Mentor teachers' practical reasoning about intervening during student teachers' lessons

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HIGHLIGHTS

- Mentor teachers in primary education intervene during student teachers' lessons.
- Mentor teachers balance situational, value, and empirical premises.
- Mentor teachers intervene rather frequently and mostly by guiding the pupils.
- Mentor teachers continuously try to fulfill both their mentor and teacher roles.
- Awareness of mentoring role is related to MTs' interventions.

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ABSTRACT

In this exploratory study, we analyzed mentor teachers' (MTs') reasoning about whether, when, and how to intervene during student teachers' (STs') lessons. We applied Fenstermacher's theory on practical arguments and found that MTs intervene primarily by guiding their pupils. MTs balance situational premises (e.g., ST and pupil characteristics, and triggers such as pupils behaving disruptively or STs making mistakes in the lesson content), value premises concerning mentoring and teaching, and empirical premises about the effects of intervening on STs' and pupils' well-being and development. We suggest MTs' intervening to not only cater to pupils' but also to STs' development needs.

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Mentoring during student teaching has been reported to be an important aspect of teacher training (Hobson, Ashby, Malderez, & Tomlinson, 2009), and mentor teachers (MTs) significantly influence the development of student teachers (STs) (Anderson, 2007; Beck & Kosnik, 2002; Borko & Mayfield, 1995). Good MTs help STs become effective practitioners, for example, by modeling good professional practice (Roehrig, Bohn, Turner, & Pressley, 2008). Other studies, however, describe mentoring as having a low impact on STs' learning (e.g., Borko & Mayfield, 1995; Wang & Odell, 2002), which might be a result of the complexity of being a *good* mentor (Hall, Draper, Smith, & Bullough, 2008; Hawkey, 1997; Orland, 2001). Particularly challenging for being a good mentor is the

combination of being a mentor and a teacher in one's own classroom (Jaspers, Meijer, Prins, & Wubbels, 2014). As mentors, MTs support STs in practicing and acquiring the knowledge, beliefs, and skills that enable the STs to teach in ways that are fundamentally different from how the MTs themselves were taught (Borko & Mayfield; Hammerness et al., 2005). As teachers, MTs are responsible for the development and well-being of their pupils. These two responsibilities might compete with each other (e.g., Collison & Edwards, 1994; Edwards, 1998; Goodfellow, 2000; Jaspers et al, 2014; Rajuan, Beijaard, & Verloop, 2007). An earlier study (Jaspers, et al., 2014) revealed that MTs felt that being a teacher of the pupils was their primary task, and being an ST mentor was generally perceived as an aside, an additional task. A typical and challenging situation for MTs occurred when an ST was teaching the MT's pupils and the MT observed an interruption to the normal course of events. Such situations might be valuable learning

experiences for STs, giving them the opportunity to learn from mistakes and thus improve their teaching. Jaspers et al. (2014), however, found that in these situations, MTs tend to intervene by guiding the pupils. When MTs intervene, for example because they are more concerned about the well-being of pupils than of the ST's learning, the latter can be at risk (e.g., Edwards, 1998). As a result, STs are not provided with adequate responsibility, autonomy, and freedom in the classroom (e.g., Collison & Edwards, 1994).

MTs might have various reasons, as mentor as well as teacher, for their intervening or abstaining from intervening when the normal course of events in the classroom is disturbed. Insight into such reasoning and MTs' explanations for intervening or abstaining might help improve the impact of mentoring, and specifically, the quality of MTs' ST guidance during ST teaching. Therefore, the present study aimed to explore the practical reasoning concerning whether, when, and how to intervene during STs' lessons. After describing what is known about MTs' interventions and considerations during STs' teaching, we will summarize Fenstermacher's theory on practical arguments, which we will use as a heuristic to obtain insight into MTs' practical reasoning.

1. MTs' interventions

Various articles on mentoring have mentioned MTs' tendency to intervene (e.g., Glenn, 2006; Kent, 2001; Rajuan et al., 2007; Woods & Weasmer, 2003), but few explicitly examined the characteristics of interventions. Ben-Peretz and Rumney (1991) reported that MTs differ in terms of their active involvement in lessons. Some MTs tend to interrupt during STs' lessons, while others do not. MTs corrected the STs as well as the pupils when pupils misbehaved or became too noisy. Wang (2010) distinguished three categories of interventions: 1) active intervention, including both direct (the MT intervenes in the lesson herself) and indirect (the MT prompts some pupils to ask the ST questions); 2) passive intervention (an MT responds to a question by the ST); and 3) no intervention. Post (2007) described six intervention strategies that increase in the extent of classroom process disruption and in pupils' and ST's awareness of MT's intervention. The lowest disruption evolved from "ignore" (the MT does not respond at the time a problem occurs). The most disruptive is "intercept," which means the MT takes over the lesson and brings it to closure, such as when the class is out of control and the ST lacks the skills to reestablish authority. Post (2007), Ben-Peretz and Rumney (1991), and Wang (2010) describe various interventions, but these do not cover all interventions mentioned by the MTs in our previous study. Specifically, the tendency of these MTs to intervene by guiding the pupils is underexposed (Jaspers et al., 2014).

2. MTs' considerations

Whether, when, and how MTs intervene might be explained by a role conflict MTs might perceive because of the dual loyalty to STs' learning and pupils' learning (Clarke, Triggs, & Nielsen, 2014). Although MTs hand over their classrooms to the STs, observe lessons, and provide feedback, MTs have been reported to feel concerned about the children in their care (Edwards, 1998; Hopper, 2001; Stanulis, 1995). In order to protect both students and pupils from failure, MTs create safe places and carefully structured tasks for STs (Collison & Edwards, 1994) and their feedback aims to prevent potential ST mistakes (Edwards & Protheroe, 2004; Edwards, 1998). When STs make mistakes and face difficulty in teaching, MTs find it hard to refrain from directive interventions and to allow STs to fail when simple interventions during their teaching could have immediately improved the situation (Kent, 2001).

In research that explored MTs' reasons for intervening, Wang (2010) found that MTs' major reason for intervening was "caring about pupils." Other principles underlying a decision to intervene concern "ST self-esteem," "ST authority," "professional identity," "solving problems," "accumulating experience" (Wang, 2010), "teaching strategies," "content," and "discipline of pupils" (Ben-Peretz & Rumney, 1991). However, according to Wang, various other underlying values and principles for intervening have not yet been discovered.

3. Practical reasoning about intervening

The relation between MTs' actions and thoughts is complex (cf. Kagan, 1992; Pajares, 1992; Zanting, Verloop, & Vermunt, 2001). Teachers' beliefs and knowledge are often implicit and thus difficult to make explicit (Zanting et al., 2001). Fenstermacher (1986) presented a method (as suggested by Green (1976), based on an interpretation of the work of Aristotle) to illuminate teachers' reasoning about acting: the *practical argument*. Practical arguments are post hoc descriptions of practical reasoning that teachers indicate as fair and accurate accounts of actions and that serve to explain or justify what a teacher did (Fenstermacher & Richardson, 1993). When a person thinks about what he or she did or ought to do in a specific situation, given the commitment to the roles he or she has undertaken, this is a case of *practical reasoning* (Pendlebury, 1990). Practical reasoning takes place not only in retrospect when considering actions that have already been performed (Fenstermacher, 1986) but also when thinking about what we might do (for example, intended and hypothetical actions) in a particular set of circumstances (Pendlebury, 1990). In this study, we apply Fenstermacher's practical argument as a heuristic to investigate MTs' reasoning about intervening, without making a distinction between actual performed actions and actions described in another way.

A practical argument consists of a series of premises contributing to the decision or intention to act in response to questions such as "What shall I do?" or "Why did I do that?" (Morine-Dershimer, 1987). Fenstermacher and Richardson (1993) distinguished four types of premises:

1) The *value* premises indicate the desirable conditions, desired state of affairs, or a value or expression of moral good that the actor associates with these consequences. For example, "As a teacher, I want my pupils to learn; as an MT, I want my ST to learn."
2) The *stipulative* premises are statements that define, interpret or establish meaning, and are examined using theory or well-grounded conceptions of the learner, the subject matter, and the form and manner of instruction. For example, "Well-managed classrooms yield gains in learning."
3) The *empirical* premises are statements of principles denoting the consequences that might be expected to follow the action. The empirical premise can often be appraised using evidence gained from careful observation and study. For example, "Direct instruction is a proven way to manage classrooms."
4) The *situational* premises describe the context or situation in which the action occurs. For example, "My ST is teaching my pupils not confirming the principles of direct instruction and the pupils are not behaving well."

These four premises in the argument, whether explicitly stated by the teacher discussing an action, or implicitly found in the teacher's description of the event, lead to the action, or intention to act, or to avoiding the action (Morine-Dershimer, 1987). In the above, this might be, for example "I am intervening/I will intervene by organizing my class according to the principles of direct instruction"

or *"I am intervening/I will intervene by making my ST organize the class according to the principles of direct instruction."*

Although practical arguments have been criticized by some (e.g., Confrey, 1987; Munby, 1987), others explain how and why investigating practical arguments might clarify the complex practice of teaching (e.g., Pendlebury, 1990), because these show links between specific thoughts and specific actions (Morine-Dershimer, 1987). Fenstermacher's practical argument has been found to be an effective approach for understanding the actions and reasoning of teachers (Fenstermacher, 1987), student teachers (Morine-Dershimer, 1988; Tidwell & Heston, 1998; Vesterinen, Toom, & Krokfors, 2014), and teacher educators (Tidwell & Heston, 1998).

We expect practical arguments also to be useful in understanding MTs' practical reasoning because these comprehensively capture many reasoning aspects, such as the situation, MTs' beliefs, and their relation to actual actions and intentions to act. Thus, the influence of MTs' double roles and values on the reasoning and the relation between premises and actions might become clear. We expect that exploring MTs' practical arguments will provide insight into the type of premises contained in MTs' practical reasoning, particularly given the MTs' commitment to both roles when the ST is teaching MT's pupils.

Additionally, a practical argument focuses on the MTs' decision-making process and not on whether the MT's action is right or wrong. This suits our research aim, namely, to explore how MTs deal with those conflicting values, how this influences MTs' actions, and which reasons MTs use in explaining their interventions. The following research question will be examined: *What is mentor teachers' practical reasoning concerning whether, when, and how to intervene during student teachers' lessons in primary education?* By using the practical argument approach, we will answer the following subquestions: How do MTs intervene? How can situational, value, stipulative, and empirical premises be characterized? Which premises do MTs use when they explain their intervening or intention to intervene? In addition, we will explore the mutual relation between the premises and how MTs' practical reasoning for intervening can be described.

4. Method

4.1. Participants and context

In this qualitative, exploratory study, MTs were interviewed about their reasoning concerning intervening. The aim of our study was to explore the breadth of MTs' practical reasoning about their actions. Therefore, we invited MTs with a variety of characteristics. The first seven MTs were recruited by telephone from an institute's list of MTs mentoring STs at the time. The response rate was 64%, and the primary reason for MTs' nonparticipation was lack of time. After the seven MTs were interviewed, we decided to increase the number of situations in which MTs reasoned about intervening. Consequently, we continued inviting MTs by telephone and asked STs of two cohorts of the institute to invite their MTs to participate personally. We stopped recruiting when sufficient heterogeneity was reached. This resulted in a total sample size of eighteen MTs. The MTs worked in all grade levels, from kindergarten to Grade 8, and had a varying amount of experience in teaching and mentoring, from one year to more than 30 years. The participants worked in urban and rural schools, in regular and special education, and they mentored both female and male STs in various years of their study. The participant group consisted of two males and sixteen females. Four MTs were trained in mentoring. Most of these MTs had a positive attitude toward mentoring, although some of them were not enthusiastic about the ST they were mentoring at that time and about participating in the research. However, we convinced them to participate because we also wanted to capture these experiences.

This study was performed in the context of a four-year undergraduate teacher education program for primary education in the Netherlands. In this program, STs follow university courses and are placed in various schools where they teach under the supervision of an MT. Each class contains approximately 30 pupils, and one teacher teaches all the subjects. The MT responsible for the class in which the ST has been placed guides and assesses the ST. Over the years of study, the ST's responsibility for the pupils increases until they assume full responsibility in their final year. The average age of the STs is approximately 20 years old (ranging from 17 to 26).

4.2. Data collection and procedure

In all eighteen interviews, MTs talked about the combination of the mentor and teacher role in general and reasoned about their intervening in situations in which an ST was teaching the MT's pupils. The questions were open-ended because of the exploratory design of the study (Miles, Huberman, & Saldaña, 2014). An example of an interview question is as follows: "What tensions did you experience between both roles?" In the interviews, MTs explained their intervening during STs' lessons and the considerations for their intervening, based on specific situations they actually experienced and remembered as well as hypothetical situations in which they stated how they might intervene or not.

MTs' reasoning about intervening was collected in two different groups of MTs. First, seven MTs participated in semi-structured interviews about their perceptions of combining the mentor and teacher roles, as described above. Second, in the semi-structured interview with the remaining eleven MTs, we chose to provide the MTs with an extra stimulus to come up with more examples of various situations in which they reasoned about intervening. Preceding the semi-structured interview, we were present during an ST's lesson in the MT's classroom. When situations occurred in which the MT seemed to have the intention to intervene or actually intervened, we made a note of it and used these situations as extra input for the semi-structured interview. These situations were used to encourage MTs to talk about situations in which they were likely to intervene, actually did intervene, or abstained from intervening. In the semi-structured interview we asked MTs to explain their actions. Examples of questions concerning the situations included the following: "Why would you or did you intervene/not intervene? What were/are your considerations for that action?" Probing questions were also used, such as "Why?" or "Can you give an example?" These questions were asked for the actually performed actions and, subsequently, for situations that MTs had experienced in the past. To gain insight into MTs' reasoning about intervening in various situations, these questions were also used to explore hypothetical situations. In these cases, MTs stated their actions as hypothetical or intended actions. During the last interviews, we noticed that MTs provided information that already had been gathered during the earlier interviews.

All interview questions were piloted with three mentors who did not participate in the actual study. Based on this pilot, some questions were added or restated in a more transparent way. Sample interview questions are listed in Appendix A.

For all interviews, the MTs orally provided informed consent. The interviews, which lasted 20—125 min, were conducted by seven research assistants, mostly in pairs but always with one MT. The 18 interviews were all audiotaped, transcribed, and analyzed in the same way.

4.3. Data analysis

From the interview data, 61 fragments were selected in which MTs talked about situations when the ST is or becomes (partly) responsible for the teaching of the pupils. These fragments were analyzed in three phases.

In the first phase of analysis, we selected segments that contained information about MTs' reasoning about their actions during STs' teaching, and we coded the main categories in these fragments according to the four premises of Fenstermacher and Richardson (1993) and (avoidance of) actions. During coding, it appeared that we could not distinguish between empirical and stipulative statements because MTs did not clarify the origin of what they stated, whether it be experiences and previous observations (empirical premise), or conceptions of evidence (stipulative premise). Because there were barely references to conceptions of evidence, we labeled these premises as empirical. MTs used various situations in explaining their intervening, such as situations experienced in the past, situations that were observed during the lesson, hypothetical situations (what would they have done if the situation had been slightly different), and situations in the future. As a result, MTs stated their actions, or avoidance of actions, in various wordings in the interviews, such as (not) actually performed actions, hypothetical actions, and intended actions. In the analysis, these were all categorized as actions. To improve the validity of our findings, two raters independently rated the statements in actions and the three premises for half of the interviews. Then, they discussed their differences until consensus was reached. Thereafter, the remaining half of the interviews were analyzed in the same manner by the first author. Additionally, an audit control (Akkerman, Admiraal, Brekelmans, & Oost, 2008) was performed, in which the auditor concluded that all information that should be considered when investigating MTs' practical reasoning about intervening was coded and fully covered.

In the second phase of analyzing the interviews, using the ATLAS.ti computer program, subcategories and common themes within the described actions and premises were formed and used as codes. The subcategories will be described in the results section. The coding of the premises by two raters resulted in good interrater reliability agreement (See Table 1).

In the third phase, to explore how MTs explained their actions and what factors triggered these actions, we coded the relation between the premises and described actions. For each premise statement, we coded which action, namely, intervening (directed at the ST or at the pupils), not intervening, or other actions, according to the MT, was related to that premise statement. The interrater reliability for this analysis was good (Kappa = .81).

The excerpt in Fig. 1 provides an illustration of the coding procedure using Fenstermachers' practical argument theory.

Finally, to convey a sense of how combinations play a role in practical reasoning, we explored how the premises aggregately appear in MTs' reasoning about intervening.

5. Results

The results are presented in three parts. Part 1 addresses the various *types of actions* that we found in the interviews in MTs' practical reasoning. In Part 2 the *situational premise*, *value premise*, and *empirical premises* are described and the *relation* between each premise and the actions are elaborated. Finally, in Part 3, we *combine the premises* and explore how MTs use the combination of premises to reason about their intervening.

5.1. Part 1: MTs' actions during STs' teaching

Coding the main categories yielded 220 actions (i.e., actual performed, hypothetical, and intended actions). After coding the sub categories, we distinguished three types of actions, namely, intervening, not intervening, and other actions. In Table 2, frequencies and examples of these actions are provided.

In the first action, *intervening*, we distinguished three types of direction of the interventions, namely, 1) at the pupils, 2) at the ST, or 3) undetermined.

The second action, *not intervening*, included not only explicit mentions of the MTs not intervening, or not having the intention of intervening, but also explanations of what they did or would do in that situation aside from intervening, and thereby implicitly stating not to intervene. Examples of these explanations were "then I can let go more easily" or "then I transfer the teacher responsibilities more and more" or "then I fade out my guidance."

We labeled the third category of actions as *other actions*. These were all actions that MTs explicitly mentioned when they reasoned about what they do or would do when the ST is teaching, and that were not labeled as intervening or not intervening, for example, observing the pupils, or leaving the classroom.

The MTs in our study mentioned intervening in around half of the actions and when MTs said they intervened or would intervene (117 quotations, 17 MTs), in nearly half of the instances (60 quotations, 15 MTs), they were specific about the direction of their intervening, namely, at the pupils or at the ST. During the other half (57 quotations, 14 MTs), they described their intervening in more general terms, such as "… then, I intervene." If MTs indicated how they would or did intervene, they mentioned guiding the pupils (42 quotations, 15 MTs) more than guiding the ST (18 quotations, 9 MTs).

The manner in which MTs (would) intervene toward the pupils varied, in their own words, from making eye contact, signaling to a pupil, answering questions from pupils, speaking or shouting to the whole group of pupils, or practicing the teacher role again. An example of the latter is MT10, who explained: "*I noticed that when the pupils started their craft activity, and some were even working already, I started taking up my teacher role again.*"

The way in which MTs talked about guiding STs during teaching varied from short organizational tips to guiding the ST and gradually reducing this guidance. For example, MT1 would tell the ST:

Table 1
Actions, premises, number of subcategories, inter rater reliability, and number of subcategories after combining to make results synoptic.

Action/Premises	Subcategories used for Kappa (*N*)	Kappa	Subcategories in results (*N*)
Action	10	.919	5
Situational premise − situational characteristics	12	.963	10
Situational premise − situational triggers	12	.889	7
Value premise	19	.842	15
Empirical premise − general empirical premises	25	.842	16
Empirical premise − specific empirical premises	11	.825	9

Note: After the interrater reliability was established, we merged some subcategories to make our findings synoptic. For example, in the category "situational characteristics", we merged the code "STs' competence" and "MTs' confidence in the ST".

Interview fragment	Phase 1: Premises	Phase 2: Subcategories	Phase 3: Relation action
MT8: Take Ben for example, he was doing the same thing all the time.	SP	Sit. trigger: pupil related – disruptive pupil(s)	Not intervene
The ST was not noticing it.	SP	Sit. characteristic: ST - other	Not intervene
But if you [the MT] withdraw yourself and sit on the couch, you see lots of things happening that you wouldn't have seen otherwise. *(…)*	EP	General EP: teaching - other	Not intervene
I do have the tendency [to intervene],	Action	Intervene direction unclear	
but I won't do it.	Action	Not intervene	
Interviewer: *Why not?* MT8: *Because it is her lesson.*	VP	Mentoring: ST should teach by herself	Not intervene
She has to learn from it,..	VP	Mentoring: ST should develop	Not intervene
And when I interfere, I undermine…Some pupils will get the idea that I'm undermining the authority of the other.	EP	General EP: Teaching and mentoring – implications of intervening	Not intervene
Because I'm still the teacher. That is always the case.	EP	General EP: T&M: double role in general	Not intervene
But if I would, on top of that, interfere they will be like: ah well, this is a teacher I do not have to listen to.	EP	General EP: T&M: implications of intervening	Not intervene
That is not necessary.	VP	Teaching: orderly working atmosphere	Not intervene
Interviewer: *And do you always do that, that you don't interfere?* MT8: *No, unless I think it is dangerous.*	EP	General EP: T&M – implications of intervening	Intervene direction unclear
For example, what I saw with Mary,	SP	Sit. trigger: pupil related – well-being at risk	Intervene direction unclear
Eh, Yes, I want to avoid accidents.	VP	Teaching: pupils' well-being should not be at risk	Intervene direction unclear
Eh, yes, sometimes, you simply cannot resist,	EP	Specific EP: MT – other	Intervene direction unclear
When you walk past someone and you notice that he is doing nothing	SP	Sit. Trigger: pupil related – disruptive pupil(s)	Intervene directed at the pupils
then you tap his shoulder, or eh..	Action	Intervene directed at the pupils	
But, in principle, I try not to interfere, except if it becomes really dangerous.	VP	Mentoring: MT should not intervene	Other

Fig. 1. Excerpt from interview with MT8.
SP = situational premise, Sit. = Situational, VP = value premise, EP = Empirical premises, T&M = teaching and mentoring.

Table 2
Actions: Frequencies, number of MT's mentioning an action, and examples.

Actions	Freq.	MT *(N)*	Examples
Intervene	**117**	**17**	
directed at pupils	42	15	Then I shout: "Stop! You know you are not allowed to do that!" (MT 18).
directed at ST	18	9	Then I say to the ST: "Listen, do not clean up yourself. Have a seat, and give the pupils specific tasks, and look what will happen. Observe." (MT1).
direction unclear	57	14	Then I want to interfere (MT8).
Not intervene	**36**	**11**	It is not that I'll intervene in the group of pupils that the ST is teaching (MT11).
Other actions	**67**	**17**	Observe the ST (19), observe the pupils (7), discuss after lesson (9), teach a group of pupils in the classroom (6), do something else in the classroom (6), leave the classroom (15).
Actions - Total	**220**	**18**	

"Listen, don't clean up yourself. Have a seat, and give the pupils specific tasks and look what will happen. Observe!" MT4 explained: "I will not let the ST do everything immediately. In the beginning, the difficulty of keeping order remains the [mentor] teacher's responsibility, and then you can let go, step by step."

5.2. Part 2: situational, value, and empirical premises; relations between premises and actions

To obtain insight into why and when MTs intervene, we analyzed the premises and how MTs used them to explain their (not) intervening. Here we will elaborate on these premises and their relation to MTs' actions.

5.2.1. Situational premises

When coding the main categories, we found 199 statements on situational premises, divided into two categories (see Table 3). The first category is labeled *situational characteristics* of the ST, the MT, the pupil(s) and the lesson. The second category is labeled *situational triggers*, which are deviations from the MT's perceptions of how things should be done appropriately in the classroom and that prompted MTs to consider intervening. In the second analysis

Table 3
Frequencies of situational characteristics and triggers, number of MTs mentioning premises, relation with actions, and examples.

Situational premise	Freq.	MT (N)	Actions				Not intervene	Other or no actions	Examples
			Intervene, directed at						
			pupils	ST	unclear	total			
Situational characteristics									
Characteristics of pupils	**3**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	
competence (cognitive)	0	0	0	0	0	**0**	**0**	0	
behavior (attitude)	1	1	0	0	0	**0**	**0**	1	However, that [misbehaving when the ST is teaching] is not the case, anymore (MT18).
other	2	2	0	0	0	**0**	**1**	1	All children that are here do have a problem (MT6).
Characteristics of ST	**25**	**10**	**0**	**2**	**0**	**2**	**6**	**17**	
competence	9	8	0	1	0	**1**	**3**	5	I am mentoring a regular ST who is not that competent (MT17).
study year	7	4	0	0	0	**0**	**0**	7	She is in her final year. She is almost finished (MT18).
other	9	8	0	1	0	**1**	**3**	5	At the beginning of her internship … (MT11).
Characteristics of MT	**21**	**10**	**3**	**1**	**0**	**4**	**1**	**17**	
competence and self-confidence	0	0	0	0	0	**0**	**0**	0	
development and experience	1	1	0	0	0	**0**	**0**	1	I did not mentor many STs yet (MT10).
MTs' location in the classroom	12	8	2	0	0	**2**	**1**	9	When I am not in the classroom for a moment … (MT2).
other	8	5	1	0	0	**1**	**0**	7	When I do not have time … (MT 10).
Characteristics of the lesson	**22**	**7**	**2**	**1**	**0**	**3**	**3**	**16**	When they start working independently … (MT10).
Situational characteristics - total	**71**	**17**	**5**	**3**	**0**	**8**	**11**	**50**	
Situational triggers									
Pupil-related triggers	**59**	**12**	**18**	**4**	**13**	**35**	**13**	**11**	
disruptively behaving pupil(s)	36	10	12	3	8	**23**	**9**	4	When they turn everything upside down … (MT16).
well-being at risk	14	6	4	1	5	**10**	**4**	0	When I saw pupils hurting themselves, or when they really were starting to fight (MT6).
pupil contacts MT	9	6	2	0	0	**2**	**0**	7	When the pupils have questions … (MT17).
ST-related triggers	**24**	**10**	**3**	**8**	**8**	**19**	**2**	**3**	
MT feels ST is not competent	12	7	3	3	5	**11**	**1**	0	When I have the feeling that an ST is not in control, or that the ST is overwhelmed. And that I just see that she struggles … (MT10).
poor organization	5	5	0	4	1	**5**	**0**	0	Well, the timer … uh,..was not switched on (MT18).
mistake in lesson content	7	4	0	1	2	**3**	**1**	3	When you notice than an explanation is not quite right … (MT11).
Trigger unclear	**45**	**17**	**6**	**6**	**14**	**26**	**4**	**15**	When there are situations.., and that could be a situation in which I say: "yes, now I have to intervene" (MT5).
Situational trigger - total	**128**	**18**	**27**	**18**	**35**	**80**	**19**	**29**	

phase, we subcoded these situational premises.

5.2.1.1. Situational characteristics. The MTs mentioned 71 situational features in the argumentations for their actions and intentions to act. We distinguished these in terms of characteristics of the pupils (3 statements, 2 MTs); characteristics of the ST (25 statements, 10 MTs), such as STs' study year and competence; characteristics of the MT (21 statements, 10 MTs); and characteristics of the lesson (22 statements, 7 MTs). In particular, MTs' location in the classroom was an important MT characteristic that could explain MTs' intervening (12 statements, 8 MTs). For example, MT10 said: *"Now, I sat too close to the pupils. I noticed I had the intention to quickly correct certain pupils because I was sitting close by."*

5.2.1.2. Situational triggers. The 128 situational triggers were divided into three main categories (See Table 3): pupil-related triggers (59 statements, 12 MTs), ST-related triggers (24 statements, 10 MTs), and triggers that could not be clearly classified as pupil- or student-related (45 statements, 17 MTs). The most frequently mentioned situational trigger (36 in total) is one or more pupils who are not behaving well, for example, when pupils are noisy or are not following the rules.

5.2.1.3. Situational characteristics and situational triggers and actions. In coding the relation, we coded what action or intention to act could follow situational characteristics and situational triggers. Table 3 shows the frequencies of the premises mentioned by the MTs and the relation between each premise and the actions. MTs hardly mentioned relations between situational characteristics and their actions. They merely explained whether they intervene by referring to situational triggers. We also found that the direction of MTs' intervening was related to the situational triggers. In cases of pupil-related triggers, for example, when pupils behaved inappropriately, were not quiet, or were not working, the MTs would mostly react by guiding the pupil(s) in question. MT18, for example, said: *"Well, for example, when the pupils bring two liters of water to my sand table, I shout: 'Stop, you know you are not allowed to do that.'"* The other way around, in cases of an ST-related trigger, such as when an ST made a mistake in the lesson content or exhibited ineffective organization, MTs' interventions were directed at the ST. For example, MT13 said: *"Well, very occasionally, I whisper: 'Don't forget this …,' or 'You are forgetting to … '"*

5.2.2. Value premises

Coding the main categories yielded 214 value premises used by MTs to explain their actions and intentions to act during STs' teaching. When coding the subcategories, we distinguished three types: *teaching* values, *mentoring* values, and a *combination* of teaching and mentoring values. In Table 4, the frequencies and examples of the value premises are described.

The 63 teaching values (15 MTs) reflected the MTs' belief that, in the context in which the ST is teaching, pupils' well-being should not be at risk (6 quotations, 6 MTs) and pupils should develop (5 quotations, 2 MTs), learn the right content (5 quotations, 3 MTs), and focus on task (4 quotations, 3 MTs). They also hoped for an orderly working atmosphere in which pupils behave and learn the rules (32 quotations, 10 MTs). Based on these frequencies, we interpreted that MTs feel that it is very important to have a quiet and orderly class with well-behaved pupils.

MTs mentioned a larger number of mentoring values (115 quotations, 17 MTs) than teaching values, and said most frequently that STs need to develop (16 quotations, 7 MTs), need to do the teaching by themselves (33 quotations, 14 MTs), and that MTs should not intervene (18 quotations, 9 MTs).

In the combination of teaching and mentoring values (36 statements, 13 MTs), MTs explained what they thought was right to do both from a teacher *and* mentor perspective. For example, MT4 said: *"The first point is that you [the MT] are in front of the class and that things should run smoothly. And the second point is that you can hand over the class to the ST bit by bit. And I think …, you are responsible for the student, and for your group, so always the final responsibility."* Additionally, MT11 said: *"[…] [As an MT] that you should not intervene too much, that you want the student to gain experience … but … as a teacher you think: ooh, again a missed opportunity to [transmit] the lesson content."* This last quotation illustrates that there could be a conflict between mentoring and teaching values. Namely, while MTs find it extremely important that STs practice on their own, they also want their pupils to work, behave, and learn the right content. In many situations, MTs realize one of these two values is at risk.

5.2.2.1. Value premise and actions. Based on coding the relation between MTs' value premises and their actions, in Table 4, we see that when MTs explained why they did or would intervene, they mentioned a larger number of teaching values (32 statements) than mentoring values (22 statements). When MTs described why they did *not* or would *not* intervene, they primarily explained this using mentoring values (29 statements) rather than teaching values (12 statements). This might indicate that for the MTs in our study, intervening during STs' lessons is related to the pupils' learning and development, and not intervening during STs' lessons is related to STs' learning and development.

Regarding the direction of intervening, MTs explained their interventions toward the pupils more in terms of teaching (16 statements) than mentoring values (10 statements), and in contrast, they substantiated their student guidance more with mentoring (7 statements) than with teaching values (3 statements). Interestingly, although the value "STs should learn and develop" was mentioned 16 times, this value was only used once in relation to the MTs' intervention directed at the ST. These numbers suggest that stimulating STs' development is hardly given as a reason to guide the ST during the teaching.

Possibly as a result of the value conflict, MTs' actions are not always consistent with all of their values and not all values seem to fit their actions. For example, regarding the mentoring value "MTs should not intervene," we see in five statements that even in situations when MTs said they should not intervene, they also explained why they nonetheless did so.

For example, MT13 said: *"Well, yes, the only thing I catch myself doing is that sometimes I do intervene. That is just a reflex. […] That is not always with an intention, you know, well, sometimes it is just as a reflex that I'm like uhh 'shush!' And then I think … I shouldn't say anything right now, but that is just a reflex […] see, when you have been a teacher for 27 years, then, uh, you catch yourself sometimes automatically intervening, because being a teacher is such a large part of yourself."* Regarding the mentoring value "STs should teach by themselves," in four statements, the MTs said that they would intervene.

5.2.3. Empirical premises

When coding the main categories, we found 439 empirical premises in MTs' reasoning about their actions during STs' teaching (see Table 5). We distinguished two main types. The *general empirical premises* are MTs' ideas and theories about teaching, mentoring, and pupils' and STs' behavior, and learning in general. The *specific empirical premises* are context-dependent premises about the characteristics of a specific ST, a specific pupil or class, and a specific MT. We will discuss these premises in relation to the actions and intentions to act that MTs mentioned in their reasoning.

Table 4
Frequencies of teaching and mentoring values, number of MT's mentioning premises, relation with actions, and examples.

Value premises	Freq.	MT (N)	Intervene, directed at				Not intervene	Other or no actions	Examples
			pupils	ST	unclear	total			
Teaching Values	**63**	**15**	**16**	**3**	**13**	**32**	**12**	**19**	
pupils should develop	5	2	1	0	3	**4**	**0**	1	I just want the pupil to learn something on the moment, in any way (MT8).
pupils' well-being should not be at risk	6	6	2	0	3	**5**	**0**	1	I mean, these are things you do not say to a child (MT1).
there must be an orderly working atmosphere	32	10	7	0	4	**11**	**9**	12	I want to keep them calm (MT12).
pupils should learn the right content	5	3	0	0	2	**2**	**0**	3	You are, primarily, the one who transmits the lesson content to the pupils (MT10).
pupils should focus on task	4	3	2	1	0	**3**	**1**	0	You (a pupil) have to pay attention (MT9).
other	11	6	4	2	1	**7**	**2**	2	That is part of being a teacher (MT10).
Mentoring values	**115**	**17**	**10**	**7**	**5**	**22**	**29**	**64**	
STs should learn and develop	16	7	2	1	1	**4**	**6**	6	She (the ST) has to learn that too (MT11).
STs' well-being should not be at risk	7	7	0	1	1	**2**	**1**	4	It is not my intention to make fun of the ST (MT1).
STs do not have to do everything by themselves	7	3	3	0	1	**4**	**0**	3	You should not ask that of an ST (MT8).
STs should teach by themselves	33	14	1	3	0	**4**	**12**	17	It is his lesson, he has to do it on its own (MT14).
MTs should not intervene	18	9	2	1	2	**5**	**8**	5	I should not say anything right now (MT13).
MTs should not undermine ST's authority	5	3	2	1	0	**3**	**2**	0	I cannot undermine STs' authority at that moment, that is something you just should not do! (MT9).
other	29	10	0	0	0	**0**	**0**	29	Student activities (3), mentor activities (12), good relationship (10), other (4)
Combination of teaching and mentoring values	**36**	**13**	**4**	**2**	**2**	**8**	**0**	**28**	
relation between both roles	25	10	3	1	1	**5**	**0**	20	Being a teacher is my primary task (MT1).
other	11	7	1	1	1	**3**	**0**	8	You do not want it to get out of hand (MT3).
Value premise - total	**214**	**18**	**30**	**12**	**20**	**62**	**41**	**111**	

Table 5
Frequencies of general and specific premises about teaching, mentoring, and mentoring and teaching, number of MTs mentioning empirical premises, relation with actions, and examples.

Empirical premises	Freq.	MT (N)	Intervene, directed at pupils	ST	unclear	total	Not intervene	Other or no actions	Examples
General empirical premises about teaching	**43**	**14**	**7**	**2**	**4**	**13**	**13**	**17**	
orderly working atmosphere and authority	16	10	5	0	2	**7**	**5**	4	Pupils try to test you. And if you do not stop that, it becomes worse and worse (MT3).
transmission of lesson content	2	1	0	0	2	**2**	**0**	0	If the ST does not explain it correctly, the pupils, particularly the weak pupils, will go home thinking that Napoleon discovered the USA (MT8).
keeping pupils on-task	3	2	0	2	0	**2**	**0**	1	When pupils are very noisy, it takes me a lot of effort to get them to stay focused (MT 9).
pupil well-being	3	3	2	0	0	**2**	**1**	0	Besides, some pupil just become very noisy, and that makes the other pupils feel unsafe (MT6).
pupil behavior	3	3	0	0	0	**0**	**2**	1	The ST had overview, so that is why the pupils think that she knows what they are doing (MT7).
pupil other	16	8	0	0	0	**0**	**5**	11	I can imagine that pupils will come to me, because they are used to doing that (MT10).
General empirical premises about mentoring	**73**	**16**	**4**	**7**	**4**	**15**	**9**	**49**	
effect of (not) intervening	17	10	0	5	2	**7**	**1**	9	These are moments where I act adequately, also for the protection of the ST herself (MT5).
(not) undermine authority	6	3	2	1	1	**4**	**2**	0	I don't think that this is undermining authority, it is more like support for her (MT9).
ST doing the teaching by himself/herself	4	3	0	0	0	**0**	**0**	4	I sit at the back of the classroom, because the ST has, and also feels, the responsibility (MT12).
ST competence	16	7	1	0	1	**2**	**0**	14	After a few years, she is of course more independent as well (MT9).
ST development	8	5	0	1	0	**1**	**3**	4	An ST wants to learn from you [the MT] (MT8).
ST well-being	5	5	1	0	0	**1**	**0**	4	That is something you see a lot with ST's: they want to be liked (MT5).
ST other	17	9	0	0	0	**0**	**3**	14	If I do not observe, I think I am less able to give advice on how to solve these issues (MT10).
General empirical premises about teaching and mentoring	**182**	**18**	**17**	**15**	**28**	**60**	**19**	**103**	
implications of intervening	81	16	15	9	26	**50**	**11**	20	I rather want her to do it herself, otherwise the pupils think that the ST cannot handle it (MT17).
implications of transfer of responsibility	42	13	0	0	0	**0**	**3**	39	The tendency to keep control, of course, depends on the person you are mentoring (MT3).
double role in general	59	12	2	6	2	**10**	**5**	44	Particularly when you are not teaching yourself, you see so many things (MT7).
General empirical premise - total	**298**								
Specific empirical premises about a specific ST	**43**	**14**	**1**	**0**	**2**	**3**	**11**	**29**	
competence	22	10	0	0	0	**0**	**6**	16	She did that naturally really well (MT7).
study year	3	2	0	0	1	**1**	**0**	2	I think, she is a first-year student and while she was teaching that lesson, she would have liked to have had some help (MT10).
other	18	9	1	0	1	**2**	**5**	11	This ST, when something happened, always wanted to help (MT2).
Specific empirical premises about a specific pupil or class	**34**	**12**	**6**	**1**	**3**	**10**	**7**	**16**	
competence (cognitive)	4	3	1	0	1	**2**	**0**	2	It is just a very weak group of pupils (MT17).
behavior (attitude)	22	11	2	0	3	**5**	**5**	12	These pupils do not have externalized problem behaviors, but start biting or crying, and some children get really noisy (MT6).
other	8	6	3	1	0	**4**	**2**	2	My group of pupils is always very focused on the ST (MT7).
Specific empirical premises about specific MT	**64**	**15**	**5**	**2**	**8**	**15**	**8**	**41**	
competence and self-confidence	14	8	0	1	0	**1**	**2**	11	It is his lesson. For me, that is the most difficult thing! (MT14)
development and experience	12	6	0	0	2	**2**	**3**	7	I have also had negative experiences [as an ST myself] [...]. Those are the experiences that taught you how you do not want to do it. (MT4)
other	38	12	5	1	6	**12**	**3**	23	Well, I'm like, I rather want to do it myself, you know, in the class (MT6).
Specific empirical premise - total	**141**								
Empirical premise - total	**439**								

5.2.3.1. General empirical premises and actions. In the argumentation for their intervening, MTs mentioned general empirical premises 298 times, which we divided into general empirical premises about 1) teaching, 2) mentoring, and 3) the combination of teaching and mentoring.

Teaching. The first empirical premise is about teaching, pupils, and pupils' learning and behavior (43 statements, 14 MTs). The most frequently mentioned premise (16 statements, 10 MTs) was about maintaining order and the pupils' feelings of authority. MTs explained that pupils are used to their own teacher and that they tend to provoke the ST. This premise is used both to justify not intervening, and to justify intervening. For example, MT10 explained that she would not intervene "*because I'm their teacher many days a week, and they [the pupils] see me more as an authority than the ST […] and I just want the ST to get that as well.*" MT11 explained her reasons for intervening as follows: "*Well, it's about the rules of this class …, when the ST is here …, the pupils, however, start to test them more often, but, then I will say something about it because of the pupils.*"

Mentoring. The second general empirical premise is about mentoring, STs, and STs' learning (73 statements, 16 MTs). MTs mostly mentioned the influence of (not) intervening on the ST (17 statements, 10 MTs). They used this premise as reason for not intervening as well as for intervening. Some MTs explained that intervening has a positive effect; namely, that it could be pleasant for the ST and could be seen as helping. Other MTs explained that intervening could negatively influence STs' well-being and authority.

Another general empirical premise about mentoring that was frequently mentioned by the MTs was STs' competence (16 statements, 7 MTs). However, this premise is barely mentioned in MTs' explanation for their (not) intervening (2 statements, 2 MTs). This suggests that MTs in our study do not use the empirical premise of general STs' competence as reason for their (not) intervening, or they do not justify their actions during STs' lessons in relation to the STs' general competence.

Additionally, MTs did not frequently mention premises about STs' development as a reason for their intervening (1 statement) and not intervening (3 statements). Only MT1 mentioned STs' development as a reason for showing the ST where to look at or what to do during her teaching: "*Because for the ST as well, there are learning experiences during a lesson.*" MT14 argued for abstaining from intervening as follows: "*I think for the ST, it is also more pleasant that he becomes more independent by this,*" and "*At a certain point, he has to do it by himself after he has graduated.*" For many MTs in our study, their actions seem unrelated to general empirical premises about STs' development.

Combination of teaching and mentoring. The third general empirical premise, which was mentioned most often in MTs' argumentation for their actions (182 statements, 18 MTs), combines teaching and mentoring. We divided this premise into three categories: implications of intervening (81 statements, 16 MTs), implications of transfer of responsibility (42 statements, 13 MTs), and the double role in general (59 statements, 12 MTs). In this study, we aimed to acquire insight into MTs' reasons for their intervening; therefore, we will focus here on the premises about intervening.

MTs' general empirical premises about intervening were related to the positive and negative effects of (abstaining from) intervening on the ST and the pupils. MTs explained that the negative effects of intervening are that the STs' authority is undermined, that pupils do not learn to listen to another person, and that intervening could be disruptive for both the ST and the pupils. Additionally, the STs' well-being could be negatively affected. For example, MT10 said: "*Because you put the ST in a quite vulnerable position […] because, the ST can feel quite offended by that.*" The negative effect of *not* intervening mentioned by the MTs is that things might get messy, that pupils do not learn appropriate behavior, and that pupil or ST well-being is harmed. Furthermore, if MTs do not intervene, an environment that is not conducive for ST learning and teaching might be created.

According to the MTs, a positive effect of intervening might be a contribution to STs' well-being, and STs could experience the interventions as support. It could help them learn and become aware of the specific situation in which they can improve their teaching. MTs also explained that intervening could be positive for "an orderly working atmosphere" and could ensure that pupils resume working on their tasks.

MTs said that by *not* intervening, STs could benefit, because then the ST has the teaching responsibility, could experience what is actually happening, and has the opportunity to learn to solve problems by him- or herself. However, no positive effects of *not* intervening for the pupils were mentioned.

5.2.3.2. Specific empirical premises and actions. MTs used not only general empirical premises (as "general rules") in their reasoning but also empirical premises (141 statements) referring to the specific context (as "exceptions" to the general rules) to justify their actions. We found three types: the characteristics of 1) a specific ST, 2) a specific pupil or class, and 3) a specific MT.

Specific ST. In their argumentation for their actions, MTs used empirical premises about the characteristics of a specific ST (43 statements, 14 MTs), such as the ST's competence (22 statements, 10 MTs). MTs are more likely to decide not to intervene if an ST is exceptionally competent. For example, MT7 mentioned that in their first year, STs generally need some help when the pupils are getting noisy. However, at that moment she had an extraordinarily capable and confident first-year ST. She said: "*This ST, she had an overall view, spoke to the pupils in a positive way, and noticed all the pupils very well.*" Therefore, the MT decided in the particular situation not to intervene (yet) and to observe a little longer in order to see if the ST could solve the problem herself.

Specific pupil or class. MTs refer in the argumentation for their actions to the characteristics of a specific pupil or a specific class (34 statements, 12 MTs), such as a pupil's competence (4 statements, 3 MTs) and pupils' behavior (22 statements, 11 MTs). MTs were more likely to intervene if a specific pupil or group of pupils needed more guidance, or had difficulty with appropriate behavior. For example, when a specific pupil was not paying attention during the ST's explanation, MT18 decided to signal to this specific pupil. This pupil, according to the MT, really needed to focus during this lesson; she would not have signaled if another pupil was not paying attention. She said: "*For him, it is just very important, because his vocabulary is limited.*"

Specific MT. The third specific empirical premise concerns characteristics of the MTs themselves (64 statements, 15 MTs), such as their own competence (14 statements, 8 MTs) and experience (12 statements, 6 MTs) as an MT. For example, MTs explained that in the past, they intervened more than they do currently, because they were not yet experienced in teaching and mentoring.

Interestingly, on comparing the three specific empirical premises, we found that the MTs in our study explained their actions and intentions to act more often using specific premises about their own characteristics (64 statements) than using premises about ST characteristics (45 statements), or pupil characteristics (34 statements). MTs might feel that their own characteristics, specifically their competence and experience, greatly influence their intention to intervene. Additionally, MTs argued that in specific situations, they did *not* intervene based on premises about STs' competence, but that they *did* intervene based on premises about pupils' specific behavior. Table 5 shows that almost all interventions justified with

specific empirical premises were directed at the pupils. Apparently, MTs in our study did not use specific empirical premises when they explained their intervening toward the ST. This might indicate that MTs do not guide STs during their lessons based on STs' specific characteristics or learning needs.

5.2.4. Intuitive intervening

Based on the described relations between the premises and actions, MTs' reasoning process might seem to be conscious and deliberate. However, regularly during STs' teaching (and therefore during MTs' mentoring), this is not the case. Approximately a third of the MTs reported that there are many situations in which they intervened intuitively: as soon as they observe a trigger, they directly jump in, without deliberation or conscious decision-making. They do not think about their values and their interventions; they just intervene by guiding the pupils. When MTs were asked why they acted as they did, they explained that they did not even know that they had intervened or explained that they had intervened without thinking. For example, MT17 said: *"Uh, I think, actually I'm the teacher then. Because I know the ST is able to do it herself, but that does happen without me knowing it. Because it is in my system like that. So I act like that, actually, …it is more like a reflex, […] so then, shortly, my teacher role surfaces."* When interviewed about such situations, however, MTs were able to make the values and empirical premises underlying their actions explicit, enabling us to describe their unconscious reasoning process.

5.3. Part 3: how MTs use the combination of premises to reason about their intervening

So far, we have described whether and how MTs intervene, what premises they used, and how these premises separately related to MTs' actions. In Fig. 2, we summarize our findings, namely, situational premises (Table 3), value premises (Table 4) and empirical premises (Table 5), leading to actions (Table 2) when an ST is teaching the MT's pupils.

Generally, in their reasoning, the MTs in our study weighed, whether consciously or unconsciously, 1) the *situational* premises, which include information gathered by immediate observations of the situational triggers and the characteristics of the ST, the pupils, the MT, and the lesson; 2) their *value* premises concerning mentoring and teaching; and 3) their *general empirical* premises, such as ideas and theories concerning mentoring and teaching in general, and their *specific empirical* premises about themselves as an MT and about a specific ST or specific pupils. Based on an MT's personal balancing of these factors, an MT would intervene or would not intervene in a particular situation.

Now, we will show examples of the MTs' reasoning by describing a succession of situations in which the seriousness of the situational trigger increases. This growing seriousness leads to changing successive practical arguments illustrating how MTs' practical reasoning leads to intervening or not.

5.3.1. No situational trigger – MTs do not think about intervening

While the ST was teaching the pupils, MTs continuously and intuitively assessed the lesson situation. As long as they observed that everything was going well, MTs did not perceive a situational trigger and did not experience tension between the observed situation and their basic values, namely, that "STs should teach by themselves," and that "there must be an orderly working atmosphere." Additionally, both MTs' mentoring and teaching values were fulfilled. Therefore, MTs did not think about intervening. The empirical premises in this situation were not about (abstaining from) intervening.

5.3.2. Not a serious trigger – MTs think about intervening, but do not intervene

When something in the situation changed, for example, when a few pupils started chatting, the MTs noticed a situational trigger. They experienced a situation where what they observed did not correspond with what they thought to be good or effective. In this situation, MTs experienced a conflict between their mentoring and
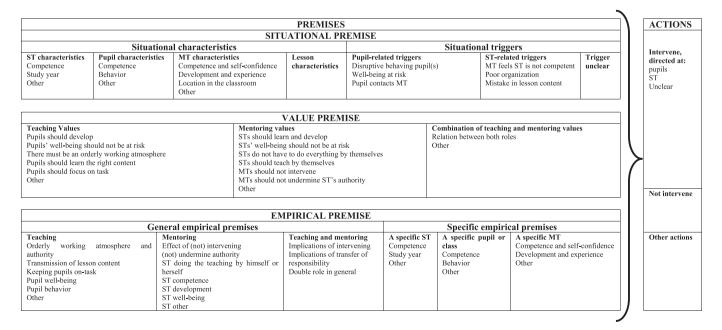
PREMISES							ACTIONS
SITUATIONAL PREMISE							**Intervene, directed at:** pupils ST Unclear
Situational characteristics				**Situational triggers**			
ST characteristics Competence Study year Other	**Pupil characteristics** Competence Behavior Other	**MT characteristics** Competence and self-confidence Development and experience Location in the classroom Other	**Lesson characteristics**	**Pupil-related triggers** Disruptive behaving pupil(s) Well-being at risk Pupil contacts MT	**ST-related triggers** MT feels ST is not competent Poor organization Mistake in lesson content	**Trigger unclear**	
VALUE PREMISE							
Teaching Values Pupils should develop Pupils' well-being should not be at risk There must be an orderly working atmosphere Pupils should learn the right content Pupils should focus on task Other		**Mentoring values** STs should learn and develop STs' well-being should not be at risk STs do not have to do everything by themselves STs should teach by themselves MTs should not intervene MTs should not undermine ST's authority Other		**Combination of teaching and mentoring values** Relation between both roles Other			**Not intervene**
EMPIRICAL PREMISE							**Other actions**
General empirical premises			**Specific empirical premises**				
Teaching Orderly working atmosphere and authority Transmission of lesson content Keeping pupils on-task Pupil well-being Pupil behavior Other	**Mentoring** Effect of (not) intervening (not) undermine authority ST doing the teaching by himself or herself ST competence ST development ST well-being ST other	**Teaching and mentoring** Implications of intervening Implications of transfer of responsibility Double role in general	**A specific ST** Competence Study year Other	**A specific pupil or class** Competence Behavior Other	**A specific MT** Competence and self-confidence Development and experience Other		

Fig. 2. Overview of premises used by the MTs in our study, when practical reasoning about whether, when, and how to intervene.

teaching values. As a mentor, they believe that "STs should teach by themselves." However, with an increasingly intense trigger, this value came into conflict with their teaching value that "there must be an orderly working atmosphere," and this caused MTs to think about what they should do. When not intervening, MTs mentioned the positive effects on the ST of abstaining from intervening as an empirical premise, or they mentioned the negative effects of intervening on the pupils or the ST, such as "when an MT intervenes, ST's authority is undermined."

MTs continuously and carefully, and often unconsciously, considered whether they should intervene. For each trigger, MTs evaluated the seriousness of the trigger. The lowest degree of seriousness is that there was no threat (yet) for the well-being and development of the pupils or the ST. The highest degree is a severe risk for ST's and/or pupils' well-being and development. MTs talked about a "threshold." When they felt the severity of the trigger was too disadvantageous or too intense because one of their values was harmed too much, they felt that the threshold for intervening had been crossed, and they intervened. MTs varied in their perception of what the threshold for intervening was. According to the mix of situational characteristics, the weight a particular MT gives to his or her mentoring and teaching values, and the strength of his or her empirical premises, the threshold or turning point from not yet intervening to intervening differs.

In principle, when the trigger was not yet perceived as highly intense, MTs' teaching value that "there must be an orderly working atmosphere" was not much harmed. Furthermore, the situation corresponded to MTs' mentoring values "STs should do the teaching alone" and "MTs should not intervene," and therefore, MTs tried not to intervene. Such not intervening was justified, for example, with the empirical premise of "if an MT intervenes, ST's authority is undermined."

5.3.3. Intense trigger — MTs intervene

If the situational trigger accumulated and became more intense, for example, because all of the pupils were shouting, MTs experienced considerable tension between the observed situation and their values about the desired situation. Additionally, in this situation, the value conflict between their basic values "STs should teach by themselves" and "there must be an orderly working atmosphere" was extensive. In order to regain their desired situation and to solve the value conflict, MTs intervened. When asked to provide argumentation for their intervening, MTs mostly emphasized their teaching values, such as "there must be an orderly working environment" and, compared to the previous situation, became aware of additional values, such as "STs' well-being should not be at risk" and "pupils' well-being should not be at risk." In addition, other values (mostly the mentoring values), such as "STs should teach by themselves" and "MTs should not intervene" seemed to be less important, since the action "intervening" did not correspond with their previously mentioned value. Additionally, empirical premises that justified their not intervening, such as "if an MT intervenes, ST's authority is undermined," were overruled by other empirical premises about the negative effects of not intervening, about the positive effects of intervening, or by other statements that justified their intervening, such as "STs are not able to do everything on their own."

To summarize, when MTs perceive a situational trigger and MTs do *not* intervene, they might experience a tension between their teaching values and their actions, and when MTs *do* intervene, they might feel a tension between their mentoring values and their actions. Therefore, based on MTs' actions, one can identify the values that an MT eventually deems the most important. When the intensity of the trigger grows, most MTs intervene in the end, from which we can determine that for most MTs, eventually, the

teaching values become more important than the mentoring values.

Thus, in each particular situation, MTs balance the severity of the situational trigger that is perceived with their personal mentoring and teaching value and empirical premises. The MT's personal balance eventually leads to the specific threshold from not yet intervening to actually intervening for a particular MT in a particular situation.

6. Discussion

This study examined MTs' practical reasoning concerning whether, when, and how to intervene during STs' lessons. We will discuss our most important findings, followed by the implications, and suggestions for further research.

6.1. MTs frequently intervene toward the pupils

MTs reported that they rather frequently and often intuitively intervened, although they also mentioned that they should not intervene during STs' lessons. When examining the premises in the practical arguments, it appeared that MTs mentioned various plausible reasons for intervening after they did so and deemed their interventions well considered. However, when intervening in the classroom, their intervening was not always deliberate. In most situations during STs' teaching when MTs observed that something was going wrong, MTs acted and intervened as teachers. This might be explained by MTs' ingrained habit of intervening by guiding the pupils. MTs spend more time teaching than combining teaching and mentoring; thus, as teachers, they are used to intervening toward the pupils all day long. Therefore, when the ST is teaching and the mentor is mentoring, MTs may tend to behave as teachers. MTs' teacher experience with these specific pupils may prevent them from acting as the STs' mentor. Our study thus supports that becoming an MT and, specifically, guiding an ST during his or her teaching is not something that spontaneously develops from simply being a teacher (e.g., Bullough, 2005; Orland-Barak, 2005, 2002; Zeichner, 2005). Rather, mentoring is a new skill that MTs have to develop.

Our findings concerning MTs' intervening by guiding the pupils are in line with observations from a study investigating MT and ST co-teaching (Velzen, Volman, & Brekelmans, 2014). Co-teaching was conceptualized as a combination of modeling (the MT shows the ST teacher behavior by teaching the pupils) and scaffolding (the MT provides support during ST's lesson enactment, directly aimed at facilitating ST's teaching). In Van Velzen et al.'s study, ST and MT explicitly agreed to co-teach, enabling the MT to deliberately guide the ST when practicing teaching. What appeared promising is that most MTs and STs appreciated the opportunity for MTs to collaborate with their ST during lesson enactments and that they experienced co-teaching as a valuable way of mentoring. However, Van Velzen et al. also found that only one out of four MTs, and only in some situations, actually scaffolded the ST. Essentially, all four MTs were modeling. Just as seen in our study, the MTs in Van Velzen et al.'s study did not easily take up their mentor role, and rather acted as teachers by modeling the teaching behavior and guiding the pupils.

6.2. Awareness of mentoring role is related to MTs' interventions

The MTs' awareness of their mentoring role, and their expressed mentoring and teaching values, seems to be related to their actions. We noticed that some MTs in our study were unaware of their double role; during the interviews, they explained that they had not thought about the combination of their mentor and teacher

roles before. Additionally, we found that the interventions by most MTs in our study were mainly directed at the pupils, which the MTs typically justified with teaching values. Furthermore, although we did find value premises about pupil and ST development, MTs did not use empirical premises about pupils' development and barely (only described once by one MT) supported their guiding of the ST with any empirical or stipulative insights about ST development. In justifying their intervening, MTs primarily explained that they react to the disorder in the classroom and try to create a quiet and calm classroom with well-behaved pupils. Good classroom management might be seen as a prerequisite for pupil and ST learning. These findings support other studies that found that MTs create safe places and carefully structured tasks for STs (e.g., Collison & Edwards, 1994). MTs' skill for and knowledge of STs' learning might limit them to merely handing over the class to teach (Edwards & Protheroe, 2004). Furthermore, based on the near absence (only described once by one MT) of statements about the relation between the mentoring value "STs should develop" and MTs' intervening directed at the ST, we conclude that MTs do not frequently actively guide STs during their teaching for encouraging STs' development. In any case, MTs do not explain their ST guidance with reference to their task of stimulating STs' development. This conclusion is supported by the lack of stipulative insights used by the MTs in our study in their reasoning. It appears that many MTs do not explicitly mention and do not seem to know which learning theory they use when mentoring the ST during their practice.

6.3. MTs continuously try to fulfill both their mentor and teacher roles

MTs try to combine their mentor and teacher roles as well as possible. From MTs' justification of their actions, we learned that MTs continuously, consciously or unconsciously, evaluate the information observed in the situation, and compare this with their mentoring and teaching values and with what they know about the effects of intervening. Our study showed that in situations in which the ST is teaching, MTs possess the basic teaching value that there must be an orderly working atmosphere, and the basic mentoring values that MTs should not intervene during STs' teaching and that STs should teach by themselves as much as possible. Although these values seem quite often to be in conflict when the ST is teaching (cf., Collison & Edwards, 1994; Edwards, 1998; Goodfellow, 2000; Rajuan et al., 2007), in many situations, MTs did not report these as conflicting values. Frequently, MTs explained they did not experience the two values as incompatible, did not think about them as opposite goals, or were not aware of a clash until they were asked about it. Nevertheless, when analyzing MTs' actions and their justification of their actions, we saw MTs struggle with the combination of both roles. During STs' teaching, MTs constantly attempted to solve the value competition between mentoring and teaching values through their intervening. MTs searched for a way to fulfill two goals with one action: they searched for one intervention in order to meet both their mentoring and teaching values as closely as possible. Additionally, in MTs' reasoning after their intervening, they were continuously searching for reasons that justified both their mentoring and teaching values. MTs tried to substantiate their intervening, directed at the pupils and at the ST, as beneficial for both pupils and ST. MTs explained their interventions directed at the *pupils,* with the purpose of getting the pupils to resume their expected behavior. In addition, they suggested this intervention to be good for the ST, as illustrated by "the ST could need some little help" and "the ST should be able to continue the lesson." A few MTs also mentioned that they hoped

that "the ST could learn something from observing MTs' intervening." In contrast, MTs described that their intervening directed at the *ST* is good for the ST, because then the ST could experience what was happening in that moment. Additionally, by intervening and guiding the ST toward good teaching, the positive "side-effect" was that pupils' behavior was regulated again.

6.4. Practical argument theory

In our research, we used Fenstermachers' (1986) practical argument as a heuristic to illuminate MTs' thinking about their intervening. This appeared to be time consuming but led us to a detailed understanding of the MT reasoning process. By using the situational, value, and empirical premises, and the actions or intentions to act, we were able to describe MTs' reasoning. Furthermore, it appeared that MTs' actions could be explained with the situational, value, and empirical premises. The MTs in our study did not explicate the origin of their insights in their reasoning as being either empirical or stipulative; in fact, we barely found any reasoning in which MTs mentioned research or conceptions of evidence. MTs' reasoning was primarily based on previous observations and their own experiences. Therefore, introducing the stipulative premise had no benefit to understanding the data in our study, which is different from the experiences of Morine-Dershimer (1987) and Fenstermacher and Richardson (1993).

Premises appeared to be particularly valuable elements for examining the reasoning of MTs, who perform teacher and mentor roles simultaneously. We were able to describe how MTs argued their practices with considerations as mentor *and* teacher, and could illuminate the inconsistencies between MTs' (intended) actions and their considerations. For example, MTs explained how, when, and why they did intervene, although they also stated that it would be good not to intervene. According to Kagan (1992), acting and thinking could be inconsistent, because the relation between the cognitions and actions is situation-specific. Based on the situation or context, teachers might be triggered to act differently to what could be expected from their cognitions. In our research, we found that based on situational triggers, MTs mainly acted as teachers, which was not always consistent with their value and empirical premises as mentors.

For Fenstermacher (1986), a complete practical argument is an argument that includes all types of premises. Generally, the MTs in our study did not provide a complete argument. We used the premises as building blocks in creating an integrated overview of the general practical reasoning process concerning their intervening. Our findings not only support but also expand results from previous research that had demonstrated that various types of interventions and some concerns exist (Ben-Peretz & Rumney, 1991; Post, 2007; Wang, 2010). Our study shows that when the ST is teaching the MT's pupils, MTs continuously estimate the situational triggers (situational premise) and (un)consciously relate this to their mentoring and teaching values (value premise), general empirical premises about mentoring and teaching, and their specific empirical premises about these pupils and the specific ST (empirical premise). When MTs assess the situation as no longer contributing to their mentoring or teaching goals, MTs intervene in order to recreate the desired situation in which their mentoring and teaching values can be fulfilled again.

6.5. Implications

The first implication of our findings is that MTs should become more aware of the impact of the combination of being a mentor and

being a teacher in one's own classroom and particularly of their tendency to intervene without thinking. Mentoring principles, such as clinical supervision (which requires MTs to observe ST's teaching in a process of prelesson preparation, observations, and postlesson evaluation; e.g., Kent, 2001), scaffolding, or co-teaching, might ignore the dilemmas MTs face due to their responsibility toward the ST as well as for the pupils or the MTs' disposition to intervene. Generally, in our study, most MTs were driven by their wish to care for their pupils and their inexperience in thinking as mentors. Courses for mentor professional development provided by educators have been suggested in the past, and their positive effects have been demonstrated (Killian & Wilkins, 2009; McIntyre & Killian, 1987). We recommend including support in these courses for MTs' quest to combine the mentor and teacher roles and to teach MTs about the impact of their teacher role on their mentoring actions, especially in the actual moment the ST is teaching. In addition, when teacher educators visit their ST in the school, they can specifically address their combination of their mentor and teacher role as an MT and their ST guidance and support during STs' lessons.

Furthermore, professionalization courses should help MTs gain insight in their practical reasoning concerning intervening. When MTs become aware of the underlying reasons for their tendency to intervene, they might make other substantiated decisions. Our overview can help MTs to reflect on their practical reasoning about intervening, encourage them to consider their dual loyalty, and stimulate them to start thinking and acting more as mentors. Furthermore, MTs' practical reasoning could be improved by careful elicitation and reconstruction of practical arguments, for example, by being questioned by another MT, using questions such as "Why did you do that?" (Fenstermacher & Richardson, 1993). By eliciting MTs' justification of their actions, more complete practical arguments, including new premises, can be formed, which might result in MTs more deliberately and effectively guiding the ST at the actual moment of teaching practice.

Moreover, professionalization trajectories should stimulate MTs to use learning theories and to think about STs as learners. When MTs recognize the ST as a learner (Awaya et al., 2003) who needs to be guided in learning to teach—also at the very moment of practicing—MTs will be able to mentor more effectively according to the STs' learning goals and needs (e.g., Feiman-Nemser, 2001). Teacher educators could also teach STs how to address MTs, and their dual loyalty to the ST as well as for the pupils. STs' can be taught to be aware of their own learning process and learning goals, and how they can profit from and ask for MTs' deliberate guidance during practicing the teaching. We recommend that STs and MTs discuss their roles during the prelesson conferences and agree upon how the ST is guided during this lesson. The MT and ST could, for example, discuss the focus (topic or learning need) of MTs' guidance, and whether and how the MT will intervene in the upcoming lesson. In the postlesson conference, the MT and ST could evaluate not only the ST's teaching but also the way the MT guided the ST in his or her learning goal(s). Additionally, MTs might inform the pupils about their role division. Furhtermore, the notice that MTs rarely justify their interventions in terms of pupils' or STs' learning might be important information for teacher education institutes.

Another implication of our findings is that researchers investigating mentoring should consider MTs' tendency to act as teachers. Currently, most mentoring research focuses only on the mentor tasks and ignores the influence of the responsibility MTs feel for their pupils, although this might influence the research findings. Additionally, when investigating (mentor) teachers' thoughts about behavior, we recommend researchers to consider applying Fenstermacher's (1986) practical argument, because it appeared to be a valuable heuristic to gain a detailed understanding of the MT reasoning process.

6.6. Further research

In this explorative, qualitative study, we took a first step toward exploring MTs' practical reasoning about intervening. Through our analysis, we were able to describe MTs' explanations for their actions and interventions in some detail. However, some issues remain to be resolved.

We asked MTs about their actions, and their reasoning concerning their intervening. We did not measure the actual number of interventions during an ST's lesson. We also did not investigate the precise relation between what MTs said they do or would do and what they actually do. Future research could investigate the relation between MTs' actions as part of their reasoning and their actual performed actions. In addition, we do not yet know if and how MTs' actions could be predicted and influenced. A next step in investigating MTs' practical reasoning could be a large-scale study (cf. Smith & Ingersoll, 2004) that provides insight into the impact of various premises on MTs' interventions. Additionally, we suggest further research to investigate changes in MTs' intervening behavior, for example because of priming, the self-confrontation method, or restructuring practical arguments.

In our study, the ST perspective of intervening was not included. In order to be able to conclude which mentoring behavior contributes to STs' well-being and development, the STs should also be asked about their experiences with and perceptions of MTs' interventions. Furthermore, in order to improve the effectiveness of mentoring, it could be useful to study whether and how STs and MTs discuss MT's roles and intervening during ST's lessons with each other in pre- and post-lesson conferences. It is possible that STs and MTs may have agreed on MT's interventions and therefore, MT's guidance during ST's teaching could be related to ST's learning goals and learning needs (e.g., Feiman-Nemser, 2001).

As in previous research (Jaspers et al., 2014), in this study, we found that MTs, particularly when the ST is teaching their pupils, are searching for a way to combine their mentor and teacher roles. How the simultaneous performance of both roles might be supported, how MTs could guide the ST in the moment of practicing teaching, and which intervening strategies are most effective could be examined by future research. More specifically, it would be interesting to investigate how, for example, scaffolding or synchronous coaching (guidance by an experienced teacher saying keywords into a microphone to a teacher wearing an earplug (Voerman, Meijer, Korthagen, & Simons, 2015)), as deliberate ways of MTs' intervening, can be used in the educational context of STs practicing to become teachers.

To conclude, in trajectories for mentor professional development and when investigating ST mentoring, we suggest taking into account the influence of the teacher role on MTs' ST guidance. For the specific situation when an ST is teaching the MT's pupils, our study showed that MTs, primarily triggered by classroom management problems, intervene rather frequently, not always consciously, and often by performing their regular teacher behavior of guiding the pupils. When MTs' intervening becomes more related to STs' development, this might help improve STs' learning.

Appendix A. Sample interview questions

General questions about the combination of both roles

- What, in your perception, is the relationship between the mentor and teacher role?
- What, in your perception, is your role or task as a mentor and as a teacher?
- Can you give an example of a situation in which both roles are combined?

- Do you think both roles can positively influence each other?

Open questions about tensions

- Do you ever experience tension between these roles? Can you give an example?
- Did you have any problems, such as conflict situations, dilemmas, or an (internal) conflict, as a mentor teacher? How did you cope with that?
- Can you describe a situation in which you found it difficult to mentor the student teacher?

Questions about actions and considerations

- In the situation (*describe situation*) you did (*describe action*). Do you remember?
  o Why did you do that?
  o What were/are your considerations for that action?
  o Next time, in a comparable situation, would you act in the same way? Why?
  o When would you have (not) intervened? Why?
- If you consider intervening, which considerations do you have? Can you give an example?

References

Akkerman, S., Admiraal, W., Brekelmans, M., & Oost, H. (2008). Auditing quality of research in social sciences. *Quality and Quantity, 42*, 257–274. https://doi.org/10.1007/s11135-006-9044-4.

Anderson, D. (2007). The role of cooperating teachers' power in student teaching. *Education, 128*(2), 307–323.

Awaya, A., McEwan, H., Heyler, D., Linsky, S., Lum, D., & Wakukawa, P. (2003). Mentoring as a journey. *Teaching and Teacher Education, 19*(1), 45–56. https://doi.org/10.1016/S0742-051X(02)00093-8.

Beck, C., & Kosnik, C. (2002). Components of a good practicum placement: Student teacher perceptions. *Teacher Education Quarterly, 29*(2), 81–98.

Ben-Peretz, M., & Rumney, S. (1991). Professional thinking in guided practice. *Teaching and Teacher Education, 7*, 517–530. https://doi.org/10.1016/0742-051X(91)90046-R.

Borko, H., & Mayfield, V. (1995). The roles of the cooperating teacher and university supervisor in learning to teach. *Teaching and Teacher Education, 11*, 501–518. https://doi.org/10.1016/0742-051X(95)00008-8.

Bullough, R. V. (2005). Being and becoming a mentor: School-based teacher educators and teacher educator identity. *Teaching and Teacher Education, 21*, 143–155. https://doi.org/10.1016/j.tate.2004.12.002.

Clarke, A., Triggs, V., & Nielsen, W. (2014). Cooperating teacher participation in teacher education: A review of the literature. *Review of Educational Research, 84*, 163–202. https://doi.org/10.3102/0034654313499618.

Collison, J., & Edwards, A. (1994). How teachers support student learning. In I. Reid, H. Constable, & R. Griffiths (Eds.), *Teacher education reform: Current evidence* (pp. 131–136). London: Paul Chapman.

Confrey, J. (1987). Bridging research and practice. *Educational Theory, 37*, 383–394. https://doi.org/10.1111/j.1741-5446.1987.00383.x.

Edwards, A. (1998). Mentoring student teachers in primary schools: Assisting student teachers to become learners. *European Journal of Teacher Education, 21*(1), 47–62. https://doi.org/10.1080/0261976980210106.

Edwards, A., & Protheroe, L. (2004). Teaching by proxy: Understanding how mentors are positioned in partnerships. *Oxford Review of Education, 30*, 183–197. https://doi.org/10.1080/0305498042000215511.

Feiman-Nemser, S. (2001). Helping novices learn to teach: Lessons from an exemplary support teacher. *Journal of Teacher Education, 52*(1), 17–30. https://doi.org/10.1177/0022487101052001003.

Fenstermacher, G. D. (1986). Handbook of research on teaching philosophy of research on teaching: Three aspects. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 37–49). New York: MAcmillan.

Fenstermacher, G. D. (1987). A reply to my critics. *Educational Theory, 37*, 413–422.

Fenstermacher, G. D., & Richardson, V. (1993). The elicitation and reconstruction of practical arguments in teaching. *Journal of Curriculum Studies, 25*, 101–114. https://doi.org/10.1080/0022027930250201.

Glenn, W. J. (2006). Model versus mentor: Defining the necessary qualities of the effective cooperating teacher. *Teacher Education Quarterly, 33*(1), 85–95.

Goodfellow, J. (2000). Knowing from the inside: Reflective conversations with and through the narratives of one cooperating teacher. *Reflective Practice, 1*(1), 25–42. https://doi.org/10.1080/713693136.

Green, T. F. (1976). Teacher competence as practical rationality. *Educational Theory, 26*, 249–258. https://doi.org/10.1111/j.1741-5446.1976.tb00732.x.

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 Learning, 16*, 328–345. https://doi.org/10.1080/13611260802231708.

Hammerness, K., Darling-Hammond, L., Bransford, J., Berliner, D., Cochran-Smith, M., Mc-Donald, M., et al. (2005). How teachers learn and develop. In L. Darling-Hammond, & J. Bransford (Eds.), *Preparing teachers for a changing world* (pp. 358–389). San Francisco: Jossey-Bass.

Hawkey, K. (1997). Roles, responsibilities, and relationships in mentoring: A literature review and agenda for research. *Journal of Teacher Education, 48*, 325–335. https://doi.org/10.1177/0022487197048005002.

Hobson, A. J., Ashby, P., Malderez, A., & Tomlinson, P. D. (2009). Mentoring beginning teachers: What we know and what we don't. *Teaching and Teacher Education, 25*(1), 207–216. https://doi.org/10.1016/j.tate.2008.09.001.

Hopper, B. (2001). The role of the HEI tutor in initial teacher education school-based placements. *Mentoring & Tutoring, 9*, 211–222. https://doi.org/10.1080/13611260120111996.

Jaspers, W. M., Meijer, P. C., Prins, F., & Wubbels, Th (2014). Mentor teachers: Their perceived possibilities as mentor and teacher. *Teaching and Teacher Education, 44*, 106–116. https://doi.org/10.1016/j.tate.2014.08.005.

Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist, 27*(1), 65–90. https://doi.org/10.1207/s15326985ep2701_6.

Kent, S. I. (2001). Supervision of student teachers: Practices of cooperating teachers prepared in a clinical supervision course. *Journal of Curriculum and Supervision, 16*, 228–244.

Killian, J. E., & Wilkins, E. A. (2009). Characteristics of highly effective cooperating teacher: A study of their backgrounds and preparation. *Action in Teacher Education, 30*(4), 67–83. https://doi.org/10.1080/01626620.2009.10734453.

McIntyre, J., & Killian, J. (1987). The influence of supervisory training of cooperating teachers on preservice teachers' development during early field experiences. *Journal of Educational Research, 80*, 277–282. https://doi.org/10.1080/00220671.1987.10885767.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A method sourcebook* (3rd ed.). Thousands Oaks, CA: Sage Publications.

Morine-Dershimer, G. (1987). Practical examples of the practical argument: A case in point. *Educational Theory, 37*, 395–407. https://doi.org/10.1111/j.1741-5446.1987.00395.

Morine-Dershimer, G. (1988). Premises in the practical arguments of preservice teachers. *Teaching and Teacher Education, 4*, 215–229. https://doi.org/10.1016/0742-051X(88)90002-9.

Munby, H. (1987). The dubious place of practical arguments and scientific knowledge in the thinking of teachers. *Educational Theory, 37*, 361–368. https://doi.org/10.1111/j.1741-5446.1987.00361.x.

Orland, L. (2001). Reading a mentoring situation: One aspect of learning to mentor. *Teaching and Teacher Education, 17*(1), 75–88. https://doi.org/10.1016/S0742-051X(00)00039-1.

Orland-Barak, L. (2002). What's in a case?: what mentors' cases reveal about the practice of mentoring. *Journal of Curriculum Studies, 34*, 451–468. https://doi.org/10.1080/00220270110091140.

Orland-Barak, L. (2005). Lost in translation mentors learning to participate in competing discourses of practice. *Journal of Teacher Education, 56*, 355–366. https://doi.org/10.1177/0022487105279566.

Pajares, M. F. (1992). Teachers beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*, 307–332. https://doi.org/10.3102/00346543062003307.

Pendlebury, S. (1990). Practical arguments and situational appreciation in teaching. *Educational Theory, 40*, 171–179. https://doi.org/10.1111/j.1741-5446.1990.00171.x.

Post, D. M. (2007). The cooperating teacher I's: Effective mid-lesson responses to student teachers' critical teaching incidents. *Action in Teacher Education, 29*(1), 61–70. https://doi.org/10.1080/01626620.2007.10463440.

Rajun, M., Beijaard, D., & Verloop, N. (2007). The role of the cooperating teacher: Bridging the gap between the expectations of cooperating teachers and student teachers. *Mentoring & Tutoring, 15*, 223–242. https://doi.org/10.1080/13611260701201703.

Roehrig, A. D., Bohn, C. M., Turner, J. E., & Pressley, M. (2008). Mentoring beginning primary teachers for exemplary teaching practices. *Teaching and Teacher Education, 24*, 684–702. https://doi.org/10.1016/j.tate.2007.02.008.

Smith, T. M., & Ingersoll, R. M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal, 41*, 681–714. https://doi.org/10.3102/00028312041003681.

Stanulis, R. N. (1995). Classroom teachers as mentors: Possibilities for participation in a professional development school context. *Teaching and Teacher Education, 11*, 331–344. https://doi.org/10.1016/0742-051X(94)00035-5.

Tidwell, D. L., & Heston, M. L. (1998). Self-study through the use of practical argument. In M. L. Hamilton, S. Pinnegar, T. Russell, J. Loughran, & V. K. LaBoskey (Eds.), *Reconceptualizing teaching practice: Self-study in teacher education* (pp. 45–66). London: Falmer Press.

Velzen, van C., Volman, M., & Brekelmans, M. (2014). Modelling en scaffolding als begeleidingsinstrumenten tijdens het samen lesgeven door vakbegeleiders en leraren in opleiding. [Modelling and scaffolding as mentoring tools in co-teaching]. *Pedagogische Studies, 91*(3), 169–185.

Vesterinen, O., Toom, A., & Krokfors, L. (2014). From action to understanding –

student teachers' learning and practical reasoning during teaching practice. *Reflective Practice, 15*, 618—633. https://doi.org/10.1080/14623943.2014.900028.

Voerman, L., Meijer, P. C., Korthagen, F., & Simons, R. J. (2015). Promoting effective teacher-feedback: from theory to practice through a multiple component trajectory for professional development. *Teachers and Teaching, 21*(8), 990—1009. https://doi.org/10.1080/13540602.2015.1005868.

Wang, C. (2010). What mathematics mentor teachers decide: Intervening in practice teachers' teaching. *Procedia-social and Behavioral Sciences, 8*, 41—49. https://doi.org/10.1016/j.sbspro.2010.12.006.

Wang, J., & Odell, S. J. (2002). Mentored learning to teach according to standards-based reform: A critical review. *Review of Educational Research, 72*, 481—546. https://doi.org/10.3102/00346543072003481.

Woods, A. M., & Weasmer, J. (2003). Great expectations for student teaching: Explicit and implied. *Education, 123*, 681—688.

Zanting, A., Verloop, N., & Vermunt, J. D. (2001). Student teachers' beliefs about mentoring and learning to teach during teaching practice. *British Journal of Educational Psychology, 71*(1), 57—80. https://doi.org/10.1348/000709901158398.

Zeichner, K. (2005). Becoming a teacher educator: A personal perspective. *Teaching and Teacher Education, 21*, 117—124. https://doi.org/10.1016/j.tate.2004.12.001.