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Mentoring dialogues between Mentor teachers and Beginning teachers observed

The added value of classroom observation reports.

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Introduction

Within induction programs, the support for beginning teachers (BTs) by a mentor teacher (MT) is one of the key elements (Ingersoll & Strong, 2011) and dialogues between MTs and BTs can result in professional growth within BTs (Danielson, 2002; Strong & Baron, 2004). The effectiveness of these dialogues is determined by the quality of provided feedback (Voerman, Meijer, Korthagen & Simons, 2012). Research into dialogues between MTs and BTs showed that during these dialogues MTs provided one-directional feedback (Ben-Peretz & Rumney, 1991), determined the topic of the dialogue, talked most frequently (Hennissen, Crasborn, Brouwer, Korthagen & Bergen, 2008), and used their own practice as the norm (Clarke, Triggs & Nielsen, 2014). Because of this, the full potential of dialogues between MTs and BTs was not utilized. MTs are struggling with observing and discussing the BTs' practice in a broad perspective instead of using their own (Hoffman et al., 2015) and choosing an effective teaching and feedback style that influence the learning opportunity mentoring dialogues contain (Crasborn, Hennissen, Brouwer, Korthagen & Bergen, 2011; Hennissen et al., 2008). In this study, we examine if observational data about the BTs' educational practice can support MTs in providing effective feedback to BTs. Therefore we explore dialogues between MTs and BTs when discussing a structural report (ICALT) of BTs' educational practice. Outcomes of this study can provide suggestions how to further improve MT feedback and gain more learning opportunities for BTs.

Within educational research it is widely accepted that feedback can enhance learning (Kluger & DeNisi, 1996; Hattie & Timperley, 2007; Shute, 2008). Both the content of the provided feedback (Voerman et al., 2012) as the feedback strategy are crucial for the effectiveness of feedback on ones' development (Kluger & DeNisi, 1996; Hattie & Timperley, 2007; Shute, 2008). Although there is not one 'best way' to provide feedback, it is known that feedback will not affect the desired outcome when it is focused on the person instead of the task (Voerman et al., 2012). Viewed from the perspective of effective feedback, the dialogues between MTs and BTs are a complex element of the mentoring task.

Multiple studies show the added value of induction programs (e.g. Helms-Lorenz, Slof & van de Grift, 2013, Ingersoll & Strong, 2011, Wang, Odell & Schwille, 2008). Our study takes place in the context of a Dutch induction program initiated by the Dutch Government. One of the features within the program is that beginning teachers are being observed following a research

based method: the ICALT (Van de Grift, 2007). MTs receive a report of this observation which provides insight in the current teaching level and provides a zone of proximal development of their BT. Based on these observations and the report, the MT provides feedback to the BT about their educational practice. These dialogues can stimulate personal growth (Danielson, 2002). It is, however, unknown if and how these reports are being used during mentoring dialogues. Insight into the use of these reports is important since they have the potential to contribute to the learning process of beginning teachers (Van de Grift, 2010).

Theoretical framework

Teachers develop within the profession during their career with different challenges along the way (e.g. Day & Gu, 2010). To describe this development, several scholars have proposed different stage models (Maskit, 2011). Although these models divide teaching careers into different stages, all make very explicit that the start of teachers' professional career is critical in the development of teachers. The attention for the early years of one's teaching career resulted in initiatives that support BTs, the most important ones in today's practice being induction programs (Ingersoll & Strong, 2011).

Induction programs and classroom observations

Induction programs provide help for teachers who start their teaching career, and try to tackle the problems BT's experience. Induction programs focus on improvement of performance and retention of BTs (Ghosh, 2012; Ingersoll & Strong, 2011). Additionally, these programs help in the adjustment, socialization, and integration in the teaching profession (Wang et al, 2008). In the USA, almost 80% of the BTs reported that they participated in some kind of induction program (Education Week, 2008). Within induction programs, mentoring is the personal guidance provided to BTs within their schools. The element of mentoring is often identified as one of the key elements within induction programs (Ingersoll & Strong, 2011). Mentoring is viewed as the strategy to retain BT after they started teaching: senior teachers would mitigate the 'reality shock' experienced by new teachers (Ghosh, 2012). Different terms are used for referring to these senior teachers (Clarke et al., 2014); because we focus on the mentor role we will refer to them as MTs (mentor teachers). Although induction programs are rather large at scale, the element of mentoring makes it an individual and personal program (Danielson, 2002).

Classroom observations are one of the main tools during the mentoring task that provides MTs with insight in the educational practice of the BT they support. These observations provide opportunities for guidance and constructive dialogues between the MT and the BT, in which the strength and weaknesses of the BT can be discussed (Hobson, Ashby, Malderez, & Tomlinson, 2009, Wood & Stanulis, 2009). Classroom observations are valued as helpful and important by both MTs and BTs (e.g. Clarke et al., 2014; Stanulis & Folden, 2009) and researchers (Van de Grift, 2007, 2010). The mechanism that causes mentoring, and therefore classroom observations, to be a key element are the conversations between mentors and BTs about their educational practice, in this study referred to "dialogue" or "mentoring dialogue" (Hennissen et al.,2008). These dialogues can result in professional growth by BTs when MTs provide BTs with feedback concerning their educational practice (Danielson, 2002; Strong & Baron, 2004). The effective mechanism, that causes mentoring to be a key element of successful induction programs, would be the feedback BTs receive from their MTs. More specific, the BT receives feedback based on observations made by their MT (Danielson, 2002).

Effective feedback

Feedback provided by the MT can stimulate professional growth in BTs (Strong & Baron, 2004). Indeed, in educational research, it is widely accepted that feedback is an important tool to enhance learning. Three reviews that are used as a reference point for many studies concerning feedback – Kluger and DeNisi (1996), Hattie and Timperley (2007), and Shute (2008) – concluded that feedback is crucial for learning. Based on these reviews, Voerman and colleagues (2012) define feedback as flowing: *'information provided by the teacher concerning the performance or understanding of the student, with reference to a goal and aimed at improving learning.'* (p. 2). We follow this definition in the rest of our study, meaning that we define feedback as providing information concerning one's performance or understanding, with reference to a goal and aimed to improve learning.

Although the importance of feedback for learning is stressed, all three reviews described the possibility that feedback can have a destructive effect on learning. The feedback provider should take several variables into account that interact with feedback success at promoting learning (Shute, 2008): feedback effectiveness decreased when the attention of the feedback provider is closer to the self and away from the task (Kluger & DeNisi, 1996), and although

feedback is of major influence, the type of feedback and the mode in which it is given influences the effects (Hattie & Timperley, 2007). Therefore, research suggests that feedback needs to be provided in a certain way to get the desired outcome, in our case personal growth of BTs.

Voerman et al. (2012) provided an overview, based on these three reviews, of effective feedback that enhances learning. Within their study, in which the focus lies on teacher-student feedback intervention, they identify different aspects of feedback that contributed to the effectiveness on learning. First, they distinguish between *positive* and *negative* feedback (feedback *focus*). It is stated that both feedback focusses influence learning but have a different impact and the researchers concluded that to enhance learning, positive feedback interventions need to outnumber negative feedback interventions (Voerman, et al., 2012, p. 4).

A second distinction is made between *specific* and *non-specific* feedback (feedback *type*). Feedback is specific when the learner can connect the provided feedback exactly to what they have done right or wrong, non-specific feedback contains no information about the exact subject of the feedback (e.g. 'Great!' or 'Not quite!'). In general, only specific feedback is effective in enhance learning and non-specific or unclear feedback can frustrate learners (Shute, 2008 in Voerman, et al., 2012). Additionally, specific feedback can be categorized concerning the *nature* of the feedback. When one receives specific feedback concerning their initial level of performance and their current level of performance, feedback is labelled as *progress* feedback. When specific feedback is provided concerning one's current level and the desired level of performance feedback is labelled as *discrepancy* feedback (see Fig. 1).
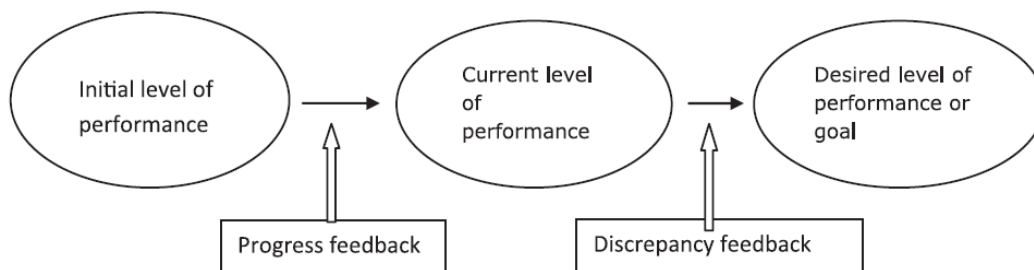

Fig. 1. Progress feedback and discrepancy feedback (Voerman et al., 2012)

In addition to the different aspects of feedback that contributed to the effectiveness on learning identified by Voerman et al. (2012) all reviews stress the importance of feedback strategies which influence the effectiveness of the feedback. Hattie and Timperley (2007, p. 86) argued for focus on targeting the appropriate level of feedback receivers. When the level of

provided feedback is too far away for the learner the effectiveness drops. This is captured by the ICALT with the provided zone of proximal development in the report to MTs (Van de Grift, 2010). Shute (2008, p. 178) advised against oral feedback because written feedback would be more neutral and constructed with less bias. Furthermore, she also advocated for alternative models of presenting feedback compared to presenting messages as text (p. 179). In addition, Shute (2008, p. 178) stated that feedback is most effective when it is presented in 'manageable units' meaning that the learner is not overwhelmed by information and the information is divided into smaller pieces. Additionally, Kluger and DeNisi (1996, p. 278) add to these strategies that feedback is most effective when it is continuously provided in a comprehensible form. The combination of findings concerning the difficulty of providing effective feedback in both type and strategy, make mentoring within induction programs a rather complex element. It is not just a dialogue between MT and BT; the discussed topic, the provided feedback, and the chosen strategy affect the effectiveness of the provided feedback, and thereby the effect of mentoring.

From the above, we may conclude that the professional growth experienced by BTs is strongly dependent on the quality of feedback and mentoring dialogues (Evertson & Smithey, 2000). Induction programs are the state of the art in today's educational practice (e.g. Danielson, 2002; Hobson et al., 2009; Ingersoll & Strong, 2011; Strong & Baron, 2004; Wang et al., 2008), but to our knowledge little is known about the key element which should result in personal growth of BTs.

Discussed content and structure of mentoring dialogues

Several scholars provided comments concerning the content and structure of mentoring dialogues (e.g. Ben-Peretz, & Rumney, 1991; Evertson & Smithey, 2000; Stanulis & Floden, 2009). We value these studies as important but not sufficient, since all studies only examine a low amount of cases within an exploratory perspective.

The most general issues discussed within mentoring dialogues are situations that have occurred during lessons and references to previous dialogues are generally missing (Geldens, Popeijus, Peters & Bergen, 2005). In addition, it was found that mentoring dialogues were clearly structured: they start with a general question, followed by one-directional feedback, and end by providing a conclusion with clear instructions for future lessons (Ben-Peretz, & Rumney, 1991). Furthermore, in most studied cases the MT determinates the topic of the dialogue, talked most

frequently and were directive towards their BT (Hennissen et al., 2008). Regarding the quality of the dialogues, Evertson and Smithey (2000) found a difference between dialogues of trained and untrained MTs of prospective teachers. Trained MTs made more references to previous dialogues, gave more specific suggestions, were better able to make observations, and assisted in reconstructing lessons. Additionally, trained MTs of prospective teachers were better at providing guidance during the analyzation of prospective teachers' performance and by helping prospective teachers to think for new ways of dealing with situations (Harrison, Lawson & Wortley, 2005). In addition, during mentoring dialogues MTs often use their own educational practice as the norm (Clarke et al., 2014). The finding that feedback of classroom observations is a frequently used method by MTs, is in line with other studies concerning mentoring and induction programs (Danielson, 2002; Hobson et al., 2009; Ingersoll & Strong, 2011; Strong & Baron, 2004; Wang et al., 2008). In sum, the little amount of research presents an image of mentoring dialogues that are structured by MT, focused on MTs' practice and are rather directive towards BTs instead of focusing on the personal development of the BT.

Additionally, research has profiled MTs to get more insight into what kind of teachers are attracted by these tasks (Sinclair, Dowson & Thistleton-Martin, 2006). It was found that MTs shared a solid set of professional commitments to self, students, and the profession. However, no shared factor was found that related to the level of competence of MTs. Comparable results were presented by Clarke et al. (2014); in their review they reported a great variation in roles and preparation among MTs. They emphasized strongly for a focus on the interaction between MTs and BTs, as they call it the 'technical dimensions of teaching' (p. 191). They concluded, based on their findings, a lack of specific preparation by MTs which affects the quality of support and the possibility to develop for BTs. Al together, research showed that learning during induction programs is not optimal.

Guidance for mentor teachers

Scientific literature suggests that the full potential of the dialogues between MTs and BTs is not utilized. The difficulties MTs experience in their mentoring task are: (1) taking a more general view instead of their own practice as the norm (Clarke et al., 2014), (2) looking into the broad spectrum of teaching instead of their own preference concerning the educational practice of the BT (Hoffman et al., 2015), and (3) providing feedback during mentoring dialogues both in

form (Voerman et al., 2012) and strategy (Hattie & Timperley, 2007; Kluger & DeNisi, 1996; Shute 2008). We argue that the ICALT which is a structural method of classroom observation and takes the general teacher population as reference group can help MTs overcome the first two difficulties. Additionally, the ICALT report can guide MTs' feedback, both in form and in strategy, during the important dialogues where BTs' educational practice is discussed.

In our study we have chosen for a validated and common used instrument in the Netherlands: the International Comparative Analysis of Learning and Teaching (ICALT) (Van de Grift, 2007) which takes a didactical perspective on teaching. We are interested in the feedback that is provided during mentoring dialogues and to what extent MTs benefit from the report concerning the BTs' educational practice. More specific, our interest is to examine if MTs use the report during the dialogues. Additionally, we want to explore if these reports provoke certain feedback, both form and strategy, during dialogues between MTs and their BTs. This results in the following research question:

What is the focus of MT during mentoring dialogues when discussing observation data with their BT and which feedback forms and strategies are used by MTs?

Method

Context

We audiotaped five dialogues between MTs and BTs when discussing the rapport of the ICALT. All pairs of MT and BT are participants with a nationwide induction program to support BTs. Table 1 shows the characteristics of the MTs. From one MT two dialogues have been recorded. All schools are located in one district in the Netherlands and are schools for secondary education.

Table 1
Characteristics of the Mentor Teachers

Mentor Teacher	Gender	Age	Teacher experience	Mentor experience
1	Male	61	33	15
2	Male	59	35	6
3	Female	30	6	4
4	Female	43	19	7

Note. Both Teacher and Mentor experience are years of experience

Instruments

The ICALT is an observation instrument used by trained observers, and is based on literature on teacher effectiveness (Van de Grift, 2007) and the theory of 'teacher concerns' introduced by Fuller (1969, 1970). The ICALT takes an evaluating perspective on the teaching quality of elementary and secondary school teachers, by observing didactical behavior related to academic achievements of students (van de Grift, 2007, 2010). Teacher behavior is scored in six stages namely (1) begin with learning how to establish a safe learning climate, (2) then proceed with learning how to efficiently manage a classroom, (3) develop skills in instruction, (4) then develop skills in more advanced teaching methods, including methods to activate students, (5) proceed with learning skills about how to teach students learning strategies, and finally (6) develop skill in differentiation of instruction (Van der Lans, under review). For more information concerning the ICALT see Van de Grift (2007).

Concerning the reporting of the ICALT observations; MTs receive a scale score of their BTs based on the lessen observations which represents an individual skill level (Van de Grift, 2010). First, MTs visit one lesson of their BTs and need to score 32-items divided into the 6 stages. Scores can be (1) predominantly weak; (2) more weaknesses than strengths; (3) more strengths than weaknesses; and (4) predominantly strong (Van de Grift, 2007). Based on numerous observations, Van de Grift (2010) constructed a list with observable teacher behaviors (see Fig. 2). Teacher behaviors are ordered from most easily obtained behaviors at the top, and at the bottom rarely observed behaviors. Based on the score that represents the individual skill level, a zone of proximal development is determined. The zone of proximal development is reported back to MTs and discussed with BTs.

	safe learning climate	classroom management	instruction	advanced teaching methods	learning strategies	differentiation
Teacher A	1					
Teacher B	1	1				
Teacher C	1	1	1			
Teacher D	1	1	1	1		
Teacher E	1	1	1	1	1	
Teacher F	1	1	1	1	1	1

Fig. 2. Example of observed behaviors, Teacher A shows only the most easiest obtained behaviors and teachers F shows all possible observed behaviors.

Data analysis

All dialogues between MTs and BTs have been transcribed. For this study, only the mentor activities were coded during the dialogues because of the focus on feedback in combination with the mentoring character of the dialogues. We defined a turn as one take a person speaks during the dialogue, so turns are always alternately between MT and BT. Because we wanted to score mentor activities, we had to divide some turns into multiple units since there were sometimes more mentor actions within one turn. Additionally, we were interested in what kind of actions mentors performed during the dialogues so we coded all units as "feedback", "question", "advice" or "other". In line with our chosen definition of feedback, mentor activities (units) were coded as "feedback" when the MT provided information concerning the performance or understanding of the BT. When coding the feedback units, we ignored if the MT referred to a goal since all feedback units were coded more specific regarding to their focus, type and nature. Additionally, we assumed that all comments concerning the performance or understanding of the BT were aimed to improve learning. Examples of feedback units are: *'Well, that's great of course! That is a technique all students can use, the one of the Aboriginals. From that point of view this was quite a nice exercise'* [2](Dialogue 1) and '*Nice performance'* (Dialogue 1).

Units received the code "question" when BT was asked a question by their MT. When MTs provided their teachers with suggestions for future actions, own experiences or advice for BTs' educational practice the unit was coded as "advice". Examples of advice units are: *Well, in that case you could look into the didactical side. [Yes]Yeah, by doing so you ensure variety...'* (Dialogue 4) and '*Well, you have the beautiful challenge to make it interesting for those who think it's just a dull subject.'* (Dialogue 2) When a unit met none of the criteria's it received the code "other".

If a turn only contained one mentor activity the whole turn became automatically one unit. An example of a turn that contained more mentor activities and therefore multiple units is:

> *Correct, but in more detail; I noticed that you took the time to inspect if all students were prepared and brought their materials for your subject at the beginning of the lesson, this was something I appreciated. In addition, you took a walk through the classroom and paid attention to each students. Afterwards, if I remember correctly, you inspected if they finished their homework. You show there… Something I was wondering about, just for my curiosity, what are the consequences when students do not have their books? With them?'* (Dialogue 5)

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[2] All citations referring to the dialogues are translated from Dutch. Original coded turns can be found in Appendix A

When a unit received the code "feedback", the focus of the feedback (positive or negative), the type of feedback (specific or non-specific) and the nature of the feedback (progress or discrepancy) was determined based on the coding scheme of Voerman et al (2012). Feedback units received the code positive when the MT agreed with, appreciated, encouraged or complimented the subject of the dialogue, when this was the opposite feedback was coded as negative. To determine the type of feedback, researchers asked themselves the question: does the BT know exactly what he or she has done right or wrong? If the question was answered positively, the unit received the code "specific". From all units' code as specific, it was assessed if the feedback was progress or discrepancy feedback of nature. When it was not either one of the two, a unit would get a non-coding for nature.

Results

To explore our research question we first looked into the overall strategy MTs used in the dialogues. We analyzed the time MTs spoke, the amount of turns and the amount of units. Additionally, we calculated a ratio for the time MTs spoke compared to the BT. Second, we looked into the feedback strategy of MTs. To get more insight we analyzed how much feedback units were coded and how this relates to the other mentor activities observed in the dialogues. Least, we analyzed the feedback units themselves to get more insight in the form of the provided feedback. We have looked into the focus (positive – negative), type (specific – non-specific), and the nature (progress – discrepancy) of the feedback to determinate the effectiveness of the provided feedback.

Overall strategy

The overall strategy of the mentoring dialogues contained a few remarkable findings. Table 1 shows the total amount of turns, the amount units of mentor activities and the ratio between MT and BT concerning time. First, for all MTs there are more coded units than turns. The mean difference between turns and units is 13.4 (SD=4.8), with the mean amount of turns (40.2; SD=11.0) and units (53.6; SD=10.8) it seems that all MTs have turns with more than one mentor activity on a regular basis. Additionally, in four of the five dialogues is the MT-BT time ratio below one meaning that in these four dialogues the mentor talks more than their BT. The MT-BT time ratio of 0.42 in dialogue 1 should be interpreted as followed: for every second a MT talks, their BT talks 0.42 second.

Table 1.

Descriptive statistics of the turns, units and time of mentor teachers and beginning teachers.

	Total time (min.sec.)	Amount of turns MT	Amount of units MT	MT-BT time ratio
Dialogue 1	31.38	56	67	0.42
Dialogue 2	24.56	42	49	1.57
Dialogue 3	23.48	27	42	0.77
Dialogue 4	29.53	43	63	0.85
Dialogue 5	19.16	33	47	0.70

Note. min.sec. = time in minutes and seconds, MT = Mentor teacher, BT = Beginning teacher, ratio should be interpreted as time in seconds a beginning teacher speaks compared to 1 second of speaking time for the mentor teacher

From these numbers we may conclude that in one occasion (dialogue 1) the mentor talks more than twice as much as their BT. In three other dialogues (dialogue 3, 4 and 5) het ratio is between 0.70 and 0.85 meaning that the teacher talks ten seconds, their BT talks approximately seven or eight seconds. In one dialogue the (dialogue 2) the BT talks more time than the MT. These findings show that the MT is centered during the dialogues and therefore the dialogues could be categorized as mentor-focused instead of BT-focused. The following turns give more insight in the mentor-focused character of the dialogues.

> MT: *'Okay, let's see. I didn't complete the whole questionnaire, because it's doesn't add anything at the moment. Difference in processing: no. there were a few examples of the following: taking complex problems apart, what I liked about this that you imputed some of this in the PowerPoint.'*
> BT: *'Uhm, I'm not sure I follow you there... What do you mean exactly?'*

MT: *'Well, at some point you talk about the balloons. That's a perfect example of a question and afterwards…'*

BT: *'Yes, that could be the balloons, like if you don't know; you can look into the balloons. But I doubt if I said that directly, like: you can find it over there'*

MT: *'Yeah, I don't know'*

BT: *'I don't think I've said it that way'*

MT: *'Hmmm, than I should check my notes. Yes, during the techniques I think. At that moment you were walking around, isn't it? You tell a story here and there. So in that moment you really show it. Sort of, I told you before, everything that is happening.'*

…

'Motivates students to think critical… Defiantly, you ask for associations, for examples whit those colors. That's clear to me.' (Dialogue 2)

In this example it is clear that the MT determinate the conversation, even if the BT does not remind the actual setting, the MT still tries to make his point. The following example shows a dialogue that is mentor-focused by the amount of speaking time. The speaking time is added to the quotes to give an impression of the time each turn lasted. Again, this shows how that the dialogues are relative more focused on the mentor, their ideas and insights, and that they determinate how the dialogues proceed.

MT: *'But I can imagine that this topic is not an easy one, and it's a good thing you noticed that.'* (7 sec)

BT: *'Exactly, also this lesson was a bit more abstract than usual and for me it's not clear how I want to discuss that. That's why I choose to make it explicit this time, but that is not how I handle most problems.'* (10 sec)

MT: *'Well, I can imagine that it goes like that. It could be didactics'*

'Okay, you start with an intro …. And that is really enjoyable to do.'

'And after a while … But it's good to notice that you are talking a lot by then' (94 sec)

BT: *'Yes, exactly! I always try to impute a break by showing a movie or …'* (5 sec)

MT: [interrupts BT] *'Terrific! If they write down a few key constructs … but it can also make the lesson long lasting. Is that something that you recognize?'* (101 sec)

(Dialogue 5)

These examples show, when looking into the strategy of the dialogues mentors are central during the dialogues. Table 2 shows the types of mentor activities observed. In dialogue 1 that feedback units outnumber all other units enormously, dialogue 2, 3 and 5 showed a similar pattern with asking a question as most frequent observed mentor activity. In dialogue 4 the question and feedback actions were in balance, within all dialogues advice is the least observed mentor activity when the category others is ignored. These findings are in contradiction with the conclusion that the dialogues are mentor focused, since asking a question could be interpreted as focused on the other.

Table 2. Units of mentor teacher by mentor activity and feedback turns specified

	Total	Question	Advice	Feedback	Other
Dialogue 1	67	8	7	29	23
Dialogue 2	49	23	1	8	17
Dialogue 3	42	17	6	10	9
Dialogue 4	63	21	14	21	7
Dialogue 5	47	21	2	13	11

This would be a positive finding, unfortunately the following examples show that the questions are not always focused on the BT, but rather suggestive to the point the MT wants to add.

> MT: *'So, you addressed that normally, I was a bit later so I didn't observe that, you just let them cool down in the hallway… [Mentor goes on about what the teacher could do when things escalate]… What if they are really unrespect full, or just won't work? Is there a situation where you think: sending him to the hallway won't be enough this time?'* (Dialogue 5)

> MT: *'Could you think of something else to let them be, to get them used to that time?'* *[Immediately gives an suggestion afterwards]* (Dialogue 2)

> MT: '*So, based on the fact that they are underperformers or outperformers in a subject? Or based on the fact that they fit together quite well?' [After the teacher turn, the MT gives advice following the question he asked]* (Dialogue 3)

These examples show that the question asked by the MT serve their own interest, instead of the interest of the BT. We want to emphasize that we do not 'judge' MTs' intentions, we only observed that the some questions were used as an introduction for a later advice or feedback activity.

Feedback strategy

Additionally to the mentor-focused character of the dialogues, the strategy of the MTs is not in line with the theory concerning effective feedback strategies. The mean percentage of feedback units is almost 29% compared to the total units. It could be argued that BT received is too much feedback in a short amount of time. Furthermore, most of the observed feedback did not last more than three turns (from MT to BT to MT), meaning that a lot of different feedback topics were discussed during the dialogues.

Additionally, together MTs provide 32 minutes and 59 seconds of feedback. Compared to the total time of all dialogues that is almost 25%. Furthermore, 24 feedback units, of the total 81 feedback units, were coded as the second mentor activity within one turn, meaning that the MT addressed another topic before providing the feedback to the BT. Overall these findings suggest that the strategy MTs have during the dialogues is the opposite of effective from a theoretical perspective. The following quotes give an impression of turns where the MT provides multiple feedback units in one turn, in the second quotation the MT starts with an advice, followed by two feedback units.

> MT: *'you forget to mention which actions you are satisfied about. You start immediately by addressing, 'I didn't like this.', although the part with the movie, that was great! They were really attracted to that and that was fantastic. Because of the thing with Theo Janssen and how he creates equipment, they loved it, and therefore they were completely focused.'[MT takes a breath] 'At the moment that they need to write down what they have seen, in my opinion, they should be a bit more active. So writing down a few words or naming objects and they are immediately distracted again.'* (Dialogue 3)

> MT: *'Okay, but I can imagine it a bit. Then it works, I think even less if you do it every lesson. [Yes,] I feel though, perhaps other teachers would not agree with me what I prefer ...' [but feels it is not good to do it every lesson for me that I do not like].*

'Well, you start with the intro, tells the myth of Persephone. Yes, I really like that it tells you really at their level, with contemporary language, well that works naturally. Afterwards you make a nice bridge to science and at that time students make their notes and then you continue in your presentation (?) Pythagoras, Archimedes. Very nice, good explanations, examples close to the students [thank you]. Well, it's really nice to observe.' 'Then at one point the third scientist, that is Archimedes, I explain again really like your teaching but what I do notice is coming from more turmoil, or not so much trouble, but hey you are by then already, I timed it, 45 minutes speaking, [yeah right yeah [laughs]] and you see so what distraction, let me call it like that. There appear drawings in agendas and so on. Good thing you realize that you speak for a long time.'
(Dialogue 5)

Feedback units

When looking closer into the feedback units, four of the five dialogues show that positive outnumbers negative feedback (see Table 3). In the other dialogue (Dialogue 3) the amount of positive and negative feedback is the same. Additionally, four of the five dialogues contained more non-specific feedback compared to specific feedback. From these four, two have somewhat comparable amount for specific and non-specific feedback activities (Dialogue 3 and 5); the other two have a greater amount of non-specific feedback (Dialogue 1 and 4). Dialogue 2 is the only observed dialogue in which the specific feedback outnumbers the non-specific. A Chi-squire test for interdependence was performed to calculate if there is an association between the focus (positive – negative) and type of feedback (specific – non-specific). The Chi-squire test turned out to be nonsignificant, $\chi^2(1, N = 81) = 0.648$, p=.796, which means that the feedback focus is not related to the type of feedback that is provided by the mentor. Concerning the nature of the feedback it was notable that only three feedback turns were coded as discrepancy feedback and none were code as progress feedback.

Table 3.
Feedback units specified for all five dialogues.

	Feedback	Positive feedback	Negative feedback	Specific	Non-specific
Dialogue 1	29	23	6	9	20
Dialogue 2	8	7	1	6	2

Dialogue 3	10	5	5	4	6
Dialogue 4	21	13	8	4	17
Dialogue 5	13	11	2	6	7

For most of the feedback activities observed in the dialogues we could conclude that they add less to the individual development of the BT. Of all 81 observed feedback activities, 52 turned out to be non-specific, this is almost 65% meaning that two out of three feedback units will not stimulate personal growth. Additionally, from all observed feedback units' only three units showed discrepancy feedback and none showed progress feedback, the two most valued types of feedback.

The observed feedback activities are in great contrast with the literature on effective feedback. Both in strategies as in type, feedback units are presented to the BT in a way that personal growth is implausible.

Discussion

In our exploratory case study, we have observed the mentoring dialogues between MTs and BTs to get more insight into the feedback strategy and form. Based on the theory, we assume specific feedback that point out progress or discrepancies to be most effective. Additionally, feedback needs to be provided in effective strategies to succeed in their goal. The observed dialogues show a rather disturbing image in great contrast to these theoretical assumptions about effective feedback. In none of the dialogues progress or discrepancy feedback was provided on a regular basis or in a systematical structure. In fact, it was almost not observed. Additionally, non-specific feedback was as common as specific feedback. Furthermore, the feedback strategy was in all dialogues poorly chosen and not supportive to the personal growth of BTs. These findings show more than we expected that the practice of mentoring is in great contrast with what the literature considers effective feedback.

In general, the dialogues were focused on the MT, they determinate the topics and were most present. This observation is in line with previous research on MTs and their approach (Ben-Peretz, & Rumney, 1991, Hennissen et al., 2008). The finding that MTs use their own practice as reference is a confirmation of previous research (Clarke et al., 2014). In addition, most topics were initiated by MTs which is also in line with previous findings (Hoffman et al., 2015). In four

of the five dialogues none of the feedback was based on the report that was provided by scientific data collection. In the one dialogue that used the report, the feedback strategy was poorly chosen and most of the feedback was non-specific. Although we did not observe guidance, the finding that the reports were not or poorly used shows that the transfer from scientific data, to the use in educational practice is not going as planned. An explanation could be that the gap between research and practice is still present (McIntyre, 2005).

Although we are quite critical when discussing the observed dialogues we want to emphasize that we only looked into one function of the dialogues between MTs and BTs. Our study focusses only on the potential within the dialogues that can enhance professional growth. We concluded that the dialogues provide little opportunity for this, but mentoring dialogues and induction programs have a much wider focus (Wang et al., 2008). For example, we did not look into the mental support these conversations provide or if having a mentor provide BTs with a knowledge base that help them 'survive' the important early years. For example, it is known that induction programs and mentoring do have positive influences on beginning teacher turnover (Smith & Ingersoll, 2004). Furthermore, we only observed one dialogue for each pair of MT and BT, whereas MTs and BTs discuss frequently the practice of the BT. Therefore we advocate for research that gives a more elaborated view of the current practice and helps understand the complex process of mentoring.

The present study gives a glimpse of the current practice concerning the feedback forms and strategies used in mentoring dialogues. We recognize the added value of these programs; our research shows that there is much to gain when focusing on the professional development side of induction programs. Considering that induction programs are, deservedly, the norm in todays' practice we stress that it would be a missed opportunity when these programs are not serving BTs to the maximum.

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Appendix A   Translated Dutch turns

Nou ja, het is natuurlijk mooi. Die technieken die kunnen al die leerlingen eigenlijk toepassen. Van die Aboriginals. Dus in die zin was het een hele leuke oefening.

Goede les.

Ja, dan zou je op didactisch ook iets gaat zitten. [ja] Ja, dat je nog iets meer afwisseling maakt ofzo..

Precies, maar nu in detail. Het begin van de les, wat me opviel, en verder ook wel goed vond, was dat je in het begin de tijd neemt om te controleren of ze hun spullen bij zich hebben. En je loopt echt door de klas heen en staat even bij een leerling stil. Volgens mij heb je toen, was ook het controlemoment van het huiswerk meteen. Dat je even laat zien van… Wat ik me afvroeg gewoon even uit nieuwsgierigheid, wat doe je als een leerling iets niet bij zich heeft?

Nou goed, ik heb dat allemaal niet ingevuld. Omdat het eigenlijk niet van toepassing is. Verschillen in verwerking: Nee.

Ja, waren een aantal voorbeelden hiervan: complexe problemen kunnen vereenvoudigen. Wat ik aardig vond dat zat al enigszins in de aanpak van die powerpoint.

Dan moet je me even helpen… wat je bedoelt.

Nou, op een gegeven moment zijn er van die ballonnetjes, daar zin een mooi voorbeeld van vraagstelling en dan...

Ja, dat zou dus ook met die ballonnetjes kunnen zijn van ja als je het niet wist, kijk dan nog even. Maar ik weet niet of ik dat heb gezegd. Van: het staat daar ook.

Ja, dat weet ik niet.

Ja, ik geloof het niet dat ik dat zo gezegd heb.

Dat moet ik even in mijn aantekeningen kijken. Ja, bij die technieken volgens mij. Daar loop je wel rond he. Dan vertel je nog her en der. Dus daar zit het hem wel, ja.

Van het, want ook dat ik gebeurd allemaal. In wezen hebben we dat al gezegd.

Kritisch denken van leerlingen aanmoedigen: Ja, want je vraagt naar associaties, naar dingen. Die bij die kleuren he. Dat is duidelijk.

Dit weet ik niet: vraagt leerlingen na te denken over strategieën bij aanpak. Nu heb ik natuurlijk de tweede les niet meegemaakt. Want daar zou dat naar voren moeten komen, heb je het daar over gehad?

Nou ja, het is dan meer bij kinderen die er niet uitkomen: hoe kan je dit nou aanpakken, hoe kan je dit nou makkelijk doen? Wat meer als ze vastlopen dan dat ik daarvoor met ze daar over ga brainstormen. Dus ja,..

Nou ja, deze drie (betrokkenheid van de leerlingen) zijn uitstekend. Dat was echt een leuke les. Zo te zien vonden ze het allemaal wel heel boeiend. En als ze..

Compliment, mevrouw.

Ja, dus 0…

0 is niet geobserveerd. En dit zijn eigenlijk indicatoren, hier heb je het hoofdkopje, wat zijn dan eigenschappen die daarbij horen, nou die staan dan hierachter om het voor mij wat makkelijker te maken, wat bedoel je dan als je zegt.. enzovoort. En het zou raar zijn als alles wat daar staat geobserveerd zou zijn, dat zou wel heel merkwaardig zijn.

Ja, want dan ben je echt een soort van super hero.

Nou nee maar sommige lessen zijn nou eenmaal niet zo van, ik had ook bij een les kunnen zitten dat je geen instructie had gegeven. Maar dat is wel een les. Nou, dat vonden we zelf allebei niet zo handig, dus niet alle elementen zitten altijd in een les. Dus kun je ook niet alle elementen laten zien. En dat hoeft ook niet, het is niet hoe meer wel gezien, hoe beter het is, dat is niet zo. Een volgende keer zie je weer andere dingen dus ja zo vorm je toch een beeld van iemand. En ik moet zeggen dat dit me wel tot nadenken zet. Als ik moet invullen, heb ik dat nou gezien? Nou wat voor oordeel, als je het dan zo wilt noemen, zit daar aan vast.

En sommige dingen heb ik niet ingevuld omdat ik denk ik weet eigenlijk niet wat ik daarvan moet zeggen, daar kan ik je geen oordeel over geven. Of daar heb ik geen mening over op dit moment aan de hand van wat we hebben gezien.

Ja, precies want leert leerlingen oplossingen en opzoekstrategieën aan, ja dat leg je misschien soms uit maar niet…

Daar ben je niet elke dag mee bezig he? En ook niet elk moment en de ene les leent zich daar beter voor dan de andere want hier was ook niet aan de orde van: zoek van alles en nog wat op, schrijf gewoon een aantal dieren op en daar hoef je niet een computer voor te raadplegen, he dat kun je zelf ook wel bedenken. Maar goed, je mag die ook houden en je kan hem nog een rustig doorkijken en het is zoals ik er tegenaan kijk en het kan best zijn dat jouw beeld een ander is op sommige punten en ik vind het ook prima om daar eens over te praten.

Maar daar los van, of los van dat formulier. Kijken we niet aan de hand van deze punten van en dit en dat en zus en zo want dan wordt het een beetje een persoonlijk, gemaakt gesprek zou ik haast zeggen. Maar je kunt misschien de les heel goed voor de geest halen en nog een terugblikken. Als jij nou zo een beeld hebt van die les, waar ben jij dan heel tevreden over?

Waar ben ik tevreden over? Wat ze verzamelden uit zichzelf, wat naar boven kwam. Ja dat vond ik wel leuk dat ze konden reageren op wat ik vertelde, wel in een bepaalde vorm dan en dan wel door samen te werken en het dan te verwerken in een woord-web. Ja, daar ben ik wel tevreden over.

Even over dat woord-web, dat noemde je net even. Dat ging dan zo van je had op het bord een term een woord staan en daaromheen kwamen allerlei dieren en objecten enzovoort. Je liet toen verschillende groepjes, een uit elk groepje vier dingen noemen. Of zo was het dacht ik he? [ja]

Vond je dat goed verlopen? Was je daar tevreden over zoals je die inventarisatie deed, zoals dat verliep? Of had je?

Nou, ze luisterden niet altijd goed naar elkaar vond ik. En dan gingen ze snel met iets anders bezig en dat is dan onhandig omdat je zelf dingen moet doen, omdat je zelf iets moet schrijven en om dan tegelijkertijd te zorgen om het actief te houden.

Oké, probeer eens een alternatief te bedenken want op zich het idee erachter is natuurlijk prima dat je zegt van oké alle groepjes melden gewoon welke objecten dieren enzovoort die ze hebben bedacht en die willen graag in beeld brengen.

Hoe zou je dat ook kunnen doen met hetzelfde resultaat?

Je vergeet nu iets te zeggen waar je tevreden over bent maar je begint gelijk van, want ik vond die filmpjes, vond ik fantastisch. Daar waren zij ook zeer door geboeid, dat is ook prachtig. Omdat met die Theo Janssen hoe hij dat apparaat had gemaakt, dat vonden ze wel boeiend, dus daar waren ze ook heel aandachtig mee bezig.

Op het moment dat ze dan weer even kort moesten opschrijven dan zie je dat ze, mijn in ziens misschien toch wat actiever bezig willen zijn. Dus even een aantal woorden opschrijven of objecten noemen en je ziet dat ze beginnen te draaien.

Oké, maar ik kan me voorstellen dat het dan ook een beetje. Dan werkt het dan denk ik ook minder als je het iedere les doet. [ja, dat] Naar mijn gevoel hoor. Misschien dat andere vakdidactici het daar helemaal niet mee eens zijn maar wat ik zo… [maar voor mij voelt het ook niet fijn om het elke les te doen, dat vind ik ook niet fijn].

Nou, je begint met de intro, je vertelt de mythe van Persephone. Ja wat ik heel leuk vind is dat je het echt op hun niveau vertelt met eigentijds taalgebruik, nou dat werkt natuurlijk. Dan maak je een mooi bruggetje naar de wetenschap en nou leerlingen maken hun aantekeningen en vervolgens ga je verder in je presentatie over (?) Pythagoras, Archimedes. Heel leuk, goeie uitleg, leuke aansprekende voorbeelden [dankjewel]. Nou, het is echt heel leuk om daarbij te zitten.

Dan op een gegeven moment die derde wetenschapper, dat is dat Archimedes, ik vind je uitleg nogmaals heel leuk maar wat ik dan wel merk van er komt wat meer onrust, of niet zozeer onrust, maar he je bent dan. Ik heb het even getimed. 45 minuten inmiddels al aan het woord, [ja precies ja, [lacht]] en dan zie je ja wat afdwaling, laat ik het zo meer noemen he. De agenda wordt lekker bijgekleurd enzovoort. Maar goed dat besef je dat je dan inderdaad lang aan het woord bent.

 Nou ja, je hebt het eigenlijk al uitgelegd maar nu, ik kwam op een gegeven moment later in de les, dan wordt weer een leerling even de gang op ges.. dat is misschien weer een van die twee jongens, ik weet het niet meer [dat zou goed kunnen]. Mij was niet duidelijk helemaal wat de reden daarvan was en waarom je niet bijvoorbeeld die leerling op een andere plek zou kunnen zetten. Want ik ben heel benieuwd van wat is de stap die je dan neemt als een leerling bijvoorbeeld grensoverschrijdend gedrag vertoont. Nu, blijkbaar was die jongen niet zijn werk aan het doen, of [waarschijnlijk praatte hij door me heen of door iemand anders heen op een respectloze manier] had je last van hem. Dat is heel vervelend absoluut, zeg maar. Maar heb je de situatie wel eens gehad van: ja dat even op de gang zetten niet voldoende was?

Zou je dat ook anders kunnen doen om ze met die tijd gewend te laten raken? Zo van: over die tijd gaan we het de komende tijd hebben.

Dan maar op grond van het feit dat ze ergens goed of minder goed in zijn? Of op grond van het feit dat ze beter bij elkaar passen dan bij…