Making mentoring match : mentor teachers' practical knowledge of adaptive mentoring.

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GENERAL INTRODUCTION

The focus of this dissertation is on mentor teachers' practical knowledge of adaptive mentoring. It explores mentor teacher's heuristics for adaptively responding to their mentee teachers' learning, and the knowledge and dispositions underlying these heuristics. This introductory chapter presents the relevance of the study (1.1), the aim and research question of the study (1.2) and the conceptual framework that guides the design of the study (1.3), the overall study design (1.4), and the outline of the dissertation (1.5).

1.1 Relevance of the study: the need for knowledgeable adaptive mentors

Mentored workplace learning has since long been a core strategy for professional development of novice teachers during initial teacher education and subsequent induction into the profession (Grimmet & Ratzlaff, 1986). Mentoring relationships are seen as vital for the successful preparation and induction of novice teachers (Fairbanks, Freedman, & Kahn, 2000; Long, McKenzie-Robblee, et al., 2012; Marable & Raimondi, 2007), and a good match between the mentor and novice teacher is considered key to making such mentoring relationships work (Bullough, 2012; Hale, 2000; Hobson, Ashby, Malderez, & Tomlinson, 2009; Kessels, 2010; Kroeze, 2014).

Matching in this sense refers to match-making (how mentors and mentees are matched), as well as to adaptation (how mentors adapt their mentoring to match individual differences in novice teachers' learning). Match-making in programs for teacher preparation is typically formal, or arranged (Kroeze, 2014); mentor-mentee dyads are formed as a by-product of teacher placement in schools through the teacher education program, as opposed to informal matching in which mentor and mentee choose each other based on mutual affiliation. As a result, this

formal match-making tends to be limited to appointing novices to the teacher that is available as a mentor in school (Bullough, 2012). Any further matching may be based on subject area (Waterman & He, 2011) and proximity in work location (Carter & Francis, 2001), but will in general not extend to matching based on learning styles, teaching beliefs, specific levels of development or mutual affiliation (Bullough, Young, Hall, Draper, & Smith, 2008). It has also been argued that because compatibility is highly difficult to anticipate beforehand, such match-making is unlikely to be practically feasible (Cox, 2005).

As a result, the onus is on mentor teachers to make this match; they are expected to be capable of adaptively responding to the momentary and individual learning needs of their mentee teachers, as these arise in their process of learning to teach (Rajuan, Beijaard, & Verloop, 2010). Mentor teachers therefore need to be capable of adaptively responding to the momentary and individual learning needs of their mentee teachers, as these arise in the process of learning to teach. This requires mentor knowledge of novice teacher learning and of mentoring activities to provide an adaptive response to this learning. Such knowledge is a critical, but still underdeveloped component in the knowledge base of mentoring (Achinstein & Athanases, 2005; Brondyk & Searby, 2013; Hiebert & Morris, 2009; Jones & Straker, 2006).

1.2 Aim and research question

Teacher mentoring is increasingly seen as a professional practice with a distinct knowledge base, in which mentors need to create appropriate learning opportunities by drawing upon their strategic knowledge of teaching, learning to teach and their knowledge of their mentee teacher as a learner (Schwille, 2008). Simultaneously, it is acknowledged that just as the knowledge base of teacher educators more in general, this knowledge base is still relatively underdeveloped (Hiebert & Morris, 2009; Jones & Straker, 2006). In the last decade, the Dutch Association for Teacher Educators has developed a professional standard for teacher educators. This standard explicitly includes mentor teachers as (school-based) teacher educators. It thereby attempts to recognize, similar to international developments (Schwille, 2008), that mentoring is a professional role and practice with a distinct knowledge base.

In this study, we aim to contribute to the knowledge base of mentoring as a professional practice by focussing on mentor teachers' own, practical knowledge of adaptive mentoring. Drawing on practitioner knowledge can help to inform and develop the knowledge base of professional mentoring (Hiebert, Gallimore, & Stigler, 2002; Verloop, Van Driel, & Meijer, 2001). Hiebert, Gallimore & Stigler (2002) argued that in order for practitioner knowledge to become professional knowledge, it "must be public, it must be represented in a form that enables it to be accumulated and shared with other members of the profession, and it must be continually verified and improved " (p. 4). This study aims to contribute to the knowledge base of mentoring in teacher education, through (1) uncovering elements of mentor teachers' practical knowledge of their mentee teachers' learning and of ways to adaptively respond to this learning, (2) providing descriptive accounts of its content, and (3) elucidating specific characteristics of this knowledge through the use of theoretical perspectives. The central question this study aims to answer is: *What is the content of mentor teachers' practical knowledge of adaptive response to their mentee teachers' learning?*

1.3 Conceptual framework

1.3.1 Mentoring in teacher education and induction

The term mentoring has become common to refer to the organized/arranged relationships between experienced school teachers and the novice teachers that they support during their initial teacher training and/or subsequent induction into the profession (Stanulis et al., 2018). Although the research literature on mentoring has defined mentoring as a construct in various ways (Haggard, Dougherty, Turban, & Willbanks, 2011), definitions from conceptual reviews of the literature (see Box 1.1) indicate that a mentoring relationship is generally viewed as a developmental relationship and process, embedded in a professional context, in which both parties may learn, but in which the emphasis is on the development of the novice.

Box 1.1. Definitions of mentoring in conceptual reviews of the mentoring literature.

Source	Definition
Roberts (2000)	"A formalised process whereby a more knowledgeable and experienced person actuates a supportive role of overseeing and encouraging reflection and learning within a less experienced and knowledgeable person, so as to facilitate that person's career and personal development" (p. 162)
Ambrosetti and Dekkers (2010)	"Mentoring is a non-hierarchical, reciprocal relationship between mentors and mentees who work towards specific professional and personal outcomes for the mentee. The relationship usually follows a developmental pattern within a specified timeframe and roles are defined, expectations are outlined and a purpose is (ideally) clearly delineated" (p. 162)
Haggard, Dougherty, Turban, & Willbanks (2011)	"We propose three core attributes of workplace mentoring (…) that distinguish mentoring from other kinds of work-related relationships. These core attributes are *reciprocity*, *developmental benefits*, and *regular/consistent interaction* over some period of time" (p. 292)
Allen, Eby, Chao, & Bauer (2017)	"…hierarchical one-on-one developmental relationships between a less experienced individual (the protégé) and more experienced individual (the mentor) " (p. 329)

In this study, we will consistently use the terms *mentor (teacher)* and *novice/mentee (teacher)* to refer to, respectively, school teachers and the recipients of their support in the context of teacher education and/or induction. There currently exists a plethora of terms to refer to school teachers in this position, such as *cooperating teacher, associate teacher, school-based teacher educator, clinical supervisor*, including various varieties in Dutch, such as *school practicum docent, coach, docent-coach, vak-coach, begeleider op school, praktijk-docent, werkplekbegeleider*. We acknowledge that in specific programs and studies, the position of mentor teacher may be purposely referred to with specific terms to delineate specific roles or positions within that program or study.

On the other hand, the terms mentoring and mentor/mentee teacher have gained fairly widespread acceptance in studies of this field (Ambrosetti & Dekkers, 2010; Stanulis et al., 2018). For our purposes, the term mentor teacher best covers the position of the participants in our study. The mentor teachers in this study were contacted through programs for initial teacher education. Program goals for the initial and induction phases of teacher education may be quite distinct (Feiman-Nemser, 2001a). However, the actual practice of mentoring in schools tends not to be neatly divided according to type of program/partnership or clientele (initial, induction, or otherwise). For practical purposes, we therefore refer to the recipients of the mentor teachers' support as novice teachers or mentee teachers. The term novice teacher encompasses beginning teachers both in initial teacher training and in the phase of early entry and induction into the profession. Though not all mentors provided support in the induction phase, several did, and some even supported experienced teachers. It is therefore impossible to make an a priori separation in the knowledge that the mentor teachers have built up through experience with these different levels of learning to teach, and we suggest that it will often be intrinsic to the role of a mentor teacher that a variety of mentees will be mentored. The term mentee teacher is therefore also used as a more general term, to indicate any recipient of mentor teacher support within a mentoring relationship. Fundamental is that the mentors in our study (1) were also employed as school teachers, and that they reported on mentees (2) with whom they had been engaged in a mentoring relationship, and (3) who, at the time of the mentoring relationship, were in some form entering the profession, and hence novice teachers.

In this study, we have also opted to consistently refer to the object of mentor teachers' adaptive response as novice/mentee teachers' *learning*. Language does make a difference here. Being adaptive to individual differences between novice *teachers*, has a different ring to it than being adaptive to individual differences in novice teachers' *learning*. The former runs the risk of 'reification', that is, of attributing characteristics of the learning process in a specific context to stable internal traits of the learner. Attributes such as for instance being open to feedback or taking initiative are likely to be at least in part an emergent characteristic of the learning situation, and not only a-priori attributes that a mentee brings to the situation. When mentors adapt their response, this may be accommodate to what they see as stable internal

characteristics of mentee teachers, but also to what they see as more fleeting and temporary characteristics, resulting from interactions between circumstance, person, and momentary levels of competence and confidence in the process of learning to teach. Knowledge of novice teacher learning may thus be grounded in attributions towards the person of the learner, but it is not necessarily so, and we think that it is important to reflect that in our use of language.

1.3.2 Mentor teachers' practical knowledge of adaptive mentoring

Following Verloop, Van Driel en Meijer (2001) mentor teachers' practical knowledge is understood in this thesis as "the whole of the knowledge and insights" (p.446) that underlie mentor teachers actions in practice, in which "components of knowledge, beliefs, conceptions, and intuitions are inextricably intertwined" (p. 446). The study of mentor teachers' practical knowledge in this thesis is focused on those components of practical knowledge assumed relevant for mentor teachers' capacity for adaptive mentoring. The literature on mentoring, teaching and teacher education distinguishes four components that play a role in mentor teachers' capacity to adaptively respond to their mentee teachers' learning. These are: (1) a disposition of collaboration and inquiry, (2) knowledge of a repertoire of mentoring activities, (3) knowledge of novice teachers' learning, and (4) heuristics that connect knowledge of mentoring activities and of mentee teachers' learning as actionable knowledge. These four components therefore guide the overall design of our study. We discuss each component separately.

1.3.2.1 A disposition of collaboration and inquiry

Studies of novice teacher learning in situations where support is mismatched (Patrick, 2013) or lacking (Long, Hall, Conway & Murphy, 2012), and studies of induction programs (Kessels, 2010) stress the importance of a surrounding culture of collaboration and inquiry. Such a culture is necessary for novice teachers to be open to discuss learning to teach as a process that includes vulnerabilities and difficulties. Mentor teachers are seen as being at the forefront of creating such an atmosphere, through conversations that allow novices and

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mentors to uncover and share meanings (Ben-Peretz & Rumney, 1991). Mentors should construct the mentoring process as one of 'co-thinking' (Feiman-Nemser, 2001b), creating a zone of 'pedagogical construction' that allows novice teachers to reconstruct their teaching experiences and to situate these experiences within their personal theories of teaching (Graham, 2006). Good mentors do so from a professional stance of collaborative inquiry into practice (Feiman-Nemser, 2012; Orland-Barak & Hasin, 2010), in which the mentor is willing to engage in mutual learning about teaching with novices during the mentoring process, thereby fostering norms of collaboration and shared inquiry (Wang & Odell, 2002). Such an image of educative mentoring thus expects mentors to be 'co-thinkers' as well as 'co-learners' with their novices (Feiman-Nemser, 2012). This disposition of collaboration and inquiry has been linked to the mentoring conceptions that mentor teachers hold, as well as to their willingness to engage in professional learning themselves (Burn, 2007; Long, Hall, et al., 2012).

1.3.2.2 Knowledge of mentoring activities

Studies that have found individual mentors to be overly prescriptive, directive, informative, or non-directive (Ben-Peretz & Rumney, 1991; Strong & Baron, 2004; Williams et al., 1998) have been critical of mentor teachers' versatility: their capacity to vary the type of mentoring support they provide according to mentee teacher development over time and to individual differences in novice teacher learning. Because of this perceived lack of versatility in style, programs and methods have been developed to train mentors to be more versatile. More versatile mentors are able to use directive as well as non-directive skills in mentoring conversations, and to be reactive to novice input as well as to actively initiate topics in the conversation (Crasborn, Hennissen, Brouwer, Korthagen, & Bergen, 2008; Timperley, 2001). The main assumption in this line of studies is thus that mentor teachers need, but often lack, sufficient (and sufficiently functional) knowledge of a repertoire of mentoring activities, to be capable of versatile and adaptive response to their mentee teachers (Crasborn & Hennissen, 2010). Mentoring research shows how mentor teachers perform a broad variety of roles and functions for novice teachers in the course of the mentoring relationship (Clarke, Triggs & Nielsen, 2014; Wildman, Magliaro, Niles & Niles, 1992), in a variety of activity settings (Schwille, 2008), involving a variety of

mentoring activities (Ambrosetti & Dekkers, 2010) and strategies (Hudson, 2013). As a result, the mentor role affords numerous ways of being adaptive to novice teacher differences, but so far there has been little study of the mentoring activities that mentor teachers themselves view as adaptive to novice teachers' learning.

1.3.2.3 Knowledge of novice teachers' learning

High diagnostic ability is considered a distinctive feature of successful mentoring (Schwille, 2008), requiring professional knowledge of mentee teachers as adult learners. Mentor teachers' knowledge of novice teachers as adult learners is therefore seen as a prominent component of the knowledge base of mentoring (Achinstein & Athanases, 2005; Jones & Straker, 2006), and knowledge of novice teachers' needs is seen as one of the major marks of effective mentoring practice (Crutcher & Naseem, 2016). In being adaptive, mentors are expected to accommodate a vast array of individual differences in their support of novice teachers' learning, such as learning styles, concerns, needs, stages of development, images and beliefs about teaching, and goals and expectations concerning the mentoring relationship (Hobson et al., 2009; Rajuan et al., 2010). Empirical research on mentors' knowledge of their mentee teachers is scarce, however, and focused on ideal traits of novices (Reid & Jones, 1997), or on competence frameworks for evaluating readiness for teaching (Haigh & Ell, 2014), rather than on the actual attributes that mentors recognize in their mentee teachers' learning.

1.3.2.4 Heuristics for adaptive response to novice teacher learning

Mentor teachers' knowledge, like teachers' knowledge, has been defined above all as practical knowledge, a key characteristic of which is "to guide their actions when they encounter the critical question, 'what should I do in this particular situation?'" (Gholami & Husu, 2010, p. 1520). Knowledge of a repertoire of activities and of mentee teachers' learning is not enough for mentor teachers to be capable of adaptive response; they need to be able to connect this knowledge

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in the ongoing process of mentoring itself. Research on adaptive teaching therefore emphasizes the role of personal, actionable heuristics in micro-adaptation (Corno, 2008; Lin, Schwartz, & Hatano, 2005; Randi & Corno, 2005), and we assume that the main insights from this work also transfer to the situation of teacher mentoring. Micro-adaptation refers to "continually assessing and learning as one teaches - thought and action intertwined" (Corno, 2008, p. 163). It refers to teacher's ability to simultaneously assess and respond to individual learner differences, performed in the ongoing course of instruction itself. As a result of their day-to-day micro-adaptive responses, teachers develop personal and actionable heuristics that connect knowledge of salient differences between pupils to courses of action (Randi & Corno, 2005). With increased experience, teachers develop heuristic categories of pupil behaviour and classroom situations to aid their informal assessments and decision-making on the fly. Such heuristics are seen as a form of conditional knowledge: of knowing why certain knowledge is or is not appropriate in a specific situation, including a pro-active pursuit of multiple perspectives and possibilities (Fairbanks et al., 2010). Similarly, we expect that mentors with experience of different novice teachers will develop connections between knowledge of particular attributes of novice teachers' learning and of the mentoring activities that provide an appropriate response that is adaptive to those attributes. We refer to these connections as heuristics for adaptive response. Whether such heuristics are to be seen as a separate category of mentor teacher knowledge in and of itself, or as a process of judgement or 'strategic knowing' (Shulman, 1986) that draws upon mentor teacher knowledge of learners and activities, remains an open question at this moment. Nevertheless, we assume that it is possible to have mentors recall this strategic knowledge or knowing, at least in part, and in such a way that it can be described and represented in some form.

1.4 Design of the study

The study is designed to incorporate each of the four components identified in Section 1.3. Each of the five studies focuses on one of the four components. In each study, specific research questions with respect to that component are formulated.

With the exception of the first large-scale questionnaire study, the nature of the studies in this thesis is small-scale, exploratory and descriptive, combining qualitative content analyses with quantitative analyses to discern trends and patterns. All studies focus on the viewpoint of mentor teachers and their practical knowledge. Table 1.1 provides an overview of central focus, methods and sample sizes of the five studies. Mentor teachers' knowledge in this study was investigated through questionnaires, task-based interviews and repertory-grid interviews. In order to maximize the chance of finding a variety of (1) practical knowledge about mentoring activities, (2) practical knowledge about novice teachers' learning, and (3) heuristics for adaptive response in the small-scale studies, a purposive sampling was used (Palys, 2008). The goal was to maximize variation, by selecting mentors with different patterns of mentoring conceptions. Study 1 developed the means for this purposive sampling, in the form of a questionnaire measuring different mentoring conceptions. Participants for the interview studies were therefore selected from the mentor teachers in study 1 that indicated a willingness to participate in a follow-up study.

Verloop et al (2001) argued that for practitioner knowledge to contribute to the professional knowledge base, it is desirable to focus on practical knowledge that is shared by practitioners. The final three studies therefore explore the common elements in mentor teachers' practical knowledge: the attributes of their mentee teachers' learning that mentors focus on most, the dominant mentoring activities in their descriptions, and their shared heuristics for adaptive response to their mentee teachers' learning (see Table 1.1).

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Table 1.1. Component, method, sample size and research questions for the five studies.

Chapter	Component	Method	*N*	Central research questions
Ch 2	Disposition of collaboration and inquiry	Questionnaires	726	*What is the relationship between mentor teachers' mentoring motives and their mentoring conceptions?*
Ch 3	Practical knowledge of mentoring activities	Task-based interviews	18	*What adaptive mentoring activities to mentor teachers describe?* *What are the distinctive features of adaptive mentor teachers?*
Ch 4	Practical knowledge of mentee teachers' learning	Repertory-grid interviews	11	*What attributes of novice teachers' learning do mentor teachers focus on most in describing similarities and differences between their mentee teachers?*
Ch 5	Practical knowledge of mentoring activities	Repertory-grid interviews	11	*What are dominant mentoring activities in mentor teachers' descriptions of their response to similarities and differences between their mentee teachers?*
Ch 6	Heuristics for adaptive response	Repertory-grid interviews	11	*What are mentor teachers' shared heuristics for adaptive response to their mentee teachers' learning?*

1.5 Outline of the dissertation

Each of the chapters 2 to 6 in the dissertation focuses on one of the five studies. **Chapter 2** focuses on mentor teachers' disposition of collaboration and inquiry, and explores the relationships between different mentoring conceptions and mentoring motivations of mentor teachers. The chapter reports on the relation between mentor teachers' orientation toward co-thinking and co-learning, as expressions of an underlying disposition towards collaboration and inquiry. In doing so, the content of the questionnaire that provided the criterion for selection of participants for the subsequent studies is described in more detail.

      Chapter 3 focuses on adaptive mentoring activities and individual differences between mentors. The content analysis of these interviews focuses on the mentoring activities that the mentor teachers describe in the task-based interviews. This chapter further explores the subset of mentoring activities that the mentor teachers describe as adaptive to novice teachers' learning, as well as individual differences between mentor teachers. It contrasts the overall patterns of mentoring activities that highly adaptive mentor teachers describe (who mention many adaptive mentoring activities) with those of non-adaptive mentor teachers (who do not mention any adaptive mentoring activities).

      Chapters 4, 5 and 6 report on the results of the repertory-grid interviews. **Chapter 4** focuses on mentor teachers' personal practical knowledge of their mentee teachers' learning. The content analysis focuses on the constructs that mentor teachers describe, defined as bipolar oppositions that mentor teachers use to discriminate between different attributes of their mentee teachers' learning. Two perspectives inform the analysis of these constructs. First, based on recent views that a core element of novice teacher development is the reconciliation of the personal and professional domains of becoming a teacher, these two domains are used as a starting point for organizing the constructs that the mentor teachers describe. Second, based on research into the two core dimensions of warmth and competence, or social desirability and social utility that people tend to use in their social judgements of others, these dimensions are used for a second-order analysis of the data.

      Chapter 5 extends the exploration of adaptive mentoring activities from chapter 3 to an exploration of the central activities in mentor teachers' views of adaptive response. The exploration starts out from the mentoring activities that

are central in mentor teachers' descriptions. The analysis focuses on how mentor teachers describe their enactment of these activities to adaptively respond to their novice teachers' learning.

Chapter 6 draws together the findings from the previous two studies. It reports on the associations that mentor teachers describe in the repertory-grid interviews between (1) the attributes of their mentee teachers' learning and (2) the mentoring activities to respond to these attributes. The analysis of these associations forms the basis for the identification of common heuristics for adaptive response in mentor teachers' descriptions; heuristics that connect the two knowledge domains of mentee teachers' learning and of mentoring activities, as actionable knowledge for adaptive response to novice teachers' learning.

Finally, **Chapter 7** provides and overview of the main findings of each of the five studies, indicates limitations, discusses how these findings contribute to the knowledge base of mentoring, and provides suggestions for professional preparation of mentors.