schools, it is often not yet completely clear what exactly the tasks, responsibilities and possibilities of the school-based teacher educator are. Hence, this could explain why those school-based score higher on the domain *Organisation* than institution-based teacher educators.

Table 6.8. Significant differences between school-based and institution-based teacher educators on the perceived relevance of the contents of the domains (* p < .05, ** p < .01)

Domains	School-based teacher educators (N= 39)		Institution-based teacher educators (N=75)		p
	Mean	SD	Mean	SD	
The profession of teacher educator	7.9	1.5	7.3	1.4	.048*
Organisation	7.5	1.3	6.6	1.3	.002**

Usefulness of the knowledge base:

To study the usefulness of the knowledge base, we decided to focus on the four core domains and especially on the theoretical texts written for these domains. Using a one-way ANOVA, we checked whether the answers about usefulness, newness and expectation of using the knowledge base differed significantly for the four core domains. This was not the case. Table 6.9 shows the perceived usefulness and newness of the theoretical texts for these domains combined, according to the respondents. It also shows to what degree the respondents expected to make use of the knowledge base.

Table 6.9. Overview of the perceived usefulness, 'newness' of the theoretical texts of the four core domains of the knowledge base of teacher educators, and expected use of the knowledge base (on a four-point scale; 1 = not useful / no new knowledge / never, 4 = extremely useful / totally new knowledge / often)

	(N= 125)	
	Mean	SD
Do you consider this text to be useful to your work as a teacher educator?	3.2	.6
To what extent has this text added something to your existing knowledge?	1.9	.5
Do you consider the added knowledge useful to your work as a teacher educator?	3.0	.7
Do you expect to use the knowledge base?	2.7	.7
Mean	**2.7**	**.6**

The results show that the theoretical texts are considered quite useful by the Dutch teacher educators. They added some new knowledge to their existing knowledge and this new knowledge was perceived as quite useful. The respondents expected to use the knowledge base regularly. It is noteworthy that the scores on the second question (To what extent has this text added something to your existing knowledge?) are lower than the scores on the third question (Do you consider the added knowledge useful to your work as a teacher educator?). The discussion with the respondents in the workshops helped us to clarify this. They made remarks such as: "I knew something about this, but now it has become clearer"; "I read

about this years ago, but had forgotten about it", "I always found it difficult to explain this to my students, and this is very helpful".

For the four core domains, we also analysed whether subgroups within the sample differed in their outcomes. Concerning the usefulness of the knowledge base, there were no significant differences in how different groups (males vs. females, members vs. non-members, etcetera) answered these questions. Concerning the question as to what extent the text added new knowledge, non-registered teacher educators scored significantly higher than those registered (non-registered 1.97 vs. registered 1.75, p = 0.02). This is understandable, because the registered teacher educators had previously participated in a professional development process.

Furthermore, females expected to use the knowledge base significantly more often in the future than males (females 2.84 vs. males 2.51; p = .01). As yet, we do not have an explanation for this difference.

The answers to the question whether, according to the respondents, themes were missing, showed one gap: within the domain *Teaching and coaching*, more attention to coaching should be given. This request has been met by adding texts on coaching to the knowledge base.

In the workshops, several suggestions on how to use the knowledge base were put forward: at the individual level (for example as a source for the registration process); at the team level (for example a team of teacher educators might discuss the question 'what are our pedagogical choices?'); at the institutional level (as an opportunity to discuss the further professional development of teacher educators), and at the level of the professional community as a whole (for example for the development of programmes for the professional development of teacher educators). These suggestions have also been added to the website.

Reflection

The development of the knowledge base of teacher educators represented a huge step forward in the further professional development of Dutch teacher educators. In 2012, a renewed professional standard and registration procedure were established. The foundation of this renewed professional standard as well as the competency areas are linked to – aspects of – the domains of the knowledge base of teacher educators. The registration procedure has also been renewed accordingly. Teacher educators going through the registration procedure are explicitly requested to theoretically underpin their work and their development plans.

The knowledge base also functions as a theoretical frame of reference to the programme for teacher educators that we will discuss in the next section.

6.4. A PROGRAMME FOR TEACHER EDUCATORS

6.4.1. The Project

In 2010, we (five of the authors of this chapter) started the development of a programme for teacher educators. We have different backgrounds and expertise

(trainer, lecturer, professor, teacher educator, and researcher) and all of us have been involved as a developer of the professional standard and/or assessor of the registration procedure and/or the development of the knowledge base. Therefore, together we had a good overview of what was needed to develop a programme for teacher educators.

To start with, we formulated five principles for the programme:

1. *The programme welcomes teacher educators from different backgrounds, who will learn with and from each other.*

Increasingly, teacher education is a task and responsibility of teacher educators in schools and institutions for higher education combined. This means that they should develop a shared vision of the profession of teacher educator and of the knowledge and skills needed to carry out their work. Learning together can contribute positively to the development of such a shared vision.

2. *The programme should have a solid theoretical underpinning by linking it to the knowledge base of teacher educators.*

The core domains of the knowledge base (profession of teacher educator, pedagogy of teacher education, teaching and coaching, learning and learners) will receive much attention in the programme. Also, the domain *research* will get a prominent place, because of the increasing expectation that teacher educators will be able to support students' research projects (Korthagen, Koster, & Lunenberg, 2011*). As we have seen in Section 4.3, however, it is not self-evident that teacher educators have the background and expertise to carry out this task. Hence, we decided to make this one of the focal points of the programme.

3. *The programme should stimulate teacher educators to broaden their professional network.*

It is our conviction that becoming a teacher educator also includes becoming familiar with the world of teacher educators, knowing what networks there are and being able to make a relevant and informed choice about which networks to join.

4. *The registration procedure of the Dutch Association of Teacher Educators should be integrated into the programme.*

An elegant way of finding out whether, as a teacher educator, you have acquired the basic knowledge and skills of a teacher educator and are able to underpin your practice, is to go through the registration procedure of the Dutch Association of Teacher Educators. Therefore, the fourth principle we have formulated is that going through the registration procedure will be part of the programme for teacher educators, in such a way that at the end of the programme the participating teacher educators will have been registered.

5. *In the programme, usefulness to the daily practice should be a focal point.*

Our aim is that what the participants will learn in the programme should – immediately – be available to them for application in their own practice the following day.

Van den Akker and Nieveen (2011*) state that in a pragmatic approach such as this, formative evaluation should be a core activity and that design and evaluation should alternate. Therefore, we decided to link evaluative research to every separate component of the programme. In this way, we can learn which programme

components and pedagogical approaches are productive, and we can use the experiences of the first module in designing the following one, and so on.

The programme we designed consists of four modules (Pedagogy of Teacher Education, Coaching, Research in Teacher Education, and Broadening your Network). The fifth component is going through the registration procedure. The year-long programme requires 130 hours of study (including 50 hours for the registration procedure), 42 hours of which are contact hours. Figure 6.3 shows the format of the programme.

Module Pedagogy of Teacher Education	Module Coaching	Module Research in Teacher Education	Module Networking	Closing day
10 contact hours	10 contact hours	10 contact hours	6 contact hours	6 contact hours
Collegial consultation for the Registration procedure				
6 contact hours				

Figure 6.3. Format of the programme for teacher educators

We have taken great care to see to it that the different parts of the programme are connected with each other. For example, in the first module, *Pedagogy of Teacher Education*, self-reflection is an important theme, while in de second module, *Coaching*, supporting students' reflection receives attention. In the third module, *Research in Teacher Education*, the participants study an aspect of their own pedagogy of teacher education.

We also link the modules to the registration procedure. For example, we use the vision description participants have to make in the context of the registration procedure as a start to the first module, and the peer coaching meetings of the registration procedure are linked to the second module. Finally, we stimulate the participants to use points of interest they discover during the first three modules as a focus of their networking. As we have already mentioned above, in all parts of the programme, theory from the Knowledge Base of Teacher Educators is used as an underpinning.

The programme has been carried out twice (during the academic years 2011/2012 and 2012/2013). Below, we first elaborate on the module *Pedagogy of Teacher Education*, to illustrate our approach. Next, we summarise the contents and approach of the other parts of the programme.

Illustration: The module pedagogy of teacher education
To prepare for this module (and for the first stage of the registration procedure), the participants read a theoretical text from the domain *Pedagogy of Teacher Education* of the knowledge base. In the two course days of this module, concrete

pedagogical models are presented and the participants do several practical exercises with these models, both within the module and – in between the two course days – in their own practices.

A first model is a five-step procedure for working with groups that is characteristic of realistic teacher education (Korthagen, Kessels, Koster, Lagerwerf, & Wubbels, 2001*, pp. 151-161) and applied in the module. The steps in this procedure are: (1) Pre-structuring (presenting a focus), (2) Using experiences (either experiences the participants bring in from their own practices or experiences in the here-and-now), (3) Structuring (bringing a structure into the discussion of the experiences, for example through the use of a mind map), (4) Focusing (choosing one or two specific foci within the created structure), and (5) theory with a small t (the introduction of small theoretical elements, as opposed to academic Theory with a capital T). When these steps are introduced to the participants, they are clarified on the basis of the learning process the participants have gone through right before the procedure is made explicit.

A second model is the ALACT model for reflection, named after the initials of the five phases: (1) Action, (2) Looking back on the action, (3) Awareness of essential aspects, (4) Creating alternative methods of action, and (5) Trial (Korthagen et al., 2001*; see Figure 6.4).
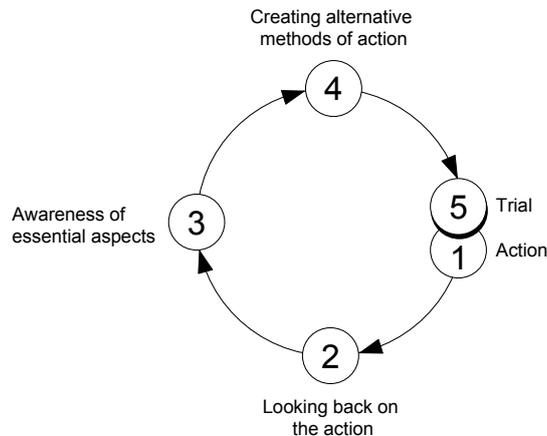
Figure 6.4. The ALACT model

The participating teacher educators are stimulated to write their own reflections and connect this 'practice' in the here-and-now with the theory of the ALACT model. The topic of reflection is further elaborated by the introduction of 'core reflection'. This is an approach to reflection in which the practitioner's reflection is connected with themes such as professional identity and mission (Korthagen, Kim, & Greene, 2013*).

In sum, there are several interconnected 'layers' in the module: (1) the pedagogy used within the module, (2) the theory about pedagogy of teacher education

underlying the first layer, and (3) the participants' own practices in which they apply what they have learned about pedagogy. Experiencing these three layers is an excellent experiential basis for introducing the theory about explicit modelling, based on Swennen, Lunenberg, and Korthagen (2008). As 'theory with a small t' about modelling, four steps are introduced: (1) showing exemplary teacher behaviour ('teach as you preach'), (2) making this exemplary behaviour explicit, (3) underpinning the exemplary behaviour using theory, and (4) promoting the use of this kind of teaching behaviour by student teachers. Again, as a kind of 'homework', the participants apply this 'theory' to a concrete meeting with student teachers in their own context.

The final part of the module is devoted to the theme 'evaluation'. The model of Kirkpatrick and Kirkpatrick (2006*) is presented and discussed. In this model, four levels of evaluation are distinguished (is the student satisfied?; what has the student learnt?; has the student translated the learning into behaviour?; has this behaviour had the expected results?).

Next, the first two levels were used to evaluate the module. With regard to the first level, the participants appeared to be (very) satisfied. They appreciated the variety of pedagogical approaches, the integration of theory and practice, the expertise of the teacher educators responsible for the module, and the inspiration of working together.

With regard to the second level of evaluation, the participants were asked to write a letter to themselves answering two questions:
−   What I take away from this module is …
−   What I don't want to forget is …
Two weeks later, these letters were sent to the participants to remind them of their ideas and plans. We also got the permission to analyse the themes in these letters. The participants appeared to focus among others on wanting to use more theoretical knowledge, applying the theoretical models discussed during the course, and giving more attention to empowering students.

Overview of the Other Parts of the Programme
The focus of the module *Coaching* was very concrete: how do you support students in their reflection on and learning from practical experiences. Remarkable is that in their – positive – evaluation of this module the participants also comment on the pedagogical approach of their teacher educators. They appreciate their way of modelling and the way they combine theory and practice. So it seems that following the first module has made them aware of the importance of pedagogical choices.

In the module *Research in Teacher Education,* theoretical texts from the Knowledge Base of Teacher Educators are used to explain and discuss different types of research. Social research, and more specifically the possibilities of conducting qualitative research, proved to be fairly unfamiliar to some of the participating teacher educators. Next, the participants carry out a mini-study on an aspect of their own pedagogy of teacher education. They can use the knowledge acquired in the previous modules in formulating a research question and in

developing an instrument. Examples are a school-based teacher educator who developed a small questionnaire to find out how students feel about her coaching, or three institution-based teacher educators who interviewed each other's students about the degree to which their seminars were connected with the students' own practical experiences.

Each stage (formulating a research question, developing instruments, collecting data, analysing data, presenting or publishing results) is discussed on two levels: 1. carrying out research oneself and 2. translating these experiences into supporting students' research. Together, an overview of points of attention for supporting students' research is constructed. The positive evaluation of this module shows that highly valued, among others, were learning about the possibilities of qualitative research, becoming conscious of the importance of formulating a specific and unambiguous research question, and the jointly constructed list of tips for supporting students' research.

In the *Networking module*, we offer the participants an overview of networks interesting to teacher educators. The participants formulate, individually or in small groups, a plan to explore a network that is new to them. They use the SMART criteria (specific, measurable, attainable, relevant, and time-bound) to streamline the completion of this plan. To do so, they search the web, study literature, contact an expert or expert centre, participate in a network meeting and/or interview one or more key persons. All participants write a reflection paper and present the outcomes of their plan on the final day of the course. Most remarkable are the enthusiasm of the participants, among others about the fact that busy (international) experts are not only very willing to offer information, and make time for a (Skype) interview, but are also interested in the participants' professional development activities!

The programme component *Collegial consultation for the registration procedure* takes place parallel to the four modules. This contributes to the integration of the registration procedure with the contents of the modules. In the meetings, the participants work in groups of four to support each other. In the first semester, they describe their vision and analyse their own knowledge and skills while following the module *Pedagogy of Teacher Education*, and they have peer coach discussions while following the module *Coaching*. In the second semester they write a development plan. The modules *Research in Teacher Education and Networking*, which they follow during this semester, are, as the evaluations show, important sources of inspiration and help to arrive at a useful and underpinned development plan.

On the closing day of the programme, the results of the *Networking* module are presented, the complete programme is reflected on and evaluated, and certificates are festively presented to the participants.

6.4.2. Evaluative and Reflective Remarks about the Project

Above, we presented the way in which we developed a programme for teacher educators and have since carried it out twice. As mentioned before, in developing

and carrying out the programme, design and evaluation were alternated. For example, the idea to make the participants' own pedagogy of teacher education the central theme of the module *Research in Education* was born when we discussed the evaluation of the first module.

From the beginning onwards, the evaluations were (very) positive. Nevertheless, in the first year the programme was carried out we learned that more attention could be given to the different settings of the participants and their variety of knowledge and experience. Also, more time should be devoted to the differentiation and the connection between the three levels that teacher educators have to take into account (their own level, the level of student teachers, and the level of the students of the student teachers). More practically, the participants asked for more practical information about some organisational aspects of the course. We took these comments into account in the second year we organised the programme.

An elaborate analysis of the data we have collected on both cohorts is not finished yet, but based on the evaluations of the two courses we dare to conclude that the five principles we formulated, seem to work. For example, with regard to the first principle (teacher educators with different backgrounds learn together), one of the participants remarks*:*

> It is fantastic, the contact between institution-based and school-based teacher educators. You work together and have discussions. I have also become more conscious of what it is that hinders school-based teacher educators in their co-operation with us. It clarifies so much. Hence, that in itself is already a benefit.

Also, the attention to a solid theoretical base (principle 2) is appreciated. One of the participants formulates this as follows:

> I have got a lot more grip on teaching and supporting students […] what is a really strong point is the relationship between practice and theory. Often the starting point is practice, our own experiences, and then it is linked to theory and gets a foundation.

Being introduced to relevant literature apparently increased the demand for this literature. In this context, being able to consult and use the Knowledge Base of Teacher Educators also proves to be useful, according to the participants.

With regard to principle 3 (stimulating participants to broaden their professional network), several participants remarked that, at the start of the programme, they did not know what to expect or that networking was not their priority. At the end of the programme, however, they had revised their idea:

> Valuable […] Nice that international networking was stimulated too […] It stimulated me to go beyond my comfort zone.

Principle 4, the integration of the registration procedure into the modules, also seems to be successful. Participants sometimes referred to the registration procedure and the modules in the same breath:

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> The models offered are really useful. I cannot wait to use them in my own practice. I would like to follow more modules, because I want to continue my professional development after my registration as a teacher educator.

With regard to principle 5, usefulness of the programme to the daily practice, it is interesting to note that participants do find the programme useful to their daily practice, mainly as a result of the connection between practising, reflection and theory. One of them formulates this as follows:

> [It is] instructive to experience a pedagogical approach in different ways (practising, adding theory, reflecting on experience, reading about it) and then use this approach in your own practice and reflect on it again.

6.5. THE FUTURE OF THE DUTCH CASE

6.5.1. Summary

To wrap up this chapter, we wish to state once more that – in line with other authors – we believe that teacher educators play a crucial role in the quality of education, and that their professional development should consequently be strongly supported. We feel that, in the Netherlands, we now have some building blocks to do so; building blocks that are also becoming increasingly intertwined.

The first building block is the registration procedure linked to a professional standard. As we saw in Section 4.2.2, several studies point to positive effects of a national framework for the professional development of teacher educators. At the beginning of the current century, in the Netherlands, a professional standard was established and since then, hundreds of teacher educators have gone through the process of becoming a formally registered teacher educator.

The second building block is the knowledge base of teacher educators. Recently, the professional standard and the registration procedure have been restructured, and underpinning the professional development process with the aid of the knowledge base has become an integrated aspect of the procedure. Teacher educators can go through this process supported by a peer, but also make the choice to follow a more extensive programme, which brings us to the third building block.

The third building block is a professional development programme. This programme has several modules, among them a module focused on the pedagogy of teacher education and a module focused on carrying out research into the teacher educators' own practices. The knowledge base offers the theoretical basis for this programme. Moreover, a trajectory of peer-coaching is included in the programme.

6.5.2. Mission

Although we feel that much has been achieved in the previous decade, more work has to be done in The Netherlands. Firstly, the maintenance of the professional standard, the registration procedure, the knowledge base, and the programme for teacher educators is of great importance and needs more guarantees than currently

have been established. At the moment, there is too much dependency on a number of enthusiastic persons and occasional funding. There is a real danger that what has been achieved in the previous decade will get lost in the next, if no structural measures will be taken. Secondly, we have to realise that only a relatively small part of the Dutch teacher educators have taken part in the professional development activities described in this chapter. The majority of them still teach future teachers based on their expertise as good teachers. Hence, the challenge to involve more teacher educators will persist during the next decade. Thirdly, we have to think about opportunities for further professional development of the teacher educators who have been registered. After all, for everyone, but most certainly for teacher educators, lifelong learning is a must. We have some experiences with supporting more intensive self-study projects of teacher educators (Lunenberg, Zwart, & Korthagen, 2010), which we feel will be well worth repeating. The review study presented in the previous chapters of this book also suggests that programmes focused on the deepening of knowledge and skills, about for example curriculum development and assessment, could be interesting.

Finally, the conclusions in Chapter 5 with regard to further programmatic research on the profession and the professional development of teacher educators are also valid for the Netherlands. We need to collect more systematic knowledge about which professional development activities are productive and which are not, taking into account the great varieties of backgrounds, expertise and work contexts of Dutch teacher educators.

NOTES

[1] This section was adapted from: Koster, B., Dengerink, J.J., Korthagen, F. & Lunenberg, M.L. (2008). Teacher educators working on their own professional development: Goals, activities and outcomes of a project for the professional development of teacher educators. *Teachers and Teaching, Theory and Practice, 14*(5-6), 567-587.

APPENDIX: OVERVIEW OF THE SELECTED STUDIES AND THEIR CHARACTERISTICS

In this appendix we present a table with an overview of the 137 articles that form the database for the review study presented in this book.

The table consists of nine columns. The first column lists the author(s) and the title of the article, and the name, issue and pages of the journal in which the study has been published. In the second column the country/countries can be found in which the study has been carried out. In case of a literature study or essay the country where the author(s) work(s) is listed. The abbreviations used are the following:

AUS	Australia
B(FL)	Belgium (Flanders)
CAN	Canada
CH	China
ENG	England
EU	European Union
FIN	Finland
HK	Hong Kong
ISR	Israel
LAT	Latvia
NL	Netherlands
N-Z	New-Zealand
NO	Norway
S-A	South-Africa
SC	Scotland
SER	Serbia
SW	Sweden
TUR	Turkey
UK	United Kingdom
USA	United States of America

In the third column the focus of the study is presented. Sometimes the research questions as formulated in the study are copied. When research questions were missing or only understandable within a context, we have formulated the focus of the study. In the fourth column the research method(s) are listed. Again, sometimes this information could be found in the article, but often we had to deduce it from the study. This was not always easy, but after mutual consultation, we have characterised the methods as best as possible. The categorisation is rather general. Self-studies and case-studies, for example, show a large variety in size and number

of participants. Some articles report on a singular case with one or a few participants, others on multiple or longitudinal case studies with a larger number of participants. The same applies to articles that report on self-studies.

In the fifth column the data sources of the concerned study can be found. In the sixth column the number of teacher educators that were object of the study is listed, and in the seventh column the same is done for the number of 'others' (for example teachers of students).

In the eighth and ninth columns is indicated which research questions are answered by the studies. In the eight column can be found which studies have contributed to answering research question 2, i.e. to formulating the critical features for the six professional roles of teacher educators and the behaviour additional to these roles. The ninth column lists which studies have contributed to answering research question 3, i.e. to formulating the critical features for the professional development of the six roles and the additional behaviour.

Some studies in the database are (also) used for other parts of the review study, for example for the introduction on the roles. In those cases, the columns eight and nine can be empty.

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Adler, S. M. (2011). Teacher epistemology and collective narratives: Interrogating teaching and diversity. *Teaching and Teacher Education, 27*(3), 609-618.	USA	What are my own and my students' personal and social lives and "ways of knowing" including beliefs, experiences, and biases as racial cultural beings in the hierarchical situated position of teacher? What were their interactions with families of colour and how did that impact their diverse knowledge base and teaching?	Action research and self-study	Texts, student tasks, notes, self-reflection	1 institution-based teacher educator	18 students	Teacher of teachers	
Andrew, L. (2007). Comparison of teacher educators' instructional methods with the constructivist ideal. *The Teacher Educator, 42*(3), 157-184.	USA	What instructional methods are used in mathematics courses for pre-service elementary teachers? How consistent are those instructional methods with a constructivist theory of learning?	Case study	Observations, interviews, questionnaire	4 institution-based teacher educators		Teacher of teachers	
Areman, I. E. & Weiner, G. (2007). Gender, research and change in teacher education: A Swedish	SW	Which issues shape the implementation of, and the resistance to, state and local policies of research development in teacher	Interview study	Interviews	52 institution-based teacher educators	5 managers	Curriculum developer	

dimension. *Gender and Education, 19*(3), 317-337.							
Bair, M. A., Bair, D. E., Mader, C. E., Hipp, S., & Hakim, I. (2010). Faculty emotions: A self-study of teacher educators. *Studying Teacher Education, 6*(1), 95-111.	USA	What is the role of emotions in teacher education classrooms, especially with regard to the connections between faculty, student, and institutional cultures?	Self-study	Notes, self-reflections, course evaluations, videos, peer observations, discussion platform	5 institution-based teacher educators	Teacher of teachers	
Barrera, A., Braley, R. T., & Slate, J. R. (2010). Beginning teacher success: An investigation into the feedback from mentors of formal mentoring programs. *Mentoring & Tutoring: Partnership in Learning, 18*(1), 61-74.	USA	What teacher support factors are perceived as necessary for mentors to be successful in preparing first-year teachers? What staff development training factors are perceived as necessary for the instruction of mentors? What administrative support factors are perceived as necessary for mentors in preparing first-year teachers successfully? What resource materials factors are perceived as necessary for the success of mentors in preparing first-year teachers?	Survey	Questionnaire	46 workplace facilitators	Coach	Coach

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Berry, A. (2009). Professional self-understanding as expertise in teaching about teaching. *Teachers and Teaching, 15*(2), 305-318.	AUS	How can articulating, documenting and analysing my experience as a biology teacher help me in learning how to teach student teachers teaching biology?	Self-study	Autobiographic report, videos, journal, notes, observations, assignments, interviews and e-mail correspondence	1 institution-based teacher educator	Assignments of 28 students, interviews with 8 students, e-mail with 1 student	Teacher of teachers	
Blaise, M. & Elsden-Clifton, J. (2007). Intervening or ignoring: Learning about teaching in new times. *Asia-Pacific Journal of Teacher Education, 35*(4), 387-407.	AUS	What complexities of pedagogy arise when courses are redesigned within a New Learning framework?	Self-study	Reflections, meetings, e-mail correspondence with students	2 institution-based teacher educators	304 students	Curriculum developer	
Boote, D. N. (2003). Teacher educators as belief-and-attitude therapists: Exploring psychodynamic implications of an emerging role. *Teachers and Teaching, 9*(3), 257-277.	USA	What are the effects of teacher educators' multiple agendas (belief-and-attitude interventions; reflexive questioning) for their work with beginning teachers, particularly the double-bind between being facilitators of professional development and gatekeepers to the profession?	Essay				Coach Gatekeeper	

							Teacher of teachers
Bronkhorst, L. H., Meijer, P. C., Koster, B., & Vermunt, J. D. (2011). Fostering meaning-oriented learning and deliberate practice in teacher education. *Teaching and Teacher Education, 27*(7), 1120-1130.	NL	How can meaning-oriented learning and deliberate practice be defined in the context of learning to teach according to expert teacher educators? How can meaning-oriented learning and deliberate practice be stimulated in learning to teach according to expert teacher educators?	Interview study	Interviews	11 institution-based teacher educators		
Bullock, S. M. & Ritter, J. K. (2011). Exploring the transition into academia through collaborative self-study. *Studying Teacher Education, 7*(2), 171-181.	USA, CAN	What are turning points in our understandings of ourselves and our teacher education practices?	Self-study	Blog	2 institution-based teacher educators		Teacher of teachers
Bullough, R. V. (2005). Being and becoming a mentor: School-based teacher educators and teacher educator identity. *Teaching and Teacher Education, 21*(2), 143-155.	USA	What can be learned from a secondary school teacher's struggle to move beyond her identity as a teacher and to assume a mentor's identity in her year-long work with two English-teaching interns?	Case study	E-mail correspondence, journals, meetings, interviews and discussion	1 workplace facilitator	2 students	Coach Broker

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Bullough, R. V. & Draper, R. J. (2004). Making sense of a failed triad - Mentors, university supervisors, and positioning theory. *Journal of Teacher Education, 55*(5), 407-420.	USA	What are the experiences of mentoring and of managing mentors over the course of an academic year in a triad composed of a senior high school mathematics intern, her assigned mentor teacher, and a university supervisor?	Case study	Journal, e-mail correspondence, meetings, interviews and discussions	1 institution-based teacher educator, 1 workplace facilitator	1 student	Broker	
Bullough, R. V., Draper, R. J., Smith, L., & Birrell, J. R. (2004). Moving beyond collusion: Clinical faculty and university/public school partnership. *Teaching and Teacher Education, 20*(5), 505-521.	USA	How has the role of clinical faculty evolved and how is it understood by both university-based and clinical faculty; what are the sources of both satisfaction and dissatisfaction among those who serve in the role; what is the nature of the relationship that has developed between clinical and university-based teacher educators; and what are the attitudes of university-based teacher educators toward clinical faculty?	Interview study	Interviews	32 clinical faculty, 14 university teacher educators	1 dean, 2 department chairs		Broker

Reference	Country	Research question	Design	Data collection	Teacher educators	Students/teachers	Role	Role
Burn, K. (2007). Professional knowledge and identity in a contested discipline: Challenges for student teachers and teacher educators. *Oxford Review of Education, 33*(4), 445-467.	ENG	Within an integrated partnership between schools and a higher education institution, what are the challenges, tensions or problems in enabling student teachers to develop their subject specific professional knowledge?	Case study	Conversations, interview, written assignments, observation notes, questionnaires, evaluations of a workshop and course evaluations	2 institution-based teacher educators, 3 workplace facilitators	5 students	Coach	Coach
Byrd, D. R., Hlas, A. C., Watzke, J., & Valencia, M. F. M. (2011). An examination of culture knowledge: A study of L2 teachers' and teacher educators' beliefs and practices. *Foreign Language Annals, 44*(1), 4-39.	USA	To what extent are culture and the framework of products, practices, and perspectives a focus of learning to teach a foreign language? What are the motivators and resources for maintaining culture knowledge? What are the barriers?	Survey	Questionnaires	64 institution-based teacher educators	415 teachers		Teacher of teachers
Cabaroglu, N. & Tillema, H. H. (2011). Teacher educator dilemmas: A concept to study pedagogy. *Teachers and Teaching, 17*(5), 559-573.	TUR	What dilemmas (if any) are encountered when teaching to teach to student teachers? What strategies used to cope with those dilemmas can be identified? What are the outcomes compared and contrasted with findings from a previous study?	Interview study	Interviews, observations	12 institution-based teacher educators		Teacher of teachers	

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Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Carroll, D. (2005). Learning through interactive talk: A school-based mentor teacher study group as a context for professional learning. *Teaching and Teacher Education, 21(5)*, 457-473.	USA	How did the joint construction and collective warranting of ideas evolve in a study group that promoted the participants' professional learning? What are issues of leadership for an inquiry-oriented professional discourse?	Action research and self-study	Meetings, interviews, e-mail correspondence, notes, discussions, lesson plans	5 workplace facilitators, 1 institution-based teacher educator		Curriculum developer Broker	Coach
Chauvot, J. B. (2009). Grounding practice in scholarship, grounding scholarship in practice: Knowledge of a mathematics teacher educator-researcher. *Teaching and Teacher Education, 25(2)*, 357-370.	USA	What knowledge have I been seeking/do I use to inform decisions: to what do I attribute gaining this knowledge; what categories does this knowledge fall under; and how is this knowledge structured?	Self-study	Syllabi, reports, documents, journal, reading list	1 institution-based teacher educator			Teacher of teachers
Chetty, R. & Lubben, F. (2010). The scholarship of research in teacher education in a higher education institution in transition: Issues of identity. *Teaching and Teacher Education,*	S-A	What are the dynamics of scholarship of research as perceived by teacher educators within a University of Technology? How do these teacher educators perceive their role	Interview study	Interviews	20 institution-based teacher educators		Researcher	

26(4), 813-820.		regarding the scholarship of research in comparison with the other scholarships in the academe?					Teacher of teachers
Choi, J.-A. (2011). A Self-Study of the teaching of action research in a university context. *Studying Teacher Education, 7*(1), 35-49.	USA	What do my students understand and not understand about action research? What is hindering their understanding? What pedagogical concerns about a university-based action research have I identified? What can I do to help these teacher-researchers better understand the concept of action research and carry out a meaningful project?	Self-study	Journal, syllabi, notes of discussions with the class, students assignments, e-mail correspondence, course evaluations	1 institution-based teacher educator	Students of 4 courses on action research (10 to 25 students in each course)	
Clandinin, D. J., Downey, C. A. & Huber, J. (2009). Attending to changing landscapes: Shaping the interwoven identities of teachers and teacher educators. *Asia-Pacific Journal of Teacher Education, 37*(2), 141-154.	CAN	What do changes in the educational landscape and in the identity of teachers mean for the identity of teacher educators co-operating with teachers?	Essay	Narrative descriptions of stories			Teacher of teachers

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Cochran-Smith, M. (2000). Blind vision: Unlearning racism in teacher education. Harvard Educational Review, 70(2), 157-190.	USA	What are the complex questions we need to wrestle with in teacher education to unlearn racism?	Self-study	Narratives	1 institution-based teacher educator		Teacher of teachers	
Cochran-Smith, M. (2003). Learning and unlearning: The education of teacher educators. Teaching and Teacher Education, 19(1), 5-28.	USA	How can inquiry as a stance enrich the education of teacher educators?	Case study	Multiple studies / papers	11 institution-based teacher educators, 14 fieldwork supervisors	15 PhD-students		Teacher of teachers Coach
Cochran-Smith, M. (2005). Teacher educators as researchers: Multiple perspectives. Teaching and Teacher Education, 21(2), 219-225.	USA	What perspectives and tensions concerning research by teacher educators can be distinguished? What do these mean for the education of teacher educators and for discussions about the expertise teacher educators need in today's changing society?	Essay				Researcher	
Cothran, D., McCaughtry, N.,	USA	How do teachers describe effective mentoring and	Comparative research	Interviews	15 workplace facilitators	15 new teachers	Coach	

Reference	Country	Research question	Method			Participants		Role
Smigell, S., Garn, A., Kulinna, P., Martin, J. J., & Faust, R. (2008). Teachers' preferences on the qualities and roles of a mentor teacher. *Journal of Physical Education, 27*(2), 241-251.		how are their perspectives related to theorised models?						Coach
Crasborn, F., Hennissen, P., Brouwer, N., Korthagen, F., & Bergen, T. (2008). Promoting versatility in mentor teachers' use of supervisory skills. *Teaching and Teacher Education, 24*(3), 499-514.	NL	Does the 'SMART' training affect the use of supervisory skills for stimulating reflection by mentor teachers in mentoring dialogues with student teachers?	Quasi-experiment		Coaching meetings	30 workplace facilitators		

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Crasborn, F., Hennissen, P., Brouwer, N., Korthagen, F. & Bergen, T. (2010). Capturing mentor teachers' reflective moments during mentoring dialogues. *Teachers and Teaching, 16(1), 7-29.*	NL	What is the frequency of reflective moments experienced by mentor teachers during mentoring dialogues before and after training in supervisory skills? If shifts in the frequency of mentor teachers' reflective moments during mentoring dialogues occur, are they related to shifts in the use of supervisory skills? Does concurrent application of stimulated recall and a push-button technique produce evidence relevant for questioning and/or refining results generated by each method separately?	Quasi-experiment	Coaching meetings	30 workplace facilitators		Coach	Coach
Crasborn, F., Hennissen, P., Brouwer, N., Korthagen, F., & Bergen, T. (2011).	NL	Is the two-dimensional model of mentor teacher roles in mentoring dialogues (MERID) a	Correlation study	Coaching meetings	20 workplace facilitators		Coach	

							Coach
Exploring a two-dimensional model of mentor teacher roles in mentoring dialogues. *Teaching and Teacher Education, 27*(2), 320-331.		useful framework to promote reflection on mentor teachers' supervisory behaviour? How can the extracted key aspects be connected to build a conceptual framework for studying mentor teachers' supervisory behaviour in mentoring dialogues?					
Davey, R. & Ham, V. (2010). 'It's all about paying attention!' … but to what? The '6 Ms' of mentoring the professional learning of teacher educators. *Professional Development in Education, 36*(1-2), 229-244.	N-Z	What are the puzzles of practice that pre-occupy a group of teacher educators as self-reflective practitioners investigating, in turn, their own practices with teachers? What are the challenges these preoccupations threw up in relation to our own practices as the teacher educators' professional mentors? Which of our mentoring strategies were most effective in dealing with the professional learning preoccupations of our colleagues?	Self-study	Discussions, workshops, notes, reflections, research plans	1 institution-based teacher educator / researcher, a group of other teacher educators	1 director	Broker

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Dawson, K. & Bondy, E. (2003). Reconceptualizing the instruction of a teacher educator: Reflective peer coaching in teacher education. *Teaching Education, 14*(3), 319-331.	USA	How does peer reflective coaching with an experienced teacher educator help a novice teacher educator to gain insights into her own teaching and her students' learning?	Self-study	Observations, field notes, interviews, reflective journal, students' reflections	2 institution-based teacher educators	A group of students		Teacher of teachers
Delandshere, G. & Arens, S. A. (2003). Examining the quality of the evidence in pre service teacher portfolios. *Journal of Teacher Education, 54*(1), 57-73.	USA	For what purposes are portfolios used in teacher education programs? How is teaching represented, and what is the quality of the evidence reflected in the construction and assessment of the portfolios? What interferences are drawn from these portfolios?	Case study	Portfolios, students instruction workshop, portfolio presentations, interviews with teacher educators, focus group meetings with students	2 or 3 institution-based teacher educators from 3 teacher education institutes	12 students	Gatekeeper	
Dever, M. T., Hager, K. D., & Klein, K. (2003). Building the university/ public school partner-ship: A workshop for mentor teachers. *The Teacher Educator, 38*(4), 245-255.	USA	How feel mentor teachers about the helpfulness of information about giving feedback to student teachers provided in a workshop?	Survey	Questionnaire	32 workplace facilitators			Coach

			Essay			Teacher of teachers
Dinkelman, T. (2003). Self-study in teacher education: A means and ends tool for promoting reflective teaching. *Journal of Teacher Education, 54*(1), 6-18.	USA	What is the theoretical rationale for the use of self-study in reflection-oriented teacher education programs?				Teacher of teachers
Dinkelman, T., Margolis, J., & Sikkenga, K. (2006). From teacher to teacher educator: Reframing knowledge in practice. *Studying Teacher Education, 2*(2), 119-136.	USA	What knowledge bases do initial teacher educators employ in their decision making? How do these sources of understanding develop? What institutional and contextual challenges and supports are experienced by those moving from classroom teaching to university-based teacher education roles? How do beginning teacher educators form their professional identities, and to what extent are their identities distinct from their identities as teachers?	Case study and self-study	Reflective journals, interviews	2 institution-based teacher educators	

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Donche, V. & Van Petegem, P. (2011). Teacher educators' conceptions of learning to teach and related teaching strategies. *Research Papers in Education, 26*(2), 207-222.	BE (FL)	How do teacher educators differ with respect to their conceptions of learning to teach? How do teacher educators differ with respect to their teaching strategies? To what extent are conceptions of learning to teach and teaching strategies interrelated? Are personal and contextual factors such as gender, experience and discipline related to teacher educators' conceptions and strategies?	Correlation study	Questionnaires	119 teacher educators		Teacher of teachers	
Dozier, C. L. & Rutten, I. (2005). Responsive teaching toward responsive teachers: Mediating transfer through intentionality, enactment, and articulation. *Journal of Literacy Research, 37*(4), 459-492.	USA	In what ways do we as teacher educators mediate teachers' transfer of 'responsive teaching'?	Action research and self-study	Documentation of videotaped lessons, community conversation seminar field notes, reflective essays	2 institution-based teacher educators	12 students	Teacher of teachers	

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Reference	Country	Research question	Study type	Data sources	Teacher educators	Students	Role	Teacher of teachers
Draper, R. J. (2008). Redefining content-area literacy teacher education: Finding my voice through collaboration. *Harvard Educational Review, 78*(1), 60-83.	USA	How did collaboration shape my understanding of my own professional role and my definition of texts, and literacy?	Self-study	Conversations with colleagues, observation of colleagues, e-mail correspondence	1 institution-based teacher educator			Teacher of teachers
Drent, M. & Meelissen, M. (2008). Which factors obstruct or stimulate teacher educators to use ICT innovatively? *Computers & Education, 51*(1), 187-199.	NL	What factors stimulate or limit the innovative use of ICT by teacher educators?	Survey and interview study	ICT-monitor, questionnaires, interviews	210 institution-based teacher educators	Some students	Curriculum developer	Teacher of teachers
Erickson, G., Brandes, G. M., Mitchell, I., & Mitchell, J. (2005). Collaborative teacher learning: Findings from two professional development projects. *Teaching and Teacher Education, 21*(7), 787-798.	AUS, CAN	How to enhance the professional development of the participants through collaboration between classroom teachers and teacher educators?	Comparative study	Experiences of two communities (AUS and CAN)			Broker	

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Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Gallagher, T., Griffin, S., Ciuffetelli Parker, D., Kitchen, J., & Figg, C. (2011). Establishing and sustaining teacher educator professional development in a self-study community of practice: Pre-tenure teacher educators developing professionally. *Teaching and Teacher Education, 27*(5), 880-890.	CAN	What are the challenges and profits of establishing a self-study group for the professional development of pre-tenure teacher educators?	Self-study	Reflections, minutes, notes	5 institution-based teacher educators			Teacher of teachers
Galman, S., Pica-Smith, C., & Rosenberger, C. (2010). Aggressive and tender navigations: Teacher educators confront whiteness in their practice. *Journal of Teacher Education, 61*(3), 225-236.	USA	What are our beliefs about and practices related to antiracist work as teacher educators? How do pre service teachers experience race and racism in our program? How do their experiences reflect, confirm, or trouble our understanding of our own practices and beliefs?	Self-study	Group interviews, e-mail correspondence, notes, conversations, syllabi	3 institution-based teacher educators	5 students, 2 alumni	Teacher of teachers	

Gemmell, T., Griffiths, M., & Kibble, B. (2010). What kind of research culture do teacher educators want, and how can we get it? *Studying Teacher Education, 6*(2), 161-174.	SC	What kind of research culture do we want and how do we get it in our faculty?	Self-study	Minutes of discussions, written contributions of group members, reflections	9 institution-based teacher educators		Researcher	Researcher
Geursen, J., de Heer, A., Korthagen, F. A. J., Lunenberg, M., & Zwart, R. (2010). The importance of being aware: Developing professional identities in educators and researchers. *Studying Teacher Education, 6*(3), 291-302.	NL	Which interventions help student teachers develop their views on foreign language teaching and what part do I play in this process? How does the introduction of some elements of the Core Reflection approach influence my student teachers' reflections about their teaching practices? What are stimulating and inhibiting elements when supporting the self-study research processes of teacher educators?	Self-study	Video's, interviews, journals, meetings, discussions, e-mail-correspondence	5 institution-based teacher educators			Teacher of teachers Researcher

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Gort, M. & Glenn, W. J. (2010). Navigating tensions in the process of change: An English educator's dilemma management in the revision and implementation of a diversity-infused methods course. *Research in the Teaching of English, 45*(1), 59-86.	USA	How to manage dilemmas that arise in the design and implementation of revised course curricula?	Self-study	Journal, notes, reflections	2 institute-based teacher educators		Teacher of teachers	
Goubeaud, K. & Yan, W. (2004). Teacher educators' teaching methods, assessments, and grading: A comparison of higher education faculty's instructional practices. *The Teacher Educator, 40*(1), 1-16.	USA	What are the teaching methods, assessments and grading practices of teacher educators? Are these different from those of other higher education faculty in terms of the use of various types of traditional and constructivist strategies?	Correlation study	Representative sample of higher education faculty of a national study	524 institution-based teacher educators	30.830 faculty in other disciplines	Teacher of teachers Gatekeeper	
Graham, P. (1998). Teacher research and collaborative inquiry: Teacher educators and high school English	USA	How - positively – does collaborative inquiry of teacher educators and mentors into promoting students teachers research	Action research	Group discussions, interviews, journals	2 institution-based teacher educators 25 mentors	20 students	Broker	

teachers. *Journal of Teacher Education, 49*(4), 255-265.		affect a teacher education group?						
Granberg, C. (2010). E-portfolios in teacher education 2002-2009: The social construction of discourse, design and dissemination. *European Journal of Teacher Education, 33*(3), 309-322.	SW	How can the design of e-portfolios be described and understood in relation to teacher educators' understanding and communication of e-portfolios? How can the dissemination of e-portfolios be understood?	Survey and interview study	Interviews, questionnaire	67 institution-based teacher educators		Gatekeeper	
Greensfeld, H. & Elkad-Lehman, I. (2007). An analysis of the processes of change in thinking of two science teacher educators' thinking. *Journal of Research in Science Teaching, 44*(8), 1219-1245.	ISR	What can be learned from the changes in thinking processes described in the narratives of science teacher educators about their professional development?	Interview study	Interviews, documentation	7 institution-based teacher educators			Teacher of teachers
Griffiths, V., Thompson, S., & Hryniewicz, L. (2010). Developing a research profile: Mentoring and support for teacher educators. *Professional Development in Education, 36*(1-2), 245-262.	ENG	What barriers or problems do teacher educators encounter in developing a research profile? What are effective mentoring and support practices?	Interview study	Interviews	6 institution-based teacher educators	6 researchers/ mentors	Researcher	Researcher

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Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Grossman, P., Hammerness, K. & McDonald, M. (2009). Redefining teaching, re-imagining teacher education. *Teachers and Teaching, 15*(2), 273-289.	USA	What are the future directions for teacher education, based on a re-conceptualisation of teaching, more specifically on taking clinical practice seriously?	Essay				Curriculum developer	
Hadar, L. & Brody, D. (2010). From isolation to symphonic harmony: Building a professional development community among teacher educators. *Teaching and Teacher Education, 26*(8), 1641-1651.	ISR	How do teacher educators understand the contribution of their participation in a professional development community to their professional development, specifically in the realm of teacher thinking?	Case study	Interviews, reflections, reports	8 institution-based teacher educators			Teacher of teachers
Hall, K. M., Draper, R. J., Smith, L. K., & Bullough, R. V. (2008). More than a place to teach: Exploring the perceptions of the roles and responsibilities of mentor teachers. *Mentoring & Tutoring: Partnership in*	USA	What are mentors' perceptions of their roles and responsibilities? What are the relative values mentor teachers place on different aspects of mentoring? What is the impact of a difficult mentoring situation on their thinking about	Survey and interview study	Questionnaire, interviews	264 workplace facilitators		Coach Broker	

Reference			Methodology	Data	Participants			Role
Learning, 16(3), 328-345.		mentoring and of themselves as mentors?					Teacher of teachers	Teacher of teachers
Harrison, J. & McKeon, F. (2008). The formal and situated learning of beginning teacher educators in England: Identifying characteristics for successful induction in the transition from workplace in schools to workplace in higher education. European Journal of Teacher Education, 31(2), 151-168.	ENG	What are the main facilitators and barriers which support professional learning in the new environment and assist in the construction of an academic identity?	Case study	Reports of professional development, interviews	5 institution-based teacher educators			
Harrison, J. & McKeon, F. (2010). Perceptions of beginning teacher educators of their development in research and scholarship: Identifying the 'turning point' experiences. Journal of Education for Teaching, 36(1), 19-34.	ENG	How do the new staff go about their research and scholarship activity? What are they trying to achieve? Why do they approach their scholarly activity in this way?	Interview study	Interviews	3 institution-based teacher educators			Teacher of teachers Researcher

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
He, A. E. (2009). Bridging the gap between teacher educator and teacher in a community of practice: A case of brokering. *System, 37*(1), 153-163.	HK	How did the broker participate in the decision-making process? What was the sequential enactment of brokering during the negotiation of decisions among the participants?	Case study	Meetings of the community	3 institution-based teacher educators	2 teachers, 2 staff members	Broker	
Hennissen, P., Crasborn, F., Brouwer, N., Korthagen, F., & Bergen, T. (2008). Mapping mentor teachers' roles in mentoring dialogues. *Educational Research Review, 3*(2), 168-186.	NL	Which key aspects of mentor teachers' supervisory behaviour in mentoring dialogues are investigated in previous research? What is known from previous research on mentor teachers' supervisory behaviour in mentoring dialogues? How can the extracted key aspects be connected to build a conceptual framework for studying mentor teachers' supervisory behaviour in mentoring dialogues?	Literature study	26 studies				
Hennissen, P., Crasborn, F., Brouwer,	NL	What are the contents of mentor teachers'	Quasi - experiment	Mentoring dialogues,	38 workplace facilitators			Coach

N., Korthagen, F., & Bergen, T. (2010). Uncovering contents of mentor teachers' interactive cognitions during mentoring dialogues. *Teaching and Teacher Education, 26*(2), 207-214.		interactive cognitions? Do contents of mentor teachers' interactive cognitions differ before and after training in supervisory skills and if so, in which respects?		stimulated recall interviews				
Holt-Reynolds, D. (2000). What does the teacher do? Constructivist pedagogies and prospective teachers' beliefs about the role of a teacher. *Teaching and Teacher Education, 16*(1), 21-32.	USA	How do bachelor students view the role of teachers? Do they understand the difference between strategies for active learning and strategies for constructivist-inspired learning?	Case study	Interviews	1 institution-based teacher educator	1 student		Teacher of teachers
Houston, N., Ross, H., Robinson, J., & Malcolm, H. (2010). Inside research, inside ourselves: Teacher educators take stock of their research practice. *Educational Action Research, 18*(4), 555-569.	SC	What kind of research culture do we want, and how can we get it?	Self-study	Group meetings, blogs, reflections	9 institution-based teacher educators		Researcher	Researcher

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Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Jaruszewicz, C. & Landrus, S. (2005). Help! I've lost my research agenda: Issues facing early childhood teacher educators. *Journal of Early Childhood Teacher Education, 25(2)*, 103-112.	USA	What are the contextual factors that impede early childhood teacher educators' research and scholarship efforts?	Survey	Questionnaire	57 institution-based teacher educators		Researcher	Researcher
John, P. D. (2002). The teacher educator's experience: Case studies of practical professional knowledge. *Teaching and Teacher Education, 18(3)*, 323-341.	ENG	What are the roles teacher educators fulfil, and what are the sorts of knowledge and understandings that underpin their work with student teachers?	Case study	Interviews, observations	6 institution-based teacher educators			
Katz, E. & Coleman, M. (2005). Autonomy and accountability of teacher-educator researchers at a college of education in Israel. *Innovations in Education and Teaching International, 42(1)*, 5-13.	ISR	What is the scope of the research community at the college? To whom do teacher educator-researchers feel professionally account-able? What is the extent of academic teacher educator-researchers would like to have?	Survey	Questionnaire	96 institution-based teacher educators			Researcher

Citation	Country	Research question	Methodology	Data sources	Institution-based teacher educators	Students	Teacher of teachers	Researcher
Kim, M. & Schallert, D. L. (2011). Building caring relationships between a teacher and students in a teacher preparation program word-by-word, moment-by-moment. *Teaching and Teacher Education, 27*(7), 1059-1067.	USA	How developed caring relationships between students and their teacher educators in the context of pre-service reading preparation that made use of online communication?	Case study	Electronic postings, interviews, observations, notes, journal	1 institution-based teacher educator	3 students	Teacher of teachers	Researcher
Kitchen, J. & Stevens, D. (2008). Action research in teacher education: Two teacher-educators practice action research as they introduce action research to pre-service teachers. *Action Research, 6*(1), 7-28.	CAN	Given the requirements and limitations of our pre-service teacher education program, is it possible to introduce action research to our students in a way that will empower them professionally?	Self-study	Research proposals, reports, reflections, journal	2 institution-based teacher educators	32 students		
Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education, 22*(8), 1020-1041.	NL, AUS, CAN	What central principles shape teacher education programmes and practices in ways that are responsive to the expectations, needs and practices of teacher educators and student teachers?	Case study	Research reports, programme documents			Teacher of teachers Curriculum developer	

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Kosnik, C. & Beck, C. (2008). We taught them about literacy but what did they learn? The impact of a preservice teacher education program on the practices of beginning teachers. *Studying Teacher Education, 4*(2), 115-128.	CAN	How can beginning teachers acquire the general and the content knowledge involved in teaching reading, consolidate their learning, and develop an appropriate pedagogy or approach that is feasible for the extremely challenging initial years of teaching?	Self-study	Course descriptions, course materials, interviews	10 institution-based teacher educators	22 novice teachers	Curriculum developer	
Kosnik, C., Cleovoulou, Y., Fletcher, T., Harris, T., McGlynn-Stewart, M., & Beck, C. (2011). Becoming teacher educators: An innovative approach to teacher educator preparation. *Journal of Education for Teaching, 37*(3), 351-363.	CAN	How does the community 'Becoming Teacher Educators' (BTE) support your work as a doctoral student? How has BTE affected your understanding of being a teacher educator? How has BTE influenced your long-term professional goals?	Self-study	Monthly agendas, reflective notes, questionnaires, focus group	2 institution-based teacher educators	12 PhD-students		Teacher of teachers Researcher
Koster, B., Brekelmans, M., Korthagen, F. & Wubbels, T. (2005). Quality requirements for teacher educators.	NL	What do teacher educators – working in different types of institutions in The Netherlands – consider to	Literature study, Delphi-method	Interviews, questionnaire	140 institution-based teacher educators	9 others	Teacher of teachers	

Teaching and Teacher Education, 21(2), 157-176.		be tasks they have to do, and competences they should possess?					
Koster, B. & Dengerink, J. J. (2008). Professional standards for teacher educators: How to deal with complexity, ownership and function. Experiences from the Netherlands. *European Journal of Teacher Education, 31*(2), 135-149.	NL	What are the issues about professional complexity and ownership which arise in the use of such a standard? Is the standard imposed on the Dutch teacher educators of are they the owners of the standard? And how is the standard used by teacher educators?	Descriptive study	Documents, experiences			Teacher of teachers
Koster, B., Dengerink, J., Korthagen, F., & Lunenberg, M. (2008). Teacher educators working on their own professional development: Goals, activities and outcomes of a project for the professional development of teacher educators. *Teachers and Teaching, 14*(5-6), 567-587.	NL	What goals do teacher educators formulate for their professional development? What kind of professional development activities do they engage in? What are the outcomes of their professional development?	Document analysis	Portfolios	25 institution-based teacher educators		Teacher of teachers

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Kremer-Hayon, L. & Tillema, H. H. (1999). Self-regulated learning in the context of teacher education. *Teaching and Teacher Education, 15(5)*, 507-522.	NL, ISR	How do teacher educators and students understand the meaning of self-regulated learning? How is self-regulated learning implemented in the teacher education programme? What role behaviour is expected with regard to self-regulated learning?	Interview study	Interviews	42 institution-based teacher educators	58 students	Teacher of teachers	
Krokfors, L., Kynäslahti, H., Stenberg, K., Toom, A., Maaranen, K., Jyrhämä, R., Byman, R., & Kansanen, P. (2011). Investigating Finnish teacher educators' views on research-based teacher education. *Teaching Education, 22(1)*, 1-13.	FIN	To what extent do teacher educators appreciate the research-based approach? How do teacher educators understand the research-based approach? What kind of relevance do teacher educators think the research-based approach may have to the practice of a teacher's work?	Survey and Interview study	Questionnaire, interviews	41 institution-based teacher educators		Curriculum developer	
Le Cornu, R. (2010). Changing roles, relationships and responsibilities in changing times. *Asia-*	AUS	What does working in learning communities mean for the roles, responsibilities and relationships of pre-	Meta-analysis	Two evaluative studies: a self-study and two case studies			Curriculum developer Broker	

Reference	Country	Research questions	Methodology	Data sources				
Pacific Journal of Teacher Education, 38(3), 195-206.		service teachers, mentor teachers, university mentors and school-based coordinators?						
Le Cornu, R. & Ewing, R. (2008). Reconceptualising professional experiences in pre-service teacher education …: Reconstructing the past to embrace the future. *Teaching and Teacher Education, 24*(7), 1799-1812.	AUS	What conceptual changes in pre-service teacher education characterise the notion of learning communities? What do these changes mean for mentor teachers and university mentors?	Descriptive study	Programme documents			Curriculum developer	Teacher of teachers
Le Fevre, D. M. (2011). Creating and facilitating a teacher education curriculum using pre service teachers' autobiographical stories. *Teaching and Teacher Education, 27*(4), 779-787.	USA	What are the learning opportunities for pre-service teachers engaged in learning through autobiographical studies? What is the role of the teacher educator in facilitating these?	Document-analysis and survey	Autobiographical stories, reflective papers, questionnaire, journal	1 institution-based teacher educator	75 students	Curriculum developer	

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Lin, E., Wang, J., Spalding, E., Klecka, C. L., & Odell, S. J. (2011). Toward strengthening the preparation of teacher educator-researchers in doctoral programs and beyond. *Journal of Teacher Education, 62*(3), 239-245.	USA	What should be learned in a doctoral program about research to prepare teacher educator-researchers? How should candidates learn to do research? How can learning about and doing research be sustained beyond doctoral programs?	Essay					Researcher
Liston, D., Borko, H., & Whitcomb, J. (2008). The teacher educator's role in enhancing teacher quality. *Journal of Teacher Education, 59*(2), 111-116.	USA	What is the teacher educator's role in enhancing teacher quality?	Essay					
Loughran, J. & Berry, A. (2005). Modelling by teacher educators. *Teaching and Teacher Education, 21*(2), 193-203.	AUS	What is the nature of explicit modelling?	Self-study	Experiences, journals, reflections, previous studies	2 institution-based teacher educators		Teacher of teachers	Teacher of teachers
Lunenberg, M. (2002). Designing a curriculum for teacher educators. *European Journal of*	NL	What competences teacher educators should have after finishing a programme for teacher	Descriptive study	Professional standard, literature, case studies' reports,				Teacher of teachers

Teacher Education, 25(2-3), 263-277.		educators? What educational approach should be used in the programme?					
Lunenberg, M. & Korthagen, F. A. J. (2003). Teacher educators and student-directed learning. *Teaching and Teacher Education, 19*(1), 29-44.	NL	Do teacher educators show the views, as well as the teaching actions, that promote a shift to student directed learning?	Case study	Interviews, observations	5 institution-based teacher educators	25 students	Teacher of teachers
Lunenberg, M. & Korthagen, F. A. J. (2005). Breaking the didactic circle: A study on some aspects of the promotion of student-directed learning by teachers and teacher educators. *European Journal of Teacher Education, 28*(1), 1-22.	NL	Do the views of teachers, studied in relation to the views of their students, promote student-directed learning? Do the views of teachers educators, studied in relation to the views of their student teachers, promote student-directed learning? Does the teachers' behaviour promote student directed learning? Does the teacher educators' behaviour promote student-directed learning?	Case study	Interviews, observations	10 institution-based teacher educators	50 student-teachers, 19 teachers, 95 students	Teacher of teachers

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Lunenberg, M., Korthagen, F., & Swennen, A. (2007). The teacher educator as a role model. *Teaching and Teacher Education*, 23(5), 586-601.	NL	Do teacher educators model new visions of learning in their own practice?	Observation study	Observations	10 institution-based teacher educators		Teacher of teachers	
Lunenberg, M., Ponte, P., & Van de Ven, P.H. (2007). Why shouldn't teachers and teacher educators conduct research on their own practice? An epistemological exploration. *European Educational Research Journal* 6(1), 13-24.	NL	What exactly is practitioner research? Why should teachers and teacher educators conduct research on their own practices?	Essay				Researcher	
Lunenberg, M. & Willemse, M. (2006). Research and professional development of teacher educators. *European Journal of Teacher Education*, 29(1), 81-98.	NL	Which salient characteristics that support the professional development of teacher educators can be found in three examples of professional development activities?	Case study	Observations, interviews	35 institution-based teacher educators			Researcher

Reference		Research question		Data sources	Participants			Researcher
Lunenberg, M., Zwart, R., & Korthagen, F. (2010). Critical issues in supporting self-study. *Teaching and Teacher Education, 26*(6), 1280-1289.	NL	What are critical issues in supporting self-study research?	Case study	Digital journals, interviews, questionnaires, notes, reflections, e-mail correspondence	5 institution-based teacher educators			Researcher
Margolis, J. (2007). Improving relationships between mentor teachers and student teachers: Engaging in a pedagogy of explicitness. *The New Educator, 3*(1), 75-94.	USA	What is the impact of mentor teachers using an explicit pedagogy with their students?	Case study	Workshops, interviews, field notes, e-mail conversations, web-based discussions, interviews	7 workplace facilitators		Coach	Coach
Martin, S. D., Snow, J. L., & Torrez, C. A. F. (2011). Navigating the terrain of third space: Tensions within relationships in school-university partnerships. *Journal of Teacher Education, 62*(3), 299-311.	USA	What challenges do I face in the school setting as I work toward developing and navigating a collective third space in a partnership setting? What challenges do I face in the university setting? What practices do I use to work toward developing and navigating a collective third space in a partnership setting?	Self-study	Reflections, group discussions, e-mail correspondence, memo's	3 institution-based teacher educators	Curriculum developer Broker		

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Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Martinez, K. (2008). Academic induction for teacher educators. *Asia-Pacific Journal of Teacher Education, 36*(1), 35-51.	AUS	What are the major challenges new teacher educators face as they make the transition into the academy? And what are the ways that best support them?	Essay					
Mayer, D., Mitchell, J., Santoro, N., & White, S. (2011). Teacher educators and 'accidental' careers in academe: An Australian perspective. *Journal of Education for Teaching, 37*(3), 247-260.	AUS	What are the pathways into teacher education and the career trajectories of a small group of Australian teacher educators?	Interview study	Interviews	19 institution-based teacher educators		Teacher of teachers Researcher	Teacher of teachers
McGee, A. & Lawrence, A. (2009). Teacher educators inquiring into their own practice. *Professional Development in Education, 35*(1), 139-157.	N-Z	What motivates in-service teacher educators to engage with change in their practice? What do in-service teacher educators do that motivates teachers to engage with change in their practice?	Case study	Questionnaires, reflective journals, observations, interviews, group discussions, conversations, notes, learning logs	20 workplace facilitators			Researcher
McKeon, F. & Harrison, J. (2010). Developing pedagogical	ENG	What characterises the developing teaching practices of the beginning	Case study	Interviews	5 institution-based teacher educators		Teacher of teachers	Teacher of teachers

Reference		Research questions					
practice and professional identities of beginning teacher educators. *Professional Development in Education, 36*(1-2), 25-44.		teacher educators? In what ways does their professional learning develop? What are the particular workplace influences on the development of their pedagogical practice and professional identities?					
Menter, I. (2011). Four 'academic sub-tribes', but one territory? Teacher educators and teacher education in Scotland. *Journal of Education for Teaching, 37*(3), 293-308.	SC	What are the professional identities of four 'sub-tribes' of Scottish teacher educators? Which cultural, social and institutional factors influence their teaching education practice and their professional identity?	Case study	Interviews	24 institution-based teacher educators		
Mueller, A. (2006). A Teacher educator's fate: Seeking contexts to engage student teachers in thinking about learning to teach. *Studying Teacher Education, 2*(2), 137-153.	CAN	How can I help students think about teaching and learning?	Self-study	Structured teacher candidates' stories of learning; written responses of the teacher educator	1 institution-based teacher educator	40 students	Teacher of teachers

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Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Murray, J. (2008a). Teacher educators' induction into Higher Education: Work-based learning in the micro communities of teacher education. *European Journal of Teacher Education, 31*(2), 117-133.	ENG	What examples of practice for inducting new teacher educators can be found in higher education institutions? What provision is be experienced by new teacher educators? What good practices in teacher educator induction can be identified?	Survey and interview study	Questionnaires, interviews, focus group discussions	50 institution-based teacher educators	35 heads of department		Teacher of teachers
Murray, J. (2008b). Towards the re-articulation of the work of teacher educators in Higher Education institutions in England. *European Journal of Teacher Education, 31*(1), 17-34.	ENG	Which international and national issues are relevant for the development of a standard or professional framework for teacher educators?	Essay					Teacher of teachers
Murray, J. (2010). Towards a new language of scholarship in teacher educators' professional learning? *Professional Development in Education, 36*(1-2), 197-209.	ENG	How can well-framed practitioners research contribute to the professional learning of teachers who become teacher educators?	Case study	Interviews, journal	1 institution-based teacher educator			Researcher

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Reference		Research question	Type	Method	Sample		
Murray, J., Campbell, A., Hextall, I., Hulme, M., Jones, M., Mahony, P., Menter, I., Procter, R., & Wall, K. (2009). Research and teacher education in the UK: Building capacity. *Teaching and Teacher Education, 25*(7), 944-950.	ENG	What is needed to build research capacity in teacher education?	Essay				Researcher
Murray, J., Czerniawski, G. & Barber, P. (2011). Teacher educators' identities and work in England at the beginning of the second decade of the twenty-first century. *Journal of Education for Teaching, 37*(3), 261-277.	ENG	How do teacher educators view their identity? What does this indicate about teacher education and the changing discourses and practices of teacher education?	Case study	Questionnaire, interviews	N questionnaire: unknown, N interviews: 20 institution-based teacher educators	Researcher	
Murray, J. & Male, T. (2005). Becoming a teacher educator: Evidence from the field. *Teaching and Teacher Education, 21*(2), 125-142.	ENG	What challenges do new teacher educators experience with regard to developing an identity as teacher of teachers and scholar?	Interview study	Interviews	28 institution-based teacher educators	Teacher of teachers Researcher	Teacher of teachers

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Nicol, C., Novakowski, J., Ghaleb, F., & Beairsto, S. (2010). Interweaving pedagogies of care and inquiry: Tensions, dilemmas and possibilities. *Studying Teacher Education, 6*(3), 235-244.	CAN	What tensions and possibilities arise as a teacher educator attempts to foster both a pedagogy of care and a pedagogy of inquiry?	Self-study	Discussion, notes, journal, meetings, students' work, interviews	3 institution-based teacher educators	30 students	Coach	
Noel, P. (2006). The secret life of teacher educators: Becoming a teacher educator in the learning and skills sector. *Journal of Vocational Education & Training, 58*(2), 151-170.	ENG	What are the characteristics of teacher educators in a consortium in the North of England? Does the selection and support of new teacher educators promote diversity among teacher educators?	Document-analysis, survey, interview study	Data sheets, interviews, questionnaires	128 institution-based teacher educators			Teacher of teachers
Perry, N. E., Hutchinson, L., & Thauberger, C. (2008). Talking about teaching self-regulated learning: Scaffolding student teachers' development and use of practices that promote self-regulated	CAN	How can a mentor teacher gain the expertise to create a high student regulated learning environment?	Case study	Video-taped student-mentor discussions	19 workplace facilitators, 2 institution-based teacher educators	19 students	Coach	

Reference	Country	Research question	Method	Data				Role
learning. *International Journal of Educational Research, 47*(2), 97-108.								
Poyas, Y. & Smith, K. (2007). Becoming a community of practice. The blurred identity of clinical faculty teacher educators. *Teacher Development, 11*(3), 313-334.	ISR	What were the evaluation results of a professional development course for clinical faculty? How do the participants view their identity and what are the implications for their professional development?	Case study	Questionnaire, interviews, reflections	30 clinical faculty	3 heads of department	Coach	Teacher of teachers Coach
Ritter, J. K. (2007). Forging a pedagogy of teacher education: The challenges of moving from classroom teacher to teacher educator. *Studying Teacher Education, 3*(1), 5-22.	USA	What challenges does a beginning supervisor of student teachers encounter?	Self-study	Journal	1 institution-based teacher educator			Teacher of teachers
Schuck, S., Aubusson, P., & Buchanan, J. (2008). Enhancing teacher education practice through professional learning conversations. *European Journal of Teacher Education, 31*(2), 215-227.	AUS	What are the essential ingredients that help us to make sense of each other's teaching? What challenges arise for our meaning-making of what we see? Hoe does professional dialogue inform our understanding of teaching?	Self-study	Observations, discussion, reflections	3 institution-based teacher educators			Teacher of teachers

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Shagrir, L. (2010). Professional development of novice teacher educators: Professional self, interpersonal relations and teaching skills. *Professional Development in Education, 36*(1–2), 45-60	ISR	What characterised the graduates' feedback on a professional development course for teacher educators? Which elements contributed the most to their professional development as teacher educators?	Case study	Questionnaire	11 institution-based teacher educators			Teacher of teachers
Shteiman, Y., Gidron, A., Eilon, B., & Katz, P. (2010). Writing as a journey of professional development for teacher educators. *Professional Development in Education, 36*(1–2), 339-356.	ISR	How do teacher educators perceive the process of writing a book, and to what extent do they view it as promoting their professional and personal growth?	Case study	Interviews, conversations, focus group discussion	18 institution-based teacher educators			Teacher of teachers Researcher
Silova, I., Moyer, A., Webster, C., & McAllister, S. (2010). Re-conceptualizing professional development of teacher educators in post-Soviet Latvia. *Professional*	LAT	What motivates voluntary professional experiences among pre-service teacher educators? What are the nature and characteristics of this initiative? What contextualises theory and practice of professional	Case study	Documents, personality test, questionnaire, interviews	Test: 14 institution-based teacher educators Questionnaire and interview: 18 institution-based teacher	4 others: project funder, project coordinator, project trainer, evaluator		Teacher of teachers

Reference		Research question	Method	Data			Role
Development in Education, 36(1-2), 357-371.		development of teacher educators in a post-socialist context?			educators		Teacher of teachers
Smith, K. (2003). So, what about the professional development of teacher educators? *European Journal of Teacher Education, 26(2), 201-215.*	ISR	Why is it important for the profession of teacher educator to engage in ongoing professional development? How can individual teacher educators and the teacher education staff as a whole become involved with professional development?	Essay				
Smith, K. (2005). Teacher educators' expertise: What do novice teachers and teacher educators say? *Teaching and Teacher Education, 21(2), 177-192.*	ISR	What is the composition of professional expertise of teacher educators in comparison to the professional expertise of teachers?	Case study	Structured descriptions of teacher educators and teachers	18 institute-based teacher educators	40 novice teachers	Teacher of teachers Researcher
Smith, K. (2007). Empowering school- and university-based teacher educators as assessors: A school – university cooperation. *Educational Research and Evaluation, 13(3), 279-293.*	NO	What model can empower all parties in the practicum triad – school-based and university-based teacher educators, as well as student teachers – in assessment?	Essay				Gatekeeper

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Smith, K. (2010). Assessing the practicum in teacher education – Do we want candidates and mentors to agree? *Studies in Educational Evaluation, 36*(1-2), 36-41.	NO	To what extent do candidates and school-based teacher educators agree about the assessment of the candidates' performance in the practicum?	Survey	Questionnaires	6 workplace facilitators	6 students	Gatekeeper	
Snoek, M., Swennen, A., & Van der Klink, M. (2011). The quality of teacher educators in the European policy debate: Actions and measures to improve the professionalism of teacher educators. *Professional Development in Education, 37*(5), 651-664.	EU	How does the contemporary European policy debate address the further development of the quality of teacher educators?	Document analysis and survey	Policy documents and questionnaire		Members of the European Commission's Teachers and Trainers cluster		Teacher of teachers
Strong, M. & Baron, W. (2004). An analysis of mentoring conversations with beginning teachers: Suggestions and responses. *Teaching and Teacher Education, 20*(1), 47-57.	USA	How do mentor teachers make pedagogical suggestions to beginning teachers during mentoring conversations, and how do teachers respond?	Case study	Mentoring conversations	16 workplace facilitator teachers	16 beginning teachers	Coach	

Reference	Lang	Research question	Method	Data	Participants		Role
Struyven, K. & De Meyst, M. (2010), Competence-based teacher education: Illusion or reality? An assessment of the implementation status in Flanders from teachers' and students' points of view. *Teaching and Teacher Education, 26*(8), 1495-1510.	B (FL)	To what extent (and how) are competences translated, pursued and assessed in the programme and the curricula of elementary teacher training?	Survey	Questionnaires	51 institution-based teacher educators	218 students	Curriculum developer Broker
Swennen, A., Jones, K., & Volman, M. (2010). Teacher educators: Their identities, sub-identities and implications for professional development. *Professional Development in Education, 36*(1-2), 131-148.	NL, ENG	What sub-identities of teacher educators emerge from the research literature about teacher educators and what are the implications of the sub-identities for the professional development of teacher educators?	Literature study	25 articles			

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Swennen, A., Lunenberg, M., & Korthagen, F. (2008). Preach what you teach! Teacher educators and congruent teaching. *Teachers and Teaching, 14*(5-6), 531-542.	NL	Do teacher educators begin to teach more congruently once supported by stimulated recall interviews and a workshop? What factors influence the occurrence or no-occurrence of congruent teaching?	Case study	Interviews, observations, workshop	3 institution-based teacher educators		Teacher of teachers	
Tillema, H. H. & Kremer-Hayon, L. (2002). "Practising what we preach" - Teacher educators' dilemmas in promoting self-regulated learning: A cross case comparison. *Teaching and Teacher Education, 18*(5), 593-607.	NL, ISR	How do teacher educators perceive themselves as self-regulated learners? How do they perceive their students' self-regulated learning? What are the dilemmas and problems they encounter in the process of introducing self-regulated learning and teaching according to its principles?	Interview study	Interviews	29 institution-based teacher educators		Teacher of teachers	
Tillema, H. & Kremer-Hayon, L. (2005). Facing dilemmas: teacher-educators' ways of constructing a pedagogy of teacher	NL, ISR	What dilemmas about their teaching do teacher educators identify? What strategies do they use to cope with these dilemmas?	Interview study	Interviews	35 institution-based teacher educators		Teacher of teachers	

education. *Teaching in Higher Education, 10*(2), 203-217.							
Tillema, H. & Smith, K. (2007). Portfolio appraisal: In search of criteria. *Teaching and Teacher Education, 23*(4), 442-456.	NL, NO	How are criteria used in assessing portfolios selected and applied?	Survey, interview study document analysis	Questionnaire, interviews, portfolio assessment	35 institution-based teacher educators	67 students	Gatekeeper
Twombly, S. B., Wolf-Wendel, L., Williams, J., & Green, P. (2006). Searching for the next generation of teacher educators - Assessing the success of academic searches. *Journal of Teacher Education, 57*(5), 498-511.	USA	How many positions for teacher educators were advertised? What were required and preferred qualifications in position announcements? To what extent was the supply of prospective candidates adequate?	Document analysis	Advertisements Survey of Earned Doctorates			
Vagle, M. D. (2011). Critically-oriented pedagogical tact: Learning about and through our compulsions as teacher educators. *Teaching Education, 22*(4), 413-426.	USA	What is it like to cultivate tact in teaching?	Self-study	Journal, conversations	1 institution-based teacher educator	2 students	Teacher of teachers

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Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Van Velzen, C., van der Klink, M., Swennen, A., & Yaffe, E. (2010). The induction and needs of beginning teacher educators. *Professional Development in Education, 36*(1-2), 61-75.	B(FL), NL, ISR, SER, ENG, USA	How do novice teacher educators experience their induction?	Interview study	Interviews	11 institution-based teacher educators			Teacher of teachers
Van Velzen, C. & Volman, M. (2009). The activities of a school-based teacher educator: A theoretical and empirical exploration. *European Journal of Teacher Education, 32*(4), 345-367.	NL	Which concepts and principles from the 'Cognitive Apprenticeship Model' can we recognise in the way school-based teacher educators fulfil their role as teacher educators and to what extent?	Case study	Observations, discussions, interviews	4 workplace facilitator teachers		Coach	
Wang, J. (2001). Contexts of mentoring and opportunities for learning to teach: A comparative study of mentoring practice. *Teaching and Teacher Education, 17*(1), 51-73.	USA, UK, CH	Is the difference among mentors in defining what novices need to learn a matter of personal preference or is the difference shaped by the unique instructional contexts in which they teach and mentor? Do	Interview study	Interviews	23 workplace facilitators		Coach	

		mentors teachers in different contexts also develop different mentor practice?				
Wang, J. & Odell, S. J. (2007). An alternative conception of mentor-novice relationships: Learning to teach in reform-minded ways as a context. *Teaching and Teacher Education, 23*(4), 473-489.	USA	What types of mentor-novice relationships can be conceptualised? Which challenges and complexities associated with moving novices toward reform-minded teaching can be identified?	Essay			Coach
Whitehead, J. & Fitzgerald, B. (2007). Experiencing and evidencing learning through self-study: New ways of working with mentors and trainees in a training school partnership. *Teaching and Teacher Education, 23*(1), 1-12.	ENG	How did a generative, research-based approach to mentoring initial teacher training students in a training school/university partnership contribute to redefining teacher education practice?	Self-study	Interviews, questionnaires, lessons, students' work	1 institution-based teacher educator, 1 workplace facilitator	

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Willemse, M., Lunenberg, M., & Korthagen, F. (2005). Values in education: A challenge for teacher educators. *Teaching and Teacher Education, 21*(2), 205-217.	NL	How do teacher educators prepare student teachers for moral education when designing and carrying out the teacher education curriculum, and what effects does this preparation have on the student teachers?	Survey, interview study	Questionnaires, group interview	33 institution-based teacher educators	288 students	Curriculum developer	
Willemse, M., Lunenberg, M., & Korthagen, F. (2008). The moral aspects of teacher educators' practices. *Journal of Moral Education, 37*(4), 445-466.	NL	How do individual teacher educators prepare student teachers for moral education?	Case study	Walls, Moral Analysis Chart, interviews	9 Institution-based teacher educators	18 students	Teacher of teachers	
Williams, J. & Power, K. (2010). Examining teacher educator practice and identity through core reflection. *Studying Teacher Education, 6*(2), 115-130.	AUS	How can I identify ways in which I can use the core reflection model to build a professional relationship with a colleague? How can I improve my practice through these conversations ?	Self-study	Notes of meetings, journal, reflections	2 institution-based teacher educators			Teacher of teachers
Wilson, S. M. (2006). Finding a canon and	USA	What knowledge and skills about teacher	Essay					Researcher

Reference	Country	Research question	Study type	Data	Participants			
core: Meditations on the preparation of teacher educator-researchers. *Journal of Teacher Education, 57*(3), 315-325.		education and research (methodologies) do future teacher educator-researchers need? What is the role of primary and secondary teaching knowledge, skills, and experience in the preparation of future teacher educators-researchers? How do they learn the practice of teacher education and research?						Teacher of teachers
Wold, L. S., Young, J. R. & Risko, V. J. (2011). Qualities of influential literacy teacher educators. *Literacy Research and Instruction, 50*(2), 156-172.	USA	What are the qualities found in literacy teacher educators who support the advancement of literacy content and pedagogical knowledge in preservice teachers?	Survey and interview study	Questionnaire, interviews		61 teachers	Researcher	
Wood, E. & Geddis, A. N. (1999). Self-conscious narrative and teacher education: Representing practice in professional course work. *Teaching and Teacher Education, 15*(1), 107-119.	CAN	How does making thinking and pedagogical intents explicit provide students with insights into the coherence between what we profess and how we profess it?	Case study	Lessons, artefacts (hand-outs, notes)	1 institution-based teacher educator		Teacher of teachers	Teacher of teachers

APPENDIX

Article	Country	Research Question/Focus	Method	Data Sources	N Teacher Educators	N Others	Roles and Behaviour	Development Roles and Behaviour
Yendol-Hoppey, D. (2007). Mentor teachers' work with prospective teachers in a newly formed professional development school: Two illustrations. *Teachers College Record, 109*(3), 669-698.	USA	What does becoming a mentor in a professional development school do to teachers? What does their work look like? How do they construct their new roles, identities, and practices? How do these teachers conceive their work?	Case study	Journal, field notes, interviews, e-mail-correspondence, reports, observations	2 workplace facilitators		Coach	
Zanting, A., Verloop, N., Vermunt, J. D., & Van Driel, J. H. (1998). Explicating practical knowledge: An extension of mentor teachers' roles. *European Journal of Teacher Education, 21*(1), 11-28.	NL	What can making mentor teachers' practical knowledge explicit and the exploration of this knowledge contribute to student teachers' learning?	Essay				Coach	
Zeichner, K. (2007). Accumulating knowledge across self-studies in teacher education. *Journal of Teacher Education, 58*(1), 36-46.	USA	Should there be an effort with regard to self-study research in teacher education to incorporate elements into the research to make it easier to accumulate knowledge	Essay				Researcher	Teacher of teachers Researcher

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		across individual studies and if so, how could this be accomplished?					Coach
Zellermayer, M. & Margolin, I. (2005). Teacher educators' professional learning described through the lens of complexity theory. *Teachers College Record, 107*(6), 1275-1304.	ISR	Which critical events led to the learning of institution-based teacher educators in the context of a shift towards more school-based teacher education? And how can the effects of these critical events be explained?	Case study	Meetings, interviews, reflective notes	7 institution-based teacher educators	1 head of teacher education	

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Jurriën Dengerink is a staff member at VU University Amsterdam and secretary of the Dutch national committee of teacher education in research universities. His research focus is the professional development of teacher educators. He was involved in projects such as the development of a professional standard and procedure for (self)assessment and registration for Dutch teacher educators and a web-based knowledge base for teacher educators. Recently, he is a coordinator of the Teacher Educator Academy, an initiative supporting the professional development and research of teacher educators.

Janneke Geursen studied English Language and Literature and worked as an English teacher in a school for secondary education. She started working as a Foreign Language Methodologist at the Teacher Education Institution of VU University Amsterdam in 1999. Since then she has gradually developed into a more all-round teacher educator, teaching both methodology and curriculum design. In 2006 she was introduced to the world of Self-Study Research, which opened up a whole new range of opportunities relating to the professional development of teacher educators. She is an assessor for the Dutch Register of Teacher Educators.

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Bob Koster has worked as a social science teacher in a secondary school in the Netherlands for over ten years. Since 1992, he has worked as a teacher educator at Utrecht University, with a focus on the integration of theory and practice. In 1998 he started a new project on 'the Professional Quality of Teacher Educators' in which a standard and procedure for (self)assessment and registration for Dutch

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