LEARNING TO NAVIGATE CLASSROOM DYNAMICS

STUDYING STUDENT TEACHERS' CLASSROOM MANAGEMENT LEARNING DURING THEIR TEACHER EDUCATION INTERNSHIP

TOM ADAMS

Propositions

1. Informal learning at the workplace is undervalued in teacher education.
   (this thesis)

2. Creating positive teacher-pupil interpersonal relationships is the most important component of Classroom Management.
   (this thesis)

3. Research is only relevant when it directly serves practice.

4. Universities should communicate more about the relevance of their research.

5. Teacher PhDs are in a more privileged position compared to regular PhDs.

6. The combination of a PhD and parenthood gives structure and balance between work and life.

Propositions belonging to the thesis, entitled

Learning to navigate classroom dynamics

Tom Adams
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Learning to navigate classroom dynamics

Studying student teachers' classroom management learning during their teacher education internship

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Studying student teachers' classroom management learning during their teacher education internship

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Thesis

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CHAPTER 1

General Introduction

1.1 Rationale: Classroom Management learning at the workplace

1.1.1 A personal Classroom Management (CM) experience

In 2007, I graduated as a history teacher. During the internship in the last year of my teacher education program at a university of applied sciences, I worked at a small pre-vocational secondary education school in Tilburg. During that year I often had CM challenges, especially at the beginning of that year, as my pupils really tested me.

I was very keen on preventing order problems, and worked on gaining control over my classes, which I felt I had obtained quite quickly, and as a result my confidence as a teacher grew. However, after some time, I felt more like a police officer than as a teacher, as I was losing contact with my pupils. In my inexperience, I was too much focused on controlling the class and (individual) behaviour. This also became clear in lesson observations by my supervisors, the feedback questionnaires I set out to my pupils and the feedback I got from them.

Teacher education taught me theories and basic practices about teaching, but I felt unprepared to handle the challenges I experienced in this class. On the other hand, I made no connection myself between the things I was confronted with in practice and the theories taught at the teacher education institute. I really struggled to make contact with my pupils, trying to find out what they needed and what that would mean for my teacher behaviour. I consulted colleagues and discussed my CM problems, and read literature to find suggestions to improve my practice. In time, I learned that having control in the classroom did not necessarily mean I needed to be less friendly to my pupils; that friendliness and control can be perfectly combined in teacher behaviour.

Later, I became a school based teacher educator myself. I strongly advised and supported my student teachers to benefit from the expertise they could find at the workplace. When I became an institute based teacher educator, I did the same. However, I saw almost every single student teacher struggle with the same classroom management issues. They were young, inexperienced, and had difficulties with combining friendliness and control. To give them guidance and support, I offered them practical knowledge and insights they needed in that specific context, advised them to use experts and role models who worked at their school, from whom they could learn how to combine having control and friendliness in their teacher behaviour.

1.1.2 The focus of this dissertation

Although my personal and professional experience is not unique, it led me to pursue the current PhD project. Today, it is widely known that beginning teachers experience problems with the gap between theory (of teacher education) and practice (at internship schools), in particular with respect to classroom management (van Tartwijk & Hammerness, 2011; Wubbels, 2011). Student teachers face various problems during and shortly after their internship period (Meijer, 2014), many of which are related to classroom management and teacher – student relationships (Beijaard et al., 2004; Pillen, 2013). Research has shown that teachers who manage their class effectively have a better teacher-pupils relationship and realize more effective education for their pupils. These teachers succeed in preventing order problems: they oversee their class and are able to divide their attention over multiple things at once (Hattie, 2009; Wubbels, et al., 2006).

Various scholars (van Tartwijk & Hammerness, 2011; Wubbels, 2011) have asked for more attention for classroom management in teacher education. Although research findings reinforce the role of classroom management in teacher education, it is often ignored in the program or embedded in other courses (Hammerness, 2011). Moreover, a large part of most teacher education programs takes place at practice schools during an internship period, and many student teachers often indicate that this period is crucial for the development and mastering of classroom management (van Tartwijk & Hammerness, 2011). However, little is known about how classroom management is addressed during this internship period, how practice schools differ in this respect and what effect this has on the classroom management competence development of student teachers.

The present research aims to provide more insight into the role of the school-based curriculum concerning classroom management competence development. This is still missing in current research: there is little research on competence development in the domain of classroom management, as much research on student teacher/teacher development during their internship is more general in nature and not specifically related to classroom management. Therefore, the results of the present study aim to provide teacher education institutes with indications to improve the curriculum with respect to classroom management. These insights may be helpful in preventing further dropout of (starting) teachers (Harmsen et al., 2018; Colognesi et al., 2020), and contribute to countering teacher-shortage as a whole, which is a great concern in Dutch secondary education.

The purpose of the present dissertation is to discover how and to what extent classroom management is established in the internship or practice school-based part of the teacher education curriculum, and how this

relates to the development of the classroom management competence of student teachers. Based on these insights, an intervention concerning classroom management learning was designed, implemented and evaluated in order to improve student teachers' CM learning process at the workplace or during internship.

1.2 Theoretical background

In this section, the conceptual framework of this dissertation is briefly outlined. First, the context of this research will be described. Then, classroom management will be discussed as a core teacher competency from both a comprehensive view (Evertson & Weinstein, 2006) as well as more specifically from an interpersonal perspective (Wubbels et al., 2006). Next, sources of learning at the workplace, i.e. the use of theory and the role of educators, will be discussed. Finally, since the student teachers' own role in their CM learning at the workplace is important, the process of self-regulation will be discussed as well. Figure 1.1 shows a visualization of how these concepts are interconnected in the first and second phase of this research. In addition to the elaboration below, the concepts will be operationalized in more detail in the description of each study, which will be presented after the conceptual framework.

Figure 1.1

Visualization of the theoretical components and first and second phase of this research
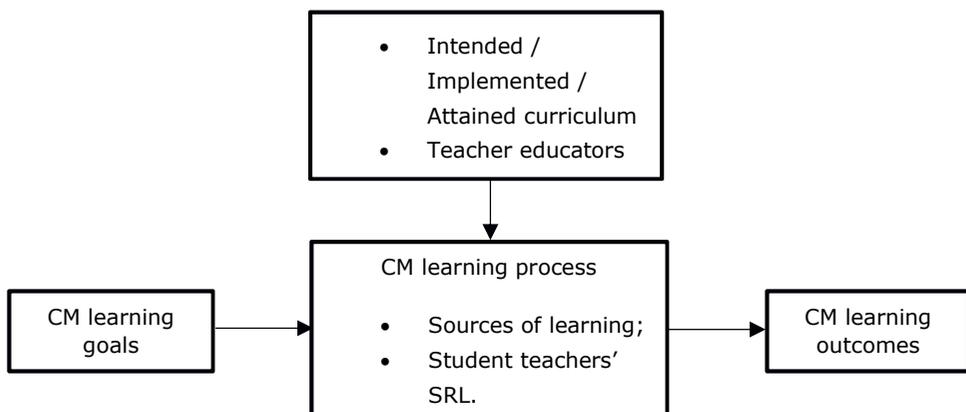
1.2.1 The context of this research

This research was conducted in the context of a teacher education program in one university of applied sciences. In the Netherlands, universities of applied sciences offer four-year teacher education programs, leading to degrees in teaching. Next to universities of applied sciences, academic universities also offer teacher education programs of one or two years in duration, leading to similar degrees. The present research was conducted in the internship part of the curriculum during the fourth year of the respective teacher education program.

Important to note is that this research was conducted in the context of a network of professional development schools (PDS). Partnerships between teacher education institutes and schools within networks of PDS are typical for practices of teacher education in the Netherlands. Recent studies have provided indications that a PDS as internship context in general show better results in terms of teacher development than non-PDS (Helms-Lorenz et al., 2018). In a PDS network, institutional courses are integrated in the context of the workplace at a PDS. At non-PDS no teacher education curriculum components are taught in the school context. Supervising teachers at PDS also receive training from the university and obtain paid time from school management for student teacher supervision.

When conceiving the teacher education curriculum, following Thijs and Van den Akker (2009) this study distinguish between an ideal or formal/written curriculum (the *intended* curriculum), the curriculum as it is operationally visible (the *implemented* curriculum) and the learning results achieved by the curriculum (the *attained* curriculum). Over the entire dissertation, all three forms of the curriculum will be investigated.

1.2.2 Conceptualizing CM

CM can be defined as *"the actions teachers take to create an environment that supports and facilitates both academic and social-emotional learning"* (Evertson & Weinstein, 2006, pp. 4).

In order to attain a high quality of classroom management, Evertson and Weinstein (2006) argue that teachers must (1) develop a caring and supportive relationship with and among pupils, (2) organize and implement instruction in ways that optimizes pupils' access to learning, (3) encourage pupils' engagement in academic tasks, (4) promote the development of pupils' social skills and self-regulation and (5) use appropriate interventions to assist pupils with behaviour problems. This study regard these specific goals as the core of classroom management competence and they form, in line with various other recent CM studies

(Korpershoek et al., 2016; Girardet, 2018), the basis of the analytical framework in this study.

In order to map the first and – according to various authors (e.g. Wubbels et al., 2006; Shuell, 1996) - most prominent component of student teachers' CM learning outcomes, namely developing teacher-pupils relationships, I use the Model for Teacher Interpersonal Behaviour. This model conceptualizes teacher-pupil interpersonal relationships (Wubbels et al., 2015). Interpersonal relationships play a central role in student teacher CM development. Wubbels et al. (2006) claim that this component is essential and conditional to other teacher competences and CM components. Teacher-pupils relationships can be understood as the generalized interpersonal meaning pupils and teachers attach to their interactions with each other.

The model consists of two dimensions: (1) the *agency* dimension, measuring the degree of influence of the teacher, and (2) the *communion* dimension, measuring the degree of warmth or interpersonal distance between teacher and pupils (see also Figure 1.2). Words at the circumference of the circle are typical descriptions of interpersonal teacher behaviour, each representing a specific blend of Agency and Communion. This model will be used in this study to map learning outcomes by using a questionnaire, the Questionnaire on Teacher Interaction (QTI, Wubbels et al., 2006), which will be distributed to student teachers' pupils and teacher educators and also to student teachers themselves, in order to visualize teacher-pupils relationships.

Figure 1.2

The Model for Interpersonal Teacher Behaviour (or Teacher Interpersonal Circle), (Pennings et al., 2014)
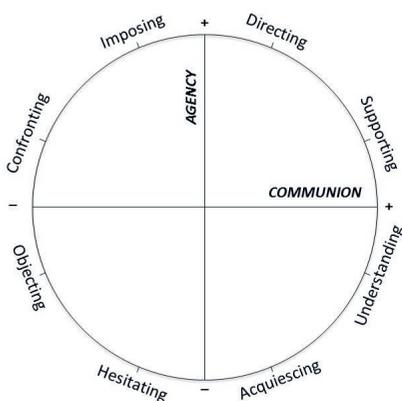
1.2.3 Sources of learning at the workplace

During their internship, student teachers can use various sources in their learning: learning from others, learning from non-interpersonal resources and learning from oneself (Lecat et al., 2019). *Learning from others* includes speaking to colleagues (seeking feedback), talking to other people / non-colleagues (for instance people in the student teacher's personal domain) and observing colleagues' lessons. *Learning from non-interpersonal resources* means using theory and can entail typical learning resources being: reading (seeking information in a book), or getting input from sources at the teacher education institute (courses, lectures). *Learning from oneself* consists of the following potential learning activities: trial and error (trying things out in the classroom), learning by doing, and reflecting (analysing learners' own work and activities).

With respect to use of theory, Sjølie (2014) argues that most student teachers use theory as '*prescriptive for practice*', in which theory can for instance provide specific insights or advice, or '*theory as foundation*', which structures and enriches professional and practical knowledge. Theory forms a scaffold for teachers and can play an important role in the development of professional expertise.

In this dissertation, I will look at the different sources of learning as distinguished by Lecat et al. (2019) and the uses of theory as distinguished by Sjølie (2014).

1.2.4 Student teachers' self-regulation

During the internship, student teachers have to plan their own learning process as they have both freedom and responsibility in the context of their practice school. Self-regulated learning (SRL) is therefore a crucial element in their learning process (Clarke & Hollingsworth, 2002). Endedijk et al. (2012) combined planning of learning and the active role of the learner to conceptualize student teacher self-regulated learning. They distinguished two dimensions of student teachers self-regulation: (a) *passive* or *active* regulation, and (b) *prospective* or *retrospective* regulation. Active regulation implies that the student teacher makes deliberate choices in relation to the learning goals and strategy, and reflects profoundly on what is learned, the learning process and one's own role. Regulation is passive when there is a lack of activity by the student teacher. In prospective regulation the student teachers actively choose learning goals and strategies. In retrospective regulation, a learning experience is often unplanned, and no active regulation takes place. These dimensions will be used in this study to determine student teachers' CM regulation patterns.

1.3 This dissertation

The main research question for this dissertation is: *How does the teacher education institute and (PDS) school-based part of the teacher education curriculum contribute to the development of classroom management of student teachers?*

In the first phase of the study, the attention for CM will be studied in theoretical sources, in teacher education curriculum and at the internship (first sub-question). In the second phase of the study, student teachers' CM learning processes will be reconstructed (second sub-question).

Studying these questions will lead to more in-depth understanding of how student teachers' CM learning during the internship takes place. Based on these findings, an intervention will be designed to find whether this can contribute to student teachers' CM learning during their internship (see third sub-question).

Sub-questions are:

1. What do the teacher education institute and (PDS) school-based part of the curriculum concerning classroom management look like in terms of the *written* and *preferred* curriculum, and how does this compare to the *theoretically suggested* curriculum content?

2. Which student teacher CM learning processes (*implemented* curriculum) and CM learning outcomes (*attained* curriculum) can be found during their internship and what patterns emerge in the relationship between these elements?

3. To what extent does an intervention in student teachers' CM learning process contribute to the improvement of student teachers' interpersonal relationships with their classes?

To answer the research question and sub-questions, three studies were conducted, which are reported in four chapters.

Study 1: The presence of CM in literature, curriculum and practice.

The first study investigated the intended CM attention in both the institute curriculum and the workplace curriculum. This study employed a qualitative research approach, using a single case study design in one network of PDS. The intended curriculum for CM was mapped by analysing curricular documents (written curriculum), by interviewing teacher educators who taught in the context of the program (ideal/preferred curriculum) and by comparing these findings to topics suggested by literature (theoretical curriculum).

In order to study the written curriculum, the attention for CM in 16 documents focussing on the four years of the curriculum was investigated. In order to study the preferred curriculum, the six teacher educators of the selected network of the programme were interviewed. To establish the most relevant theoretical topics for the theoretical CM curriculum, both editions of the *Handbook of Classroom Management* (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015) were used, as these were the only scientific handbooks uniquely focusing on CM (in 2022 the latest edition was published). The data of the interviews, as well as the contents of the documents and of each chapter of the handbooks the most dominant theme(s) or topic(s) were mapped onto the framework as proposed by Evertson and Weinstein (2006).

Study 2: Finding patterns in student teachers' learning processes and outcomes of classroom management during their internship

Because little is known about how student teachers develop CM during their internship, the second study investigated the process of student teachers' CM learning and its resulting outcomes in the context of one network of professional development schools.
This study was done in two phases. In the first phase (Chapter 3), I used an exploratory study design, and selected four student teachers as cases whose internship-related course products were comprehensive and rich. To study the learning process and outcomes with respect to CM, curriculum assignment output of the student teachers was analysed. More specifically, this concerned a portfolio in which student teachers described their professional development during their internship, and a research course thesis with the emphasis on student teachers' pedagogical role.

In addition, both the student teachers and their school-based teacher educators and institute-based teacher educators were interviewed at the end of the internship. The student teacher interview focused on finding meaningful moments of CM learning during their internship. With this interview, the learning process of the student teachers for CM was reconstructed in terms of (self-regulated) learning, the use of theory, the role of others and (un)planned (learning) activities. Also, student teachers' goals and learning outcomes were investigated.

In the teacher educator interview, educators were asked how they coached their student teachers, what content they provided and how they perceived their student teachers' CM learning during the internship. Moreover, the Questionnaire on Teacher Interaction (QTI) was distributed by student teachers in two of their internship classes twice during their internship, at the beginning and the end of the internship. The QTI was recommended by the teacher education institute for the portfolio and was useful as a measurement tool for research purposes.

As start of the analysis process, the researchers created a reconstructive picture of the CM learning process, by placing meaningful moments (as mentioned by the student teachers) and input from teacher educators on a timeline. This resulted in a description of the student teacher's learning curve. Moreover, all relevant fragments found in student teachers' produced documents and the interviews were placed in a case matrix, in order to structure the information about student teachers' CM goals, sources of learning, self-regulated learning and CM learning outcomes. As for the relation between the process and the outcomes, the data were first analysed within each case. The researchers searched for patterns in the various variables, as described before. Next, data were analysed across the four students, by comparing overall patterns.

The second phase (Chapter 4) studied a more extended sample, as CM learning of 24 student teachers (all student teachers of one PDS network who wanted to join the research) during their internship was studied, looking at their CM goals, CM learning processes, the CM learning outcomes and the interrelationships between these.
In order to study student teachers' CM learning processes and CM learning outcomes, course assignment outcomes of students in the fourth-year curriculum of the teacher education institute were analysed (the same course products as in the previous study). Moreover, the Questionnaire on Teacher Interaction (QTI) was distributed by student teachers in two of their internship classes, mapping their pupils' perceptions of their interpersonal teacher behaviour at the beginning and end of the internship.
All relevant fragments about student teachers' CM learning processes and CM outcomes, found in student teachers' produced documents, were placed in a case matrix, in order to structure the information regarding student teachers' use of theory, role of teacher educators, self-regulated learning CM goals and CM learning outcomes. In the analysis procedure, the researchers searched for what was dominant for student teachers' CM learning and CM outcomes by counting the collected relevant fragments.

In order to find similar patterns in student teachers' CM learning processes and to distinguish profiles of student teachers' preferred CM learning, a Multiple Correspondence Analysis (MCA) was conducted (Greenacre, 2007; Le Roux & Rouanet, 2004). In doing so I obtained insight into which participants had a similar learning process in terms of the use of theory, role of teacher educators and self-regulated learning.

This phase was followed by a final step, in which the focus was on finding relationships between the profiles of student teachers' CM learning and student teachers' CM learning outcomes. In order to do so, cross tabular analysis was conducted, using specifically the chi-squared statistic in order to identify any potential relations between the variables. This technique allowed the researchers to capture potential connections

between the distinguished groups of student teachers' CM learning processes and CM outcomes in terms of knowledge, skills, attitudes and in terms of interpersonal learning outcomes.

Study 3: The effects of an intervention in student teachers' classroom management learning process

Based on both the findings in the first and second phase of this study, as well as on suggestions from literature, the development and implementation of activities to promote student teachers' CM learning, e.g. an intervention, took place.

The previous chapters showed that important components in student teachers' CM learning during the internship related to the effective use of theoretical knowledge and how to learn from teacher educators or others during their internship. Also, many student teachers were focused on the teacher-pupils relationship. This third study thus presents the development and implementation of an intervention with the ambition to add more focus and direction to student teachers' CM learning by offering them activities they could use to improve their teacher-pupil interpersonal relationships.

In this study, a group of nine student teachers participated who learned in the context of their internship from September until June. The design of the intervention consisted of the following elements: first, the QTI was used as a pre-test and as a source for the start of the intervention. The QTI was sent out to two classes per participant and their school-based teacher educator, measuring the teacher – pupil relationship. Moreover, the QTI was also completed by the student teachers themselves, giving a self-perception and an ideal-perception for each class at both moments. The QTI was used to measure the self-perception and the ideal-perception of the student teacher and also the perceptions of their pupils from two classes and their school-based teacher educator. In doing so, for participants a 360 degrees feedback image arose that showed the interpersonal relationship between the student teachers and their classes.

Second, the results of the QTI served as the starting point of the first interview which was held with the student teacher and their school-based teacher educator together. In this interview, the outcomes of the QTI were discussed (e.g. low/high scores on dimensions/sectors, large differences between self-perception and pupil-perceptions etc.) as well as learning goals related to interpersonal behaviour development. In the final part of the interview, follow-up activities for student teachers were suggested. Then, the student teachers were given five months to learn at their internship school, in which they had time to use the suggested activities.

Third and finally, after these five months, a post-test was conducted, again using the QTI and an interview. In the analysis process, all relevant interview fragments about student teachers' interpersonal teacher behaviour learning process were selected, how the student teacher perceived the intervention, what was learned and the effects on their interpersonal teacher behaviour.

To measure differences between the first and second measurement for self-perceptions, teacher educator perceptions and pupil perceptions on the QTI respectively, I used paired t-tests by looking at both dimension and sector scores.

This dissertation is based on four chapters, which were submitted individually to international scientific journals. Due to this setup, there is some overlap between these chapters. This is mainly visible in chapters three and four, which are both focused on the second sub-question of this dissertation (What student teacher CM learning processes and CM learning outcomes can be found during their internship and what patterns emerge in the relationship between these elements?).

Finally, in the sixth chapter of this dissertation, in the discussion and reflection paragraph, I will review the main findings of this research, discuss the limitations, formulate suggestions for future research and offer implications for practice.
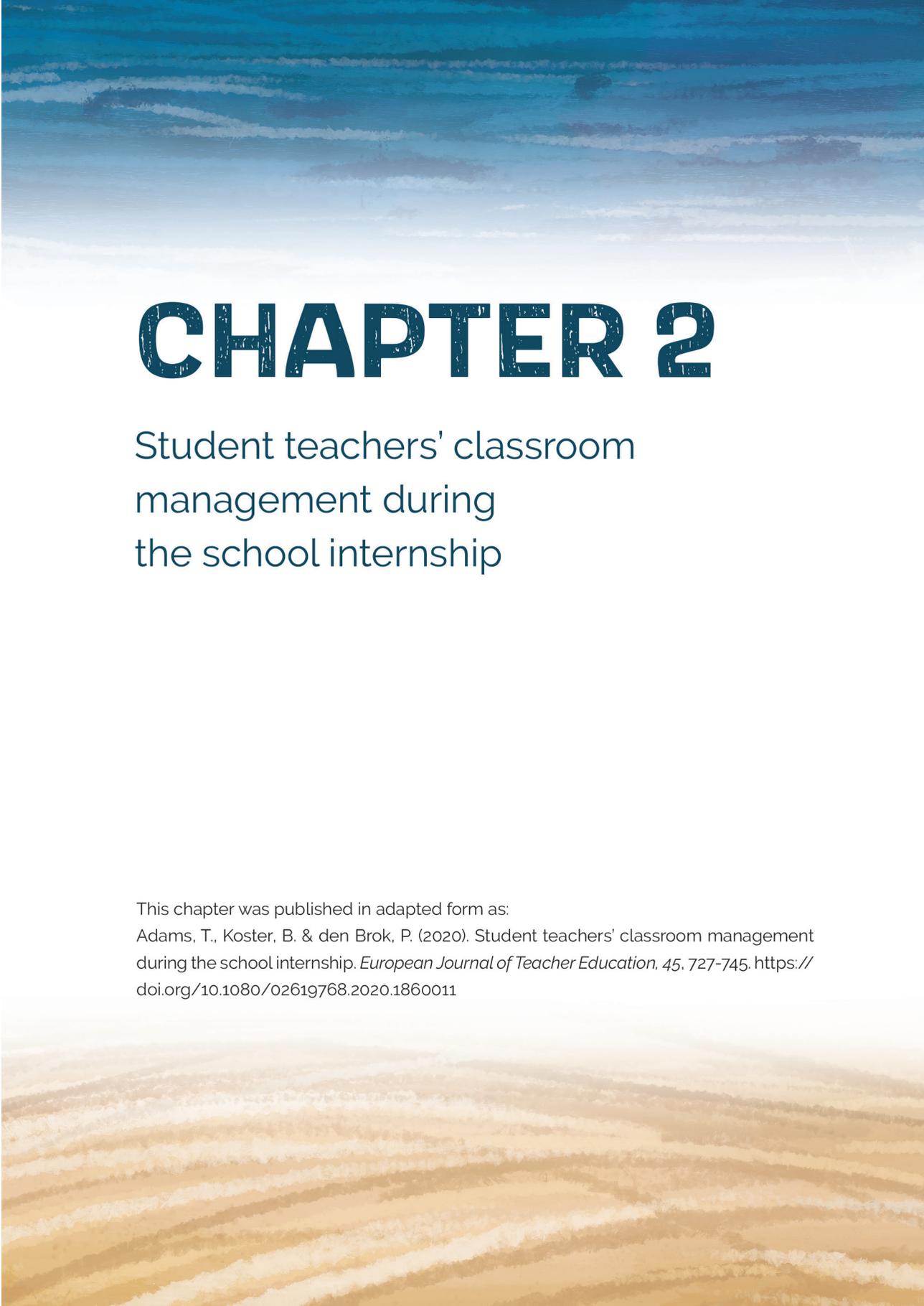
CHAPTER 2

Student teachers' classroom management during the school internship

Abstract

Classroom management (CM) is one of the core issues in student teachers' learning. In teacher education, however, CM often has a marginal place in the curriculum. This is striking, since most student teachers struggle with this competence, especially during their internship. This study sets out to investigate the intended classroom management curriculum for student teachers during their internship in one Dutch secondary teacher education programme. The intended curriculum for CM is mapped by analysing curricular documents (written curriculum), by interviewing teacher educators (ideal / preferred curriculum) and by comparing these findings to topics suggested by the Handbook for Research on Classroom Management as seminal literature source (theoretical curriculum). A variety of potential CM topics emerges from the literature, but limited and implicit attention for CM was found in the written curriculum. For the preferred curriculum, teacher educators recognised CM as essential, considering student teachers' relationship with pupils' as the core of CM. In addition, they stressed the practical side of CM: encouraging student teachers to get experience and expand their repertoire by teaching independently.

2.1 Introduction

It is widely known that beginning teachers experience problems with the gap between teacher education and everyday practice in the classroom, in particular with respect to classroom management (CM) (Evertson & Weinstein 2006; Dicke et al., 2015). Research has shown that teachers who manage their classroom effectively have a better teacher-pupils relationship and realise higher cognitive and affective outcomes for their pupils (Hattie, 2009; Wubbels et al., 2006; Wubbels et al., 2015). Effective teaching and learning cannot take place in poorly managed classrooms (Jones & Jones, 2012; Marzano et al., 2003). Inadequate CM is not only one of the crucial beginning teachers' problems, it is also one of the main causes for stress, lack of job satisfaction and teacher dropout (Evertson & Weinstein, 2006; Walker, 2009; Chang, 2009).

Despite the widely acknowledged importance of CM, the concept seems to be undervalued in the teacher education curriculum and several researchers have noted issues with the topic of CM in teacher education, for example a gap between the CM research knowledge base and the content of teacher education programmes (Freeman et al., 2014), limited content and exposure of CM in the teacher education curriculum (Jones, 2006; O'Neill & Stephenson, 2011), disagreement on what should be taught for CM in the curriculum (Stewart-Wells, 2000), lack of visibility of CM in the curriculum (O'Neill & Stephenson, 2011) and ineffective strategies taught for CM (Oliver & Reschly, 2010). Various European and American scholars (van Tartwijk & Hammerness, 2011; Stough, 2006; Wubbels, 2011) therefore have asked for more attention on CM in teacher education curricula. The aforementioned studies mainly focused on the role of CM in the *institutional* part of teacher education, less research has been done on the role of CM during the *internship* part of the teacher education curriculum. It is not clear what actually should be present in the curriculum in terms of content and practice during the school internship. This is remarkable, since a large portion of most teacher education programmes takes place at practice schools during an internship period, and many student teachers often indicate that this period is essential to the development and mastering of CM competence (Stough et al., 2006). Bridging this gap between CM theory and teacher education practice and meeting student teachers' needs fits the international tendency in teacher education of positioning a teacher curriculum with sufficient attention for CM at the workplace (Dicke et al., 2015; Jenset et al., 2018; Hammerness & Kennedy, 2019). Also, much of what is known about CM is based on 'written curricula', but little is known about teacher educators' views on the place of CM in the teacher education curriculum and about what the literature indicates as being relevant for CM in the teacher educational curriculum. These elements form the core of studying the intended curriculum (Thijs & van den Akker, 2009). As research shows, there is often a discrepancy between the

intended and implemented curriculum. This lack of coherence is explained by teachers and learners' views and needs. As a result, this might have an effect on learning outcomes. Hence, it is important to interpret what is intended in the curriculum (Thijs & van den Akker, 2009; Wayne et al., 2008).

For this reason, this study sets out to research how much attention is given to CM in the context of one teacher education curriculum in the Netherlands. This teacher education institute is representative for a large part of teacher education in the Netherlands, namely those programmes taught at universities of applied sciences (in Dutch: 'hogescholen')[1] that prepare students for teaching in secondary education.

2.2 Theoretical framework

In order to research the attention given to CM in the teacher education internship period, the following sub-topics will be discussed: the definition of classroom management, learning during the internship phase and curricular representations.

2.2.1 The definition of classroom management

There is not one broadly accepted definition of CM (Hammerness, 2011). This is possibly due to its complexity (Martin et al., 2016). According to Brophy (2006) CM refers to "*actions taken to create and maintain a learning environment conductive to successful instruction (arranging the physical environment, establishing rules and procedures, maintaining pupils' attention to lessons and engagement in activities)*" (p. 17).

Evertson and Weinstein (2006) refer to these actions by describing five components in their definition of CM. In order to attain high quality CM they argue that teachers must (1) develop a caring and supportive relationship with and among pupils, (2) organise and implement instruction in ways that optimises pupils' access to learning, (3) encourage pupils' engagement in academic tasks, (4) promote the development of pupils' social skills and self-regulation and (5) use appropriate interventions to assist pupils with behaviour problems.

The researchers involved in this study regard these specific goals as the core of CM competence and they are the basis of the analytical framework

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[1] In the Netherlands, universities of applied sciences offer four year teacher education programmes, leading to degrees in teaching. In addition, academic universities also offer teacher education programmes of 1 or 2 years in duration, leading to similar degrees.

in this study, in line with various recent European CM studies (Korpershoek et al., 2016; Girardet, 2018).

In both the definitions of Brophy and Evertson and Weinstein, the importance of actions taken by the teacher to facilitate learning among the pupils is emphasised. Furthermore, Evertson and Weinstein seem to indicate the ongoing interaction between teachers and their pupils in their definition.

2.2.2 Learning during the internship period

During a large part of their teacher education curriculum, the vast majority of student teachers are placed in a special context (a professional development school; PDS) whereby institutional courses are integrated in the context of the workplace. Important to note that this is the main difference with regular practice schools, where no teacher curriculum components are taught in the school context. Also, supervising teachers at PDS schools receive training from the university and obtain time from school management for student teacher supervision, where this is not necessarily the case at regular practice schools. The PDS is an intensified collaboration between teacher education institutes and secondary schools, which aims to reduce the gap between theory and practice (as experienced by novices) and where teacher education, research and professional development of teachers go hand-in-hand (Darling-Hammond, 2005; Helms-Lorenz et al., 2018). In the PDS selected for this study, all curriculum courses were given at the PDS, not at the teacher education institute. From recent studies there are indications that PDS show better results in terms of student teacher development than regular practice schools (Helms-Lorenz et al., 2018). Interestingly, it is unclear what this means for student teachers' CM competence development during their internship period.

2.2.3 Curricular representations

A distinction is often made between three representations of the curriculum: the *intended*, *implemented* and *attained* curriculum (Thijs & van den Akker, 2009). The present study is a first exploration in studying the role of CM during the internship part of the teacher education curriculum, therefore the intended curriculum is the first aspect being analysed. According to Thijs and van den Akker (2009), the intended curriculum can be divided into two elements: the *ideal (or preferred)* curriculum, which is the 'vision' (rationale or basic philosophy underlying the curriculum), and the *formal 'written'* curriculum (intentions as specified in curricular documents and materials). In order to put these two elements into perspective, a description of the *theoretically* recommended CM attention is added in the present study. These steps

follow the curriculum development process indicated by Thijs and van den Akker (2009), as they indicate that curriculum development often starts with a fundamental analysis of the current situation, needs and knowledge base. Subsequently, based on these elements, this leads to guidelines that form the basis of design principles, that will be shaped more concretely after an analysis of the implemented and attained curriculum (Thijs & van den Akker, 2009). The choice of the design is thus both a strength as well as a limitation, as it allows for a more in-depth analysis of the intended state, but does not show the transfer of this state to one of implementation or attained results. However, the choice for this seemed justified, given the current lack of research on the role of CM in the internship curriculum.

To come to this theoretically advised content for the CM curriculum, both editions of the Handbook of Research on Classroom Management (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015) were used as main source.

This study investigates the following main research question: *What does the intended (PDS) school-based part of the curriculum concerning classroom management look like in terms of the written and preferred curriculum, and how does it compare to the theoretically suggested curriculum content*?

The following sub-questions were investigated:

- What are, in the Handbook of Classroom Management as seminal work, seen as relevant topics for the CM curriculum?

- What is written in curricular documents of the teacher education programme studied in this context concerning CM learning?

- What are teacher educators' preferences for CM attention in the curriculum of the mentioned teacher education programme?

In answering these questions, specific focus – although not exclusively – is given to the school-based (e.g. internship) part of the curriculum.

2.3 Method

The present study employed a qualitative research approach, using a single case study design. The research questions were addressed by (a) identifying relevant CM curriculum topics in the Handbook of Research on Classroom Management, (b) analysing curricular documents for the intended CM curriculum, and (c) interviewing teacher educators who taught in the context of the programme, regarding their preferred intended CM curriculum.

2.3.1 Context

This research focuses in particular on the fourth, and final year, of teacher education for secondary education in the context of a programme of one university of applied sciences. During this year, student teachers have their most lengthy internship period (certainly in comparison with earlier school-based learning periods), in which they work at the school as a relatively autonomous teacher an entire academic year running from September until June. They teach their own classes and perform tasks comparable to any other teacher in the school.

The teacher education institute at which this research was done, collaborates with several PDS networks. In these networks, student teachers learn in peer-groups, which consist of multiple student teachers supervised by different institute-based and school-based teacher educators. Most of these networks offer internship placements for the teacher education curriculum from years 1 through 4. The internship part of the curriculum consists of activities at the practice school, such as teaching classes observed by school-based educators, and thematic or peer coaching meetings. These meetings at the PDS school are supervised by both institute-based educators and school-based teacher educators. The curriculum is set up similarly at different practice schools. Peer coaching meetings are formal sessions organised by the teacher educators to discuss student teachers' learning related issues. Also, the teacher educators provide (individual) feedback and coaching.

2.3.2 Data collection and participants

To establish the most relevant topics for the theoretical CM curriculum, both editions of the *Handbook of Classroom Management* (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015) were used as unique and primary data source, because these are the most comprehensive publications concerning CM. These are the only scientific handbooks uniquely focusing on CM. Whereas the first edition presented the still widely accepted definition of CM (Korpershoek et al., 2016; Girardet,

2018), the historical development of CM and subsequent developing ideas and research in the field of CM, the second edition addressed some continued lines of research from the first handbook and new recently emerging topics in the development of CM of the last decade (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015). Some chapters of the 2015 edition show great overlap with the 2006 edition. In these cases, the most recent chapters were chosen to select because these were the most comprehensive chapters. In the present study the focus is on student teacher classroom management competence development in teacher education. Therefore, the main interest is on broad, generic CM topics, relevant for all student teachers, regardless of the school subject or context, as well as CM pedagogical approaches and principles in teacher education. For each chapter the researchers involved in this study determined, independent from one another, what the central, most dominant, theme(s) or topic(s) were in terms of (student) teachers learning, and these were mapped onto the framework as proposed by Evertson and Weinstein (2006), whereby themes sometimes could be linked to multiple components of their framework. Afterwards, they compared the similarities and differences, and discussed these until consensus was reached.

In order to study the written intended curriculum in the selected teacher education programme, the attention for CM in 13 documents focussing on the first three years of the curriculum was investigated first, by analysing curricular documents addressing these specific years. Subsequently, all available curricular documents used specifically in the fourth-year curriculum were analysed. In total, three documents for this fourth year were analysed: (1) the professional development school document (PDS: a vision and organisational document), (2) the professional development curriculum document (PDC), issued by the teacher education institute, containing general learning goals for the student teachers, and (3) a document describing the pedagogical research course (PRC: competence development research project with emphasis on the pedagogical teachers' role). This last one is a research course the student teachers are enrolled in during their internship period.

In order to study the *ideal* curriculum and the preferred content, one school network of the programme was selected, and six teacher educators were interviewed. They were all the responsible teacher educators for the curriculum in this network. In Table 2.1, a short overview is provided regarding the interviewed participants: their fictional name, gender, experience, whether they are a school based or institute based teacher educator and their educational background. Informed consent was organised and educators participated on a voluntary basis. They were informed that all data was treated confidentially.

Table 2.1

Interviewed teacher educators, gender, experience and teacher educator type

Participant	Male / Female	Years of experience	Type educator
Judith	F	15	School-based
Theo	M	7	Institute-based
Eline	F	4	School-based
Paul	M	7	Institute-based
Herman	M	4	School-based

2.3.3 Instruments

The data were collected, audiotaped and analysed using the case study analysis approach (Yin, 1994). In order to map the *ideal* curriculum, the teacher educators were interviewed in two rounds. In the first round, the focus of the interviews was to understand the rationale underlying the written curriculum, and getting an overview of CM attention in the curriculum. The interviews were semi-structured, and the questions asked served the purpose of trying to identify the presence of the concept of CM as formulated by Evertson and Weinstein (2006). As a result, we obtained an overview of where and how CM occurred in the curriculum. In order to validate these data, and to dig deeper concerning certain aspects, a second round of interviews was held. In this second round, the answers of the first round were verified (member check), and more specifically focus was put onto learning content and objectives of CM in the curriculum by asking additional questions on teacher educators' views on the attention for CM in the curriculum. Both interview rounds were held via face-to-face conversations, took approximately 45 minutes per conversation and were audiotaped for analytical purposes.

2.3.4 Analysis

The core of the analytical framework were the components of CM (Evertson & Weinstein, 2006). In addition, we also looked at didactical principles mentioned in the data that described how to (best) teach CM to student teachers, such as teaching methods, theoretical framing, sequencing, the role of the teacher educator, and so on. The researchers coded the full data set (documents and interviews) independently (coding scheme based on the analytical framework), and discussed differences and similarities, in order to achieve consensus.

2.4 Findings

In Table 2.2, an overview of the findings from the literature, documents and teacher educators interviews is given. As can be seen in Table 2.2, most attention is given to the CM components 'develop a caring and supportive relationship with and among pupils', 'promote the development of pupils' social skills and self-regulation' and 'use appropriate interventions to assist pupils with behaviour problems'. This is particularly visible in the theoretical and ideal curriculum. Less attention is given to the other components.

Table 2.2
Overview overall research outcomes

Components of CM	Intended		Ideal (Educators) # of educators referring to a sub-category (n=6)
	Theoretical (Literature) # of topics	*Written (documents)* # of CM courses	
(1) develop a caring and supportive relationship with and among pupils	6 topics Interpersonal perspective / Communication en interaction / Relationships between children and teachers / Social and emotional learning / Teacher-student interactions and relationships / Skills for communication and interpersonal interaction	1 course in year 1 Content: the interpersonal relationship in the classroom.	6 educators Topics: interpersonal skills, relation with pupils and class
(2) organise and implement instruction in ways that optimises pupils' access to learning	2 topics Process-outcome approaches for effective CM / Teacher support	1 course in year 2 Content: coaching pupils' learning, learning concepts and processes	1 educator Topic: learning processes
(3) encourage pupils' engagement in academic tasks	-	-	1 educator Topic: subject-pedagogical skills

Table 2.2 continued	# of topics	# of CM courses	# of educators referring to a sub-category (n=6)
(4) promote the development of pupils' social skills and self-regulation	6 topics The role of the community in the context of the school / Social motivation / Social interdependence / Preventive teachers' CM strategies / School-wide positive behaviour support (SWPBS) / Rewards, motivation and behaviour	-	4 educators Topics: SWPBS, mentorship
(5) use appropriate interventions to assist pupils with behaviour problems	6 topics Behavioural approaches / Dealing with problematic behaviour / Bullying prevention and intervention / Strategies for structuring school discipline / Perspectives on CM and ethics / Student perceptions of CM and misbehaviour	-	5 educators Topics: classroom and school wide rules, problematic pupils' behaviour, steps in handling disruptive behaviour
CM-workplace educational didactical principles	Ecological approaches / Programs for preventing and solving discipline problems / Pedagogical coursework / supervised field practice (added with reflective activities, portfolios, videos) / programs such as SWPBS / positive, preventive and proactive strategies to prevent problematic pupil behaviour / mentoring		Students are in the lead of own learning process, relationship with pupils is the core of CM, practical side of CM (experience in teaching) is essential

2.4.1 Relevant topics according to the literature

In both editions of the *Handbook of Classroom Management* (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015) relevant topics for an intended CM curriculum were mentioned. In this section, each topic is briefly elaborated, and an overview of the different topics is presented in Table 2.3.

The component 'develop a caring and supportive relationship with and among pupils' was visible in various topics discussed in the handbooks. A central topic for this component was the interpersonal perspective, with attention for views on teaching, communicative systems, the model for interpersonal teacher behaviour and, consequently, the various types of teacher styles, teacher-pupil interpersonal relationships, communication and interaction in the classroom and social-emotional learning.

The component 'organise and implement instruction in ways that optimises pupils' access to learning', was visible in two topics: (1) process-outcome approaches, and (2) teacher support strategies to promote pupils' self-regulated learning.

The component 'promote the development of pupils' social skills and self-regulation' was visible in six different topics. First, the topic social motivation and social interdependence concerns effective strategies for pupils to meet their goals. Second, teachers should know why and when rewards work; third, how to promote certain support in classroom engagement, and, fourth, focus on preventive strategies in the curriculum. Fifth, teachers should be aware of the role of the community in the context of the school. Sixth, the topic School-Wide Positive Behaviour Support (SWPB) offers a school-wide approach to promote social skills and self-regulation and to reduce problematic pupil behaviour.

Concerning the component 'use appropriate interventions to assist pupils with behaviour problems', again six topics were found: (1) behavioural approaches, (2) dealing with problematic behaviour, (3) bullying prevention and intervention, (4) strategies for structuring school discipline, (5) perspectives on CM and ethics, and (6) student perceptions of CM and misbehaviour.

All studied chapters in *Handbook of Classroom Management* (Emmer & Sabornie, 2015) primarily focused on the theoretical explanation of the topic and discuss the current state in academic research. However, overall, the chapters did offer some practical suggestions for the setup of teacher education, though they were mentioned in the Handbook only to a limited degree. Six chapters contained sections that specifically mentioned insights or design principles for teacher education and professional development. Doyle (2006) described ecological approaches, in which multiple factors in and around the classroom are taken into

account. Freiberg and Lapointe (2006) argued for implementing programmes in the curriculum for preventing and solving discipline problems. Bullough Jr. and Richardson (2015) summed up what was known from student teacher perspectives about CM based on various research in multiple settings. Wubbels et al. (2015) discussed various research into interventions that aim to help student teachers to develop productive relationships with their pupils.

Two other chapters specifically focussed on the question how a teacher can be an effective classroom manager, and how this should be taught at in the curriculum. Jones (2006) argued for CM coursework in small classes, time for self-examination and extensive knowledge and skill development, field experiences and coaching by mentor teachers and supervisors. Stough and Montague (2015) argued for pedagogical coursework, supervised field practice (with in addition reflective activities, portfolios, videos), specific programs such as SWPBS, mentoring and teaching positive, preventive and proactive strategies to prevent problematic pupil behaviour. The chapters did not specifically distinguish between the institutional part of teacher education and the school-based part of teacher education.

Table 2.3
Overview findings in literature

CM Component	Topic	Chapters
(1) Develop a caring and supportive relationship with and among pupils'	Interpersonal perspective	Wubbels, Brekelmans, den Brok, & van Tartwijk (2006)
	Communication en interaction	Morine-Dershimer (2006)
	Relationships between children and teachers	Pianta (2006)
	Social-emotional learning	Schwab & Elias (2015)
	Teacher-student interactions and relationships	Wubbels, Brekelmans, den Brok, Wijsman, Mainhard, & van Tartwijk (2015)
	Skills for communication and interpersonal interaction	Raczynski & Horne (2015)
(2) Organise and implement instruction in ways that optimises pupils access to learning	Process-outcome approaches for effective CM	Gettinger & Kohler (2006)
	Teacher support	McCaslin, Sotardi, & Vega (2015)

Table 2.3 continued

CM Component	Topic	Chapters
(4) Promote the development of pupils' social skills and self-regulation	The role of the community in the context of the school	Watson & Battistich (2006)
	Social motivation	Wentzel (2006)
	Social interdependence	Johnson & Johnson (2006)
	Preventive teachers' CM strategies	Bear (2015)
	School-wide positive behaviour support (SWPBS)	Lewis, Mitchell, Trussel, & Newcomber (2015)
	Rewards, motivation and behaviour	Reeve (2015)
(5) Use appropriate interventions to assist pupils with behaviour problems	Behavioural approaches	Landrum & Kauffman (2006)
	Dealing with problematic behaviour	Robinson & Ricord Griesemer (2006)
	Bullying prevention and intervention	Espelage (2015)
	Strategies for structuring school discipline	Skiba & Rausch (2015)
	Perspectives on CM and ethics	Bullough Jr. & Richardson (2015)
	Student perceptions of CM and misbehaviour	Montuoro & Lewis (2015)

2.4.2 The intended curriculum according to curricular documents

Where and how CM has a place in the written curriculum of the selected teacher education programme is reported in this section. In the first year, the curriculum, as described in one course guide, in terms of CM, focusses on the interpersonal relationship between teachers and pupils in the classroom. More specifically the focus is on communication, social processes between teacher and pupils, and group-processes in the classroom (pedagogical classroom climate). In the second year, as described in another course guide, the focus is on coaching pupils' (learning) processes (e.g. cognitive psychology, pedagogical and learning skills). These topics are viewed by the educators seen as elementary CM knowledge and skills.

In year 3, as described in a course guide, the student teachers conduct a case study, in which they focus on a pedagogical topic related to their classroom practice, which could be related to CM if the student teacher choose to do so. This principle is also the basis of the fourth year of the curriculum. The content of the curriculum in the fourth year focuses on three main aspects: the internship and a research project conducted in relation to the internship (student teachers are free to choose the pedagogical/educational topic), extra-curricular workshops organised by and at the practice school, and peer coaching meetings.

By analysing the four documents for the fourth year, it became clear that the curriculum explicitly describes the overall framework for student learning, but not the content itself. In year 4, student teachers choose the focus of their action research project, based on their developmental needs. However, there are some implicit objectives that are related to the CM-definition in the theoretical framework. This is especially the case in the PDC document, the document which sets the general goals of workplace learning. The student teachers need to *"Create a safe, supporting and stimulating classroom climate, in which learning can take place (..) and respects differences in pupils' social-emotional needs and promotes pupils' learning".* Although CM is not mentioned, the content of the learning outcome relates implicitly to the components 'develop a caring and supportive relationship with and among pupils', 'organise and implement instruction in ways that optimises pupils' access to learning' and 'encourage pupils' engagement in academic tasks'. Student teachers take the initiative in choosing their learning goals, related to the goals of the courses and their own developmental needs. The pedagogical development course (PRC) gives the student teacher the opportunity to choose their own focus to study a specific topic in line with their learning goals. Should the student teacher decide to focus on a topic related to CM, the attention for CM could potentially be 100%. When the student teacher decides not to focus on CM, the attention could be 0%.

The PDS document describes extra-curricular workshops as part of the internship. These are formal meetings, offered by the educators and

experts in the school. Five workshops were planned: mentorship, inclusive education, street culture, parental meetings and the preparation for job interviews. More specifically, the first three workshops relate to CM learning topics.

The peer coaching meetings are also described in the PDS document. During these meetings, the student teachers discuss internship issues they encounter with their fellow peers. No topics are specified in the document, CM is potentially a topic of discussion if it emerges from students' needs or concerns.

To conclude, a fair amount of CM focus is intended in the first half of the teacher education curriculum (years one and two), which mainly takes place at the teacher education institute. Topics mentioned relate to the components 'develop a caring and supportive relationship with and among pupils' and 'organise and implement instruction in ways that optimises pupils' access to learning' (Evertson & Weinstein, 2006). In documents describing the second half of the intended curriculum, the topic of CM is not explicitly mentioned once, but may emerge as a potential topic depending on student teacher needs.

2.4.3 The intended curriculum according to the teacher educators

In the interviews the focus was primarily on mapping teacher educators' *ideals* behind the CM attention in the workplace learning curriculum. According to all teacher educators, CM should be an important focus of the internship part of the curriculum and the core of fourth year student teachers' learning.

Participants were asked to define the rationale for CM in the curriculum. They all seemed to have a definition of CM in the workplace curriculum, in which they mainly outlined and connected the components 'develop a caring and supportive relationship with and among pupils' and 'organise and implement instruction in ways that optimises pupils' access to learning'.

For example, Paul stated that the content of CM is *"everything teachers do to facilitate the learning of their pupils. There is an organisational component, but it is aimed at pupils' learning, so what actions should you take as a teacher to ensure that your pupils learn? The answer to that question is all you need to take into account concerning CM."*

Mark: *"CM is everything you can use to make things run smoothly. From curriculum, using models, activating prior knowledge, up to and including measures to maintain order. There is something technical, organisational, but there is also something mental, you need to have the experience to get control."*

Interestingly, only one teacher educator mentioned subject-pedagogical skills as a CM principle. All others emphasised other CM components.

Three teacher educators explicitly described the main aim of CM competence development for the final year of teacher education: *"The aim is to make 4th year student teachers, beginning teachers, who can teach unsupervised and independently."* (Eline).

Paul: *"Ultimately, he must be able to independently facilitate the classroom climate for his pupils, in which learning can take place."*

Theo: *"A student teacher who graduates should be able to act appropriately, using different ways of teaching, and if a method does not work, he must be able to switch to something else. It is important to have a repertoire. And to show exemplary behaviour, provide structure and clarity. First working on the relationship with pupils, then performance."* Interpersonal teacher skills are the key here, as these statements show.

As described in the document analysis, the student teachers were free to choose their competence development topics in the fourth year. This means student teachers need to be able to self-regulate their CM learning, to some extent. *"A 4th year student who is starting out must be able to look at themselves, at their strengths and weaknesses. And they should know what they need to work on. This implies self-knowledge, and the attitude and skills to be aware of their role in CM processes and acting accordingly."* (Judith)

Also, various workshops were organised by the teacher educators, in order to promote student teachers learning, for tasks closely related to CM: *"the workshop street culture gives student teachers more insight in the population they actually have in their classrooms."* (Herman)

Another interesting point of view regarding CM learning aims was something Mark noted:

"A school is a learning community, everything happens there and you can't participate as a loner (..) we are all responsible for the well-being of all pupils (..) If you are separated from the rest, you are no longer an integral part of a whole. Therefore, we need to work together to manage the classrooms, and the school as well."

In this view, the aim was connected to the topic of SWPBS, which means that teachers are not only responsible for CM in their own classroom, but also for maintaining and upholding CM agreements within the whole school.

As for the content of CM learning, all teacher educators mentioned the component 'use appropriate interventions to assist pupils with behaviour problems', as an important component. They mentioned that their student teachers have had challenges with typical CM situations and dealing with

disruptions and pupils' behaviour. Herman described this as follows: *"Dealing with disruptions is what all students' questions are about. This is what concerns them, makes them insecure, but also what makes them learn."*

Concerning principles for teacher education, according to teacher educators, CM is best learned by simply engaging in the act of teaching: *"As a teacher you only learn how to deal with CM challenges in the classroom. I don't think you can learn that solely by studying literature. CM is often a kind of intuition. It is a feeling, in finding out what suits you best. And by doing so they get more experience and add to their repertoire of CM strategies."* (Mark)

Four educators explicitly indicated that student teachers need to have a sufficient amount of theoretical knowledge regarding CM: *"(..) in the 4th year, student teachers should have obtained theoretical knowledge about educational psychology, social-emotional development, learning problems, sociology etc."* (Theo)

This fundamental knowledge is needed for student teachers to act based on established principles, *"steps in handling disruptive behaviour"*, as five educators explicitly described.

The teacher educators all seemed to argue CM is a multi-level phenomenon, in which some components, such as establishing constructive relationships with pupils and using preventive strategies, are conditional to others, such as enforcing rules or procedures and organising classroom learning processes.

2.5 Conclusion and discussion

The focus of this research was on mapping the attention for CM in the intended teacher educational curriculum of one teacher education programme in the context of one PDS network. More specifically, the research question of this study was: what does the intended (PDS) school-based part of the curriculum concerning CM look like in terms of the written curriculum and curriculum as preferred by teacher educators, and how does it compare to the theoretical curriculum?

It was striking that in the both editions of the *Handbook of Classroom Management* (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015) some of the CM components received much more attention than others, such as 'promote the development of pupils' social skills and self-regulation' and 'use appropriate interventions to assist pupils with behaviour problems'.

A potential explanation could be that the Handbook of Classroom Management was mainly written for educational researchers, and only to some extent for teacher educators and (experienced) teachers. As such, the topics may reflect more a trend in research focus, rather than suggesting a specific attention for CM in teacher education. It is striking, though, that only two chapters explicitly focused on how (student) teachers learn to become good classroom managers (Jones, 2006; Stough & Montague, 2015), and that only a limited number of chapters explicitly provided suggestions for teacher education.

As for the written curriculum, in the studied teacher education programme only limited CM attention was found and related mainly to the components 'develop a caring and supportive relationship with and among pupils' and 'organise and implement instruction in ways that optimises pupils' access to learning'. Nevertheless, due to the design of the curriculum, student teachers were given the opportunity to focus on CM, should they choose to do so.

In contrast with the written CM attention, educators seemed to value the component 'promote the development of pupils' social skills and self-regulation' and 'use appropriate interventions to assist pupils with behaviour problems' more, and gave less attention to the other components.
Teacher educators confirmed the attention drawn to the various components of CM that were found in literature. However, teacher educators spoke more holistically about CM, while the literature was more analytic. A fair conclusion would be that there is a discrepancy in perspective between theory and practice, even within teacher educators at universities. Nonetheless, there is a discrepancy between what is known from literature, and how this relates to the written curriculum. There is also a discrepancy between teacher educators' views of CM and the theoretical definition and content of CM. Overall, most attention was drawn to the components 'develop a caring and supportive relationship with and among pupils', 'promote the development of pupils' social skills and self-regulation' and 'use appropriate interventions to assist pupils with behaviour problems'. As a consequence, for the empirical perspective these components seemed to be the core definition of CM, both from the theoretical and the preferred curriculum perspective.

Finally, no clear distinction was found between what should be part of the school-based part of the curriculum and what of the institute-based part. More or less, it seemed that foundations and concepts should be laid during the institute-based part (often earlier in the curriculum) and application of these foundations and concepts should take place during the school-based part. The consequence of organising it in this way, is that there is no integration between the theory from literature, taught at the teacher institute, and practice in the classroom at the internship

school. However, no indications were found for content that would belong better in either part, nor were indications found for the proposed amount of practice and application, the degree of supervision and peer coaching needed.

Furthermore, this study showed that educators stated the importance of CM, as their student teachers had a lot of problems in the field of CM. On the other hand this study showed that no CM guidelines, content and/or sequence in CM learning was structurally embedded in the curriculum. So, the teacher educators needed to support student teachers with their CM questions and struggles without theory or principles about CM available from the curriculum. Therefore, more research is needed to find out what kind of CM content can be helpful to support student teachers for their CM learning during the internship part of their programme. As for the teacher educators it is important to understand how student teachers learn from their CM related experiences, as CM seems to be a frequently emerging topic, in order to better be able to coach them during the internship.

Implications and limitations

Based on the finding that CM attention in the written curriculum is limited, yet regarded as important by both the literature and teacher educators, it is recommended to pay more explicit attention to CM in the teacher (workplace) written curriculum.

During the interviews, educators had a practical view on student teachers' competence development as part of the internship, as they recognised CM in practice, but did not fully take CM into consideration from a theoretical point of view. However, they underlined the importance of CM for their student teachers, and noted that many student teachers struggle to maintain good CM. Hence, I strongly recommend constructing a CM knowledge base throughout the whole curriculum, especially for the internship part. I also recommend the teacher education institute to initiate a dialogue among teacher educators, in order to discuss what theoretical knowledge is necessary to implement in the curriculum. To study the theoretical curriculum of CM both handbooks of CM were selected. As described in the method section these books describe the history, research and actual developments in CM. However, this choice might be arbitrary. In handbooks usually the status-quo in research is reviewed. The CM database is subject to annual changes and therefore some recent developments might be missed in this selection. Furthermore, however inspired by various international authors, there is an emphasis in the handbooks on US sources, because of the tradition in research on CM in the US and since some of the leading authors in this field are from the US.

In this study, the CM components by Evertson and Weinstein (2006) were used as categories to elaborate on the data in more detail. Although this was an academic definition of CM, it was helpful in terms of getting an overview and comparing the different curricular forms. While the definition was helpful to determine more specific topics per component, more specification was needed in order to categorise the data. This is particularly important to prevent having multiple understandings of the components. However, I fully agree with Evertson and Weinstein (2006) that all the five components are important for CM. But do they all need equal attention in teacher education programmes? And what should be taught during initial teacher education, and what can be taught during the induction period, after student teachers graduate and start their jobs as qualified teachers? In other words, a point of discussion is the priority of the five components, and perhaps even their sequencing within teacher education and beyond (during the initial teaching years). I think that all components are essential to master, but some components are more essential to focus on because they are more conditional in terms of creating basic teacher essentials for other aspects (Shuell, 1996).

This article was the first step in studying the attention for CM in the teacher education internship. The focus on the intended curriculum was unique in its in-depth analysis including both the theoretical as well as the written and preferred curriculum. Prior studies mainly focused on the importance of CM attention in teacher curriculum (e.g. Hammerness & van Tartwijk, 2011). However, the focus on the intended curriculum is also a limitation as this study did not make a connection to the implemented and attained curriculum. These latter phases are rather crucial in how the elements of the intended curriculum relate to the teaching practice or learning and learning outcomes. Indeed, Thijs and van den Akker (2009) argue that there is often a lack of coherence between these phases due to the differences in preferences by teachers and needs of learners in the other curriculum phases (Thijs & van den Akker, 2009). Furthermore, as very little is known about how CM is learned by student teachers, and more specifically how student teachers' prior CM experiences in earlier stages of their education lead to mastering CM during their internship or how they develop this competence during the final stage of their education, more research is needed, focused on the attention of CM on the implemented and attained CM curriculum.

Therefore, future research is needed to find out how the CM intended teacher internship curriculum relates to the implemented and attained curriculum. This will be the next study of the research, in which the focus will be more on student teachers and their pupils' perspective. For studying the implemented curriculum it is important to interview both the teacher educators and student teachers, and collect all curriculum documents, such as portfolios, reflection documents etc. As for studying the attained curriculum it is important to analyse the portfolio documents

and to interview both the student teachers and teacher educators. Also, setting out the Questionnaire of Teacher Interactions (Wubbels et al., 2006) at the beginning and end of the internship in two or more classes, will give information about the growth in terms of student teachers' competence development. Such research could uncover consistencies and differences between the various curricular forms and between different perceptions on the curriculum of the different actors involved.

As indicated in the introduction of this article, CM competence development is a topic of international interest, with many researchers discussing both the importance of this topic and the lack of attention for it in the teacher education curriculum (van Tartwijk & Hammerness, 2011; Stough, 2006; Wubbels, 2011). This study contributes to international line of research by mapping the desired content for CM in the teacher education curriculum via the establishment of a knowledge base, using a framework of CM thematic categories. The analysis of the literature is relevant and useful for teacher educators and researchers to think about and discuss what topics should be part of the teacher education curriculum. This study is also unique in comparing the theoretically desired content with the preferences of teacher educators. By showing differences between both aspects, the study shows that it is important to make the preferences of teacher educators explicit, and discussing whether these differences are problematic or not. Given the international evidence on the presence of CM issues by beginning teachers and problems of teacher education institutes addressing it, the findings and implications are of broad value. Also, the study is illustrative for the gap between theory and educational programmes, as argued by Freeman et al. (2014). In future follow-up studies, the focus should be on investigating how the preferred or intended CM curriculum as investigated in this study is related to the implemented and attained curriculum in the teacher education internship, as even less in known about how CM is implemented and learned during the internship.

CHAPTER 3

Student teachers' classroom management learning process and outcomes during the internship

Abstract

This exploratory study investigated the process of student teachers' CM competence development and its resulting outcomes in the context of professional development schools. Curriculum assignment output of four student teachers was analysed, and the student teachers, their school-based and institute-based teacher educators were interviewed. The learning process of the student teachers for CM was reconstructed in terms of (self-regulated) learning, the role of others and (un)planned (learning) activities. Also, student teachers' goals and learning outcomes were investigated. The results showed that student teachers' CM goals and outcomes mainly focused on creating healthy teacher-pupils relationships and were only marginally different. However, large variation was found in their learning processes, especially in terms of taking initiative for their own learning, the systematic approach to learning and the use of resources. Moreover, results showed the crucial role of teacher educators and theoretical knowledge for student teachers' CM learning during their internship.

3.1 Introduction

Classroom management (CM) is a core (student) teacher competence (Emmer & Stough, 2001; Oliver & Reschly, 2007). Effective CM results in productive teacher – pupil relationships and higher cognitive and affective pupils' outcomes (Hattie, 2009; Wubbels et al., 2015). As a result, CM should be one of the core topics in the teacher education curriculum (Evertson & Weinstein, 2006; Emmer & Sabornie, 2014). However, scholars have concluded that attention for CM in teacher education curricula is limited and that more attention is needed (van Tartwijk & Hammerness, 2011; Stough, 2006; Wubbels, 2011). Little is known about the role the school internship period plays in this development.

In the previous chapter the intended curriculum for CM in teacher education was studied, focusing on the school internship part. It was found that CM is likely to be undervalued by both teacher educators and student teachers themselves, since no specific CM goals were found in curricular documents. Nevertheless, the interviewed teacher educators argued that they emphasised CM content in their coaching of student teachers during their internship.

However, from this and other studies, it remains largely unclear how the intended curriculum is translated into an implemented and attained curriculum (Thijs & Van den Akker, 2009): intentions may not be implemented or attained, and results or implementations may not have been intended. Therefore, the implemented and attained curriculum for CM in the context of the school internship will be investigated in the present chapter. The implemented curriculum focuses on how the curriculum takes place and can be observed in practice. The attained curriculum concerns what has been learned, and to what degree the goals in the intended curriculum have been met (Thijs & Van den Akker, 2009).

The implemented and attained teacher education curriculum will be investigated in the context of professional development schools (PDS). The PDS is an intensified collaboration between teacher education institutes and secondary education schools, which aims to reduce the gap between theory and practice and where teacher education, research and professional development of teachers go hand-in-hand (Darling-Hammond, 2005; Helms-Lorenz et al., 2018). In a PDS, institutional courses are integrated in the context of the workplace while in non-PDS schools no teacher education curriculum components are taught in the school context. Supervising teachers at PDS schools also receive training from the university and obtain paid time from school management for student teacher supervision. Recent studies have provided indications that PDS contexts show better results in terms of student teacher development than non-PDS practice schools (Helms-Lorenz et al., 2018). The ambition of the present study is to map patterns of CM learning and

potential outcomes of CM learning during the student teacher internship in the context of PDS schools.

3.2 Conceptual framework

This study focuses on student teachers' CM learning during the school internship. In order to conceptualise the learning processes and outcomes, the three elements of constructive alignment (goals, activities/learning processes and outcomes) form the starting point (Biggs & Tang, 2011). Concerning the learning process, the learning curve (Huberman, 1989; Meijer, 2014) will be studied, as well as self-regulated learning and the use of theory, as they are interconnecting concepts (Tynjälä, 2008). Student teachers' CM learning outcomes contain the elements of competences (knowledge, skills and attitudes) and teacher-pupil interpersonal relationships (see Figure 3.1). Combined, the following five topics will be discussed in this section that were used to conceptualise the learning processes and outcomes: CM learning goals, learning curve, sources of learning, self-regulated learning and CM learning outcomes. Below, these concepts will be elaborated more in detail.

Figure 3.1

Conceptual framework of this study
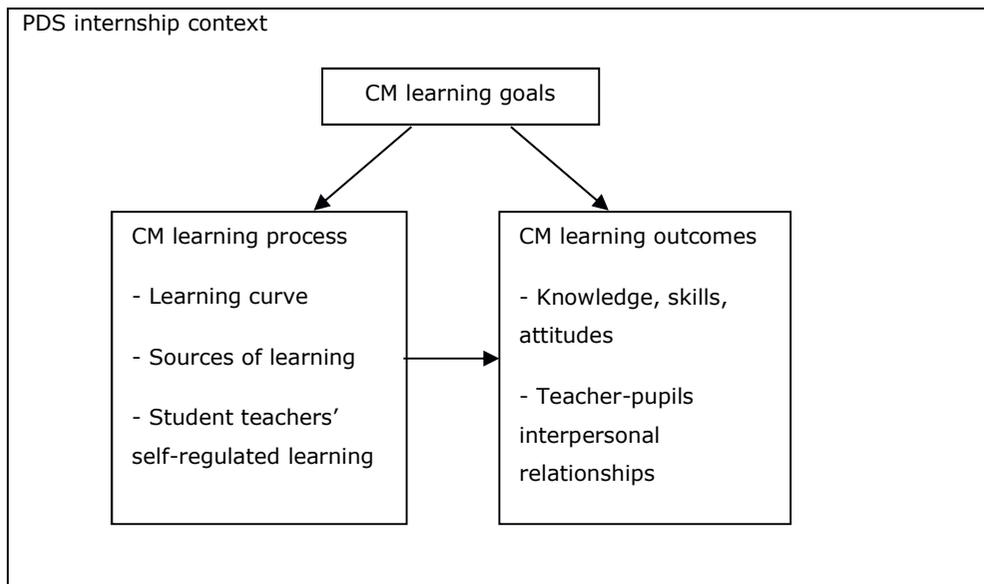
3.2.1 CM learning goals

The goals student teachers formulate for their internship can be related to CM. As discussed by Hammerness (2011), CM has no universally agreed definition. In line with prior research (Korpershoek et al., 2016; Girardet, 2018) the definition of CM by Evertson and Weinstein (2006) is regarded as a broadly shared definition, and, for this study, the basis to categorise the goals and outcomes of student teachers' CM learning. In order to attain high quality CM, Evertson and Weinstein (2006) distinguish between five elements: (1) establishing interpersonal relationships with and among pupils, (2) optimizing pupils' access to learning, (3) encouraging pupils' academic engagement, (4) developing pupils' social skills and self-regulation and (5) intervening when behaviour problems occur.

3.2.2 Learning curve

Student teachers experience their internship as a high-impact period for their competence development, commonly characterised as a transformative process (Leeferink et al., 2015). During this process, student teachers tend to start their internship rather positively and find themselves disillusioned after some time (Moir, 2002). This first period is known as the 'survival' period, mostly related to CM (Huberman, 1989). Meijer (2014) states that the 'crisis' which is part of this first period, is a rather fundamental phenomenon people experience during impactful changes in their professional career. Usually, after a few weeks or months, this crisis period will come to an end and student teachers will find themselves in a more stable period of 'rejuvenation'. In this period student teachers 'reinvent' themselves as teachers (Moir, 2002). The 'learning curve' as described here will be used in this study to understand patterns or phases in student teachers' learning processes.

3.2.3 Sources of learning

Lecat et al. (2019) made an overview of the sources student teachers use for their learning during their internship, mentioning learning from others, non-interpersonal resources and from oneself. Learning from others may consist of (Lecat et al., 2019): speaking to colleagues (seeking feedback), talking to other people / non-colleagues (for instance people in the student teacher's personal domain) and observing colleagues' lessons. Learning at the workplace, as is the case during the internship, is often more contextual and collaborative than learning in traditional learning settings at the teacher education institute (Tynjälä, 2008). One may learn much from social interactions with colleagues and others at the workplace

(Christensen, 2013; Marsick, 2009), and includes support and feedback from educators, colleagues and peers (Järvelä et al., 2008).

The second type of source is learning from non-interpersonal resources with as typical learning activities (Lecat et al., 2019): reading (seeking information in a book), or getting input from sources at the teacher education institute. For the present study, it is important to emphasise the key role of theoretical knowledge that students mostly receive at the institute. Sjølie (2014) argued that most student teachers use 'theory as a perspective' to make practice explicit, for example to justify choices. Theory can also expand one's horizon, raising awareness or give new understandings. Furthermore, theory can be seen as 'prescriptive for practice', in which theory can for instance provide specific insights or advise. Finally, 'theory as foundation' can structure and enrich professional and practical knowledge, form a scaffold for teachers and can play an important role in the development of professional expertise.

In addition, Sjølie (2014) argued that student teachers' relationship to theory could be described as ambivalent. Student teachers understand that teacher education provides them theoretical insights which should be helpful for their acquisition of professional skills. On the other hand, Sjølie (2014) found that student teachers do not experience pedagogical theory as a novelty, but an articulation of what they already know. In that light, some student teachers in her research, seemed to denigrate pedagogical theory.

The third type is learning from oneself (Lecat et al., 2019), with potential learning activities: trial and error (trying things out in the classroom), learning by doing, and reflecting (analysing learners' own work). Learning from oneself is rather familiar and common practice in teacher education (e.g. Korthagen, 2014). The three sourses of learning will be used in this study to label the activities in student teachers' learning process.

3.2.4 Student teachers' self-regulated learning

As a form of workplace learning, learning during an internship can be typified with four characteristics (Kyndt & Beausart, 2017; Jacobs & Park, 2009): the context and the role of others such as educators and colleagues (already elaborated in the introduction and previous paragraph), the planning of learning and the active role of the learner.

Looking at the active role of the learner, Eraut (2000; 2004) argued that learning can be deliberative, reactive or implicit. Deliberate refers to planned learning, for which goals are defined. Reactive learning is unplanned and unintentional. Implicit learning is unintentional and unconscious.

Although learning is often unplanned, student teachers have to plan their own learning process because of the freedom and responsibility they get as student teachers in the context of their practice school. Self-regulated

learning (SRL) is therefore a crucial element in student teachers' learning (Butler et al., 2004; Clarke & Hollingsworth, 2002).

Focussing on SRL of student teachers, Endedijk et al. (2012) combined planning of learning and the active role of the learner. They distinguished the way student teachers' planned their learning from the extent of learners' proactivity, and found two dimensions of student teachers self-regulation: (a) passive or active regulation, and (b) prospective or retrospective regulation (based on Pintrich, 2000; Zimmerman, 2000). Active regulation implies that the student teacher makes considered choices in relation to the learning goals and strategy, and reflects profound on what is learned, the learning process and the own role. When there is a lack of argumentation by the student teacher, this regulation is passive. As for the second dimension, in prospective regulation, the student teachers actively choose learning goals and strategies. In retrospective regulation, a learning experience is often unplanned, in which no active regulation took place.

The extent to which student teachers' plan their learning and are proactive is a key focus in this study.

3.2.5 CM learning outcomes

In typifying the content of the CM learning outcomes the researchers involved in this study again use the elements of Evertson and Weinstein (2006), as described above. Since the previous study (and other studies) showed that teacher-pupil interpersonal relationships – the first element of Evertson and Weinstein - play a central role in the student teacher period, the present study puts extra focus on this element. Wubbels et al. (2006) claim that this element is conditional for other teacher competences. In their research, they used the Model for Teacher Interpersonal Behaviour and the Questionnaire on Teacher Interaction (QTI), which is a widely accepted and commonly used instrument to measure student teachers' CM competence at most teacher education programmes in the Netherlands (Wubbels et al., 2015). The model consists of two dimensions: (1) the control or agency dimension, measuring the degree of influence of the teacher, and (2) the proximity or communion dimension, measuring the degree of warmth versus interpersonal distance between teacher and pupils (see Figure 3.2). The questionnaire measures how pupils perceive the dimensions in terms of teachers' behaviour.

Figure 3.2

The Model for Interpersonal Teacher Behaviour (or Teacher Interpersonal Circle), (Pennings et al. 2014)
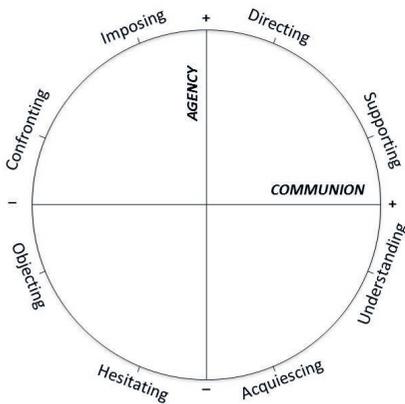
Based on the dimensions and sectors eight teacher profiles can be distinguished: Directive, Authoritative, Tolerant-Authoritative, Tolerant, Uncertain-Tolerant, Uncertain-Aggressive, Drudging, and Repressive (Wubbels et al., 2006). The most common profiles for student and beginning teachers are: Directive (classroom is well structured and task oriented), Tolerant (atmosphere is pleasant and supportive and pupils enjoy attending class) and Tolerant-Authoritative (these teachers maintain a structure that supports pupils' responsibility and freedom). Teachers' interpersonal styles are rather stable. Yet, different profiles can be found in different classes, especially with beginning teachers, and teachers might change from type to type during their teaching career (Brekelmans et al., 2005). The model and profiles are used in this study to more precisely map student teachers' CM learning outcomes in terms of the teacher-pupils relationship.

Research questions

The main research question of this study is: What does a student teacher's learning process, focussing on CM, and CM learning outcomes look like? This question is – based on the aforementioned theoretical framework – specified into the following six sub-questions:

- What does the student teachers' CM learning process look like in terms of goals?
- What does the student teachers' CM learning process look like in terms of their learning curve?
- What sources of learning contribute to student teachers' CM competence development?
- How can the process of student teachers' self-regulated learning concerning their CM development be characterised?
- What are outcomes of student teachers' CM competence development?
- What is the relation between student teachers' CM learning processes and outcomes?

3.3 Method

3.3.1 Context of the study

This study was conducted in the context of a PDS network and concerned students in the fourth and final year of their programme. During an entire academic year from September until June, student teachers worked in the context of their internship. They taught their own classes and performed tasks comparable to any other teacher at the school.

3.3.2 Participants

A group of 36 fourth year student teachers was selected, who had their internship at a PDS. Six student teachers suffered some delays during their internship, or even quitted their internship. Participation was on a voluntary basis. Six student teachers declined the research invitation. A wide range of valuable data was collected from the remaining 24 student teachers. As not much is known about how student teachers learn CM during the internship, the researchers involved in this study used an exploratory study design, and selected four student teachers as cases. Kevin, Anne, Nina and Isabel were selected because their documents were comprehensive and rich, and together showed a wide variety of CM learning. In the analysis, next to focus on the different components of the learning process and outcomes, in-depth focus was on finding patterns between process and outcomes.

3.3.3 Instruments

To study the learning process and outcomes with respect to CM, course assignment outcomes of students in the fourth-year curriculum were analysed, consisting of the professional development course (PDC), and the pedagogical research course (PRC). The PDC is the internship programme, in which student teachers worked on their competence development. For this course, student teachers presented their learning goals, process and outcomes in a portfolio. The PRC is a competence development research project with emphasis on the teachers' own role. Student teachers were free to choose their own research activities, such as experimenting teaching strategies in their classroom or observing and talking to others, for example their teacher educators, fellow peers, experts, colleagues, etc. The PDC was presented in a portfolio, the PRC was presented in a thesis, diary, blog or vlog.

In addition to analysing these course outputs, both the student teachers and their teacher educators were interviewed at the end of the internship. The student teachers' interview was based on the storyline method (Henze et al., 2009). Student teachers were asked to draw a line of their development of the classroom management competence(s) during the internship period and to place meaningful moments on it. The storyline was used in the interview as a starting point for questions such as: what happened during these meaningful moments, the relation to their CM learning goals, who was involved? To obtain an 'outsider view' of student teachers' learning, student teachers' school-based and institute based teacher educators, who were coaching the student teachers at the workplace, were interviewed. In the interview, they were asked how they coached their student teachers, what content they provided and how they perceived their student teachers' CM learning during the whole academic year.

Moreover, the QTI was distributed by student teachers in two of their internship classes twice during their internship, mapping their pupils' perceptions of their interpersonal teacher behaviour at the beginning and end of the internship. Via this instrument, student teachers' pupils answered 24 questions about the student teacher's interpersonal behaviour. In numerous studies, this instrument has shown to be reliable and valid (Wubbels et al., 2006; 2015). The QTI shows the development of student teachers' interpersonal competence, from the perception of their pupils.

An overview of the data sources is presented in Table 3.1.

Table 3.1

Overview of research instruments

Data source	Participant	Short description of content
Portfolio - professional development curriculum	Student teacher	General set of competences of student teachers' internship learning goals
Thesis - pedagogical research course	Student teacher	Competence development research project with emphasis on the pedagogical teachers' role
Interview	Student teacher	Interview, focussing on the learning process and outcomes inform the student teachers' perspective
Teacher educator interview	Teacher educator	Interview, focussing on the learning process of the student teacher from the teacher educators' perspective
Questionnaire on Teacher Interactions	Student teachers' pupils	Student teachers set out the Questionnaire on Teacher Interactions (Wubbels et al., 2006) distributed in two classes, at the start and end phase of their internship.

3.3.4 Analysis

As start of the analysis process, the researchers created a reconstructive picture of the CM learning process, by placing meaningful moments (as mentioned by the student teachers) and input from teacher educators on a timeline (see procedure above). This resulted in a description of the student teacher's learning curve.

Moreover, all relevant fragments found in student teachers' produced documents and the interviews were placed in a case matrix, in order to structure the information about student teachers' CM goals, sources of learning, self-regulated learning and CM learning outcomes (with participant in the columns and topics in the rows). The relevant fragments were subsequently labelled in terms of categories based on the earlier described theoretical framework.

As labels for the CM goals the five elements of CM by Evertson and Weinstein (2006) were used. The sources of learning were labelled using the distinction of professional learning activities at the workplace by Lecat et al. (2019): learning from others, non-interpersonal resources and learning from oneself. Moreover, the role of theory was labelled by the distinction of Sjølie (2014): theory as perspective, theory as prescriptive for practice and theory as foundation.

In line with Endedijk et al. (2012), fragments were coded in terms of 'passive/active regulation' and 'prospective/retrospective regulation'.

The outcomes of student teachers' CM focus were related to the main components of competence: skill, knowledge and/or attitude.

The interpersonal learning outcome was analysed using the eight profiles linked to the QTI (Wubbels et al., 2006; see theoretical framework section).

As for studying the relation between the process and the outcomes the data were first analysed within-cases. The researchers searched for patterns in the various variables, as described before. Next, data were analysed across cases, by comparing overall findings between the students. The entire analysis process was conducted and discussed by the involved researchers (consensus based coding).

3.4 Results

3.4.1 CM learning goals (focus) of student teachers

CM goals were identical for each of the four selected participants: they all focused on 'establishing interpersonal relationships with and among pupils'. Kevin's goal was to find a balance in positive relationships with and among his pupils to create a better learning atmosphere in his classroom. In addition, the goals of Anne, Nina and Isabel were also focused on 'intervening when behaviour problems occur'. Anne was focused on dealing with pupils' disruptions. Nina's goal was focused on finding pedagogical tools to reduce order disruptions. Isabel's goal was to find a better balance between being strict and friendly, to keep order in her classes.

3.4.2 CM learning curve

The reconstructed timelines gave an insight in similarities and differences in student teachers' learning curves. In the first months of their internship they had a comparable learning curve: a wave from the beginning of September until the autumn break, in which they familiarised themselves with their context, found a way how to relate to that context. Moreover, they were confronted with their CM ideals and beliefs in reality, which in

some cases led to incidents: conflicts with pupils, classes, colleagues and also with themselves. In the month before the Christmas holiday they all had a 'crisis', suffering from an overload of work in their school context in combination with their teacher education curriculum. They all felt that they made insufficient progress and had troubles in motivating themselves to write their portfolio.

The four student teachers reported that they experienced more stability after the Christmas holiday, they told they knew their pupils better, started to know the procedures and colleagues in their school, knew where to go to find a solution for problems and their pupils knew them better as well. As they obtained more practical experience in teaching, they felt that their teacher-pupils relationships improved and stabilised and they were able to distinguish strict or imposing behaviour from leading or steering behaviour (and hesitant behaviour from acquiescing).

There were also differences; Kevin, Nina and Isabel all reported a more or less continuous process, focussing on one topic/issue of CM all the time: As mentioned earlier, Kevin was focused on creating a positive relationship with and among his pupils, Anne's focus was on dealing with pupils' disruptions and Nina focused on finding pedagogical tools to reduce order disruptions. However, only Isabel in the beginning of her internship was specific in what she wanted to do and learn, which gave her stability and control during her learning process. The other student teachers needed at least a few weeks more to find out their particular focus.

Kevin's documentation of his learning process was in the beginning of his internship rather superficial. He knew he was struggling with the relationship with his pupils', but simply was not able to find the words to describe his challenges. After Christmas this became more specific and profound, as he received coaching and support by his teacher educators and colleagues. He also found ideas in literature to improve his relationship with his pupils in order to create a better learning atmosphere in the classroom. The same was true for Nina, who was reactive in the beginning, struggling with order disruptions and not able to find direct support that could improve her practice. After some time, around Christmas, she turned to a more active role and called in more support from others, teacher educators, peers and colleagues, which led to a more stability in the classroom and more focus in documenting her learning process in the second half of the internship. Interestingly, only Anne was learning via multiple cycles. In the first half of the internship she focused on maintaining order and reacting consistently to student (mis)behaviour, as this was an urgent issue in her classes. After the Christmas holiday, she gained more control over the class and shifted her focus to the relationship with individual pupils.

3.4.3 Self-regulated learning and the role of others

SRL of the four student teachers' CM learning could be typified in three ways: 'following/wait-and-see approach', 'searching and struggling' and 'systematic learning and enterprising.' The 'role of others' could be clearly linked to the extent to which a student teacher was self-regulatory. The more student teachers were self-regulatory, the less they depended on their teacher educators, and the more they were able to find other valuable resources at the workplace. In contrast, the less student teachers displayed self-regulatory learning, the more they depended on what others (e.g. their teacher educator) offered to them. In Table 3.2 some details of the SRL process are shown, and after the table the typification is described in more detail.

Table 3.2

Details of student teachers' SRL processes and the role of others

	Participant Kevin	Participant Anne	Participant Nina	Participant Isabel
Passive / active regulation	Reactive, follows what is offered by teacher educators	Searches actively for expertise and creates own learning activities	Looking around, observes, talks, reads, experiences, doubts and searches for information	In the lead, initiates contact with colleagues in practice school/teacher educators
Prospective / retrospective regulation	Process is not systematic, gained experience is largely unplanned and unconscious.	Consciously active in initiating and planning actions for learning	Searching for systematic learning, after Christmas this became more planned and focused	Works consciously towards learning goals
Role of others	Coach	Expert	Role model / Inspirator	Expert
Overall typification	Following and wait-and-see approach	Systematic learning and enterprising approach	Searching and struggling approach	Systematic learning and enterprising approach

Kevin's learning process could be characterised as passive learning, doing what was offered or organised by others, lacking own learner agency. According to himself and his teacher educator he was motivated but unable to structure his problems/learning in CM. Therefore, he needed a coach to give him insights and help him structuring his learning experiences.

Based on this the researchers involved in this study would typify Kevin's process as a 'following / wait and see approach'.

Nina's process was characterised by looking around in the school, observing other teachers' lessons, talking to people, reading literature and gaining experience in teaching and CM, contemplating and further searching. As a newcomer in the school, she needed some time to familiarise with the school context. She also worried about both her own and others' expectations when it came to her classroom management skills. Therefore, she struggled initially with her self-confidence, and as a result, it took up to the Christmas holiday to find any systematic structure in planning of her CM learning. Her teacher educator suggested she could learn from others by finding a role model, someone having similar teacher characteristics as Nina, but more experienced, offering Nina practical examples or suggestions of teacher behaviour. Based on this the researchers involved in this study would typify Nina's process as 'searching and struggling'.

Isabel and Anne's process was characterised by applying systematic approaches, by planning and organising activities with others (peers or colleagues). Both Isabel and Anne were enterprising in that they were proactive in initiating and planning activities. In addition, they always seemed to focus on the benefit of activities they engaged in and how these fitted in their learning process. With their specific focus on a CM issue/topic, they knew what information to search for more specifically.

Isabel and Anne were both eager to find expertise. Moreover, they were not only interested in getting practical examples or suggestions of teacher behaviour (like Kevin), or gaining theoretical insights, explanation or ideas (like Nina), but specific insights for specifying or underpinning their own teacher behaviour. Furthermore, in contrast to Kevin and Nina, both Isabel and Anne consulted many other colleagues at the workplace than just their school-based teacher educator, like Kevin and Nina tended to do. Based on this, the researchers involved in this study would typify Isabel and Anne's process as 'systematic learning and enterprising'.

3.4.4 The role of non-interpersonal sources

As for the aspect of 'learning from non-interpersonal sources', the participants in this study acknowledged and valued theoretical knowledge as an important element in their learning, claiming that it gave them perspectives and crucial ideas for their practice.

However, the student teachers differed in their use of theory. Kevin and Anne used theory as foundation. Kevin: *"(…) X mentions the self-determination theory as an descriptive tool which helps me to understand pupils behaviour in my classroom."*

Nina and Isabel used theory as prescriptive for practice, Anne did as well when she was halfway her internship. Anne: *"I struggled with involving pupils in the lesson. Lately I read X who argued that you should place pupils in smaller groups, give them individual responsibility which increases attention. I think I might try that."*

In addition, both Kevin and Nina explained the importance of the teacher educator as a form of using non-interpersonal sources. Nina: *"I think I really need a teacher educator to convert the theory in handbooks to the practice of the classroom."*

3.4.5 Learning from oneself

All student teachers learned from themselves, mostly by reflecting. They all seemed to prefer this to 'learning by doing' and 'trial and error'. Throughout their internship, all student teachers' documented their CM experiences, thoughts about what they did, about what needed to be developed, whom to consult, etc. These fragments typically looked like diary pages, one more in-depth and meaningful than the other, in a sense that some fragments described (only) daily processes, others also combined daily events with theory, input from others or links to previous experiences. Moreover, they all had in common that this was a consistent and persistent method in which they reconstructed their experiences.

An element of Isabel's and Anne's learning was their deep reflection. Like Kevin and Nina they kept a diary, in which they often used theoretical insights. However, Isabel and Anne referred more to their teacher educators and other colleagues who gave them insights or inspiration. In addition, they seemed to be aware of valuable, rather informal moments during their daily school routine: Anne: *"(…) in conversations with colleagues CM was one of the most discussed topics. Mostly, those conservations just came up while standing at the coffee machine, the printing room and during break time. I think, that was pretty valuable. These conversations always fit, because there is a particular need at that specific moment."*

3.4.6 Outcomes of CM learning

In Table 3.3, learning outcomes are summarised. As for CM outcomes, results showed that the learning outcomes of Kevin, Anne and Isabel could be described in terms of Evertson and Weinstein's component 'establishing interpersonal relationships with and among pupils'. Nina's CM outcome was related to 'intervening when behaviour problems occur'. Below Table 3.3, this will be described more in detail. At the start of their internship, the PRC research questions of the student teachers were mainly related to CM skills. At the end of their internship period, however, student teachers' outcomes of CM competence development related to knowledge (interpersonal teacher behaviour, CM procedure and pupils' social emotional processes), skills (consistency and interpersonal teacher style) and attitude (self-confidence, motivation and efficacy) (see Table 3.3).

Table 3.3

Details of student teachers' CM learning process and CM outcomes

	Participant Kevin	Participant Anne	Participant Nina	Participant Isabel
Process (in addition to Table 3.2)				
Learning curve	Continuous cycle	Multiple cycles	Continuous cycle	Continuous cycle
Reflection	Superficial	Deep	Superficial	Deep
Use of theory	Theory as foundation	Theory as foundation	Theory as prescriptive for practice	Theory as prescriptive for practice
Outcomes				
PRC research topics (CM goal)	How can I balance a good, positive relationship with and among my pupils, and create a better learning atmosphere in my classroom?	How do I deal with student disruptions in the classroom?	Which pedagogical tools can I use in my classroom management to reduce order disruptions?	How can I find a better balance between being strict and friendly, to keep order in my classes?
PRC research topics (CM goal)	How can I balance a good, positive relationship with and among my pupils, and create a better learning atmosphere in my classroom?	How do I deal with student disruptions in the classroom?	Which pedagogical tools can I use in my classroom management to reduce order disruptions?	How can I find a better balance between being strict and friendly, to keep order in my classes?

Table 3.3 continued	Participant Kevin	Participant Anne	Participant Nina	Participant Isabel
Knowledge (about)	Pupils' social-emotional processes	Strategies for interpersonal teacher behaviour / order problems	CM procedures (rules and regulations)	Strategies for interpersonal teacher behaviour
Skills	Found more balance between personal enthusiasm and showing consistent teacher behaviour, by keeping a positive climate.	Less (or more professional) communion, found balance between personal and professional interpersonal teacher behaviour.	More skilled in reacting consistently to student misbehaviour. Learned to maintain classroom boundaries by offering clear CM routines and structure.	Developed interpersonal CM strategies to create more proximity in teacher-pupils relationship. More active in conversation with (individual) pupils. Making rules together with pupils.
Attitudes	More self-confidence about own core CM values and presence in front of the class.	More secure in front of the class by maintaining procedures (rules and regulations).	Discovered what type of interpersonal teacher behaviour fits to personal style.	More self-confidence in maintaining both distance and closeness.

As for the outcomes of the QTI, Kevin's interpersonal profile in both classes became more similar. His behaviour seemed to be less hesitant, and more corrective, resulting in a Tolerant (-Authoritative) profile. Anne's QTI results in both classes differed over time. However, she became more friendly in one class and became more acquiescent in the other. The profiles in both classes differed, but both resembled the Tolerant profile the most. Nina's QTI results showed similar developments in both classes. She tended to become more corrective.

Interestingly, Nina developed a rather recognizable individual style, showing characteristics of both the Directive and Tolerant profile. The QTI's of Isabel showed a different development in both classes. She became less confronting and strict in one class. In the other class she became more corrective. Isabel QTI's differed over time, resulting in ultimately being Tolerant in one class and Tolerant-Authoritative / Directive in the other. Looking at the QTI outcomes, it is noteworthy that Kevin's and Nina's profiles in both classes looked alike and Isabel's and Anne's differed in both classes. This could suggest that Isabel and Anne were still struggling more to find a distinct style and were affected more by different classes, while Kevin and Nina already tended to act rather consistently in their classes.

3.4.7 The relation between the CM learning process and CM learning outcomes

As discussed in the results section there were similarities and differences in the four student teachers' learning processes and outcomes. As all student teachers made a considerable CM development, the outcomes showed some differences in what elements of competence development were dominant: the emphasis of Kevin's and Nina's CM outcomes was more on attitude development. Anne mostly developed her skills. Isabel's outcomes showed an integration of attitude and skills. However, outcomes of the QTI showed only minimal differences between the student teachers. Therefore, it seems that outcomes overall were relatively similar, suggesting that different learning processes only led to marginally different learning outcomes.

3.5 Discussion

3.5.1 Conclusion and theoretical implications
This study explored the research question: What does a student teachers' learning process focussing on CM, and CM learning outcomes look like? While the four student teachers in this study focused on relatively similar CM goals (e.g. creating a healthy interpersonal relation with their class) and reported similar learning outcomes (more knowledge of teacher and

pupils' behaviour and CM procedures, more confidence in maintaining order, more skill repertoire in dealing with classroom disruptions), the researchers involved in this study found a large variation in learning processes related to CM. This variation concerned both planned and self-regulated learning, as well as unplanned and supervised learning. While these processes concerned CM learning in the present study, these results are in line with research related to student teachers' learning more in general (Endedijk et al., 2012; Meijer, 2014). Furthermore, the attention for CM during student teachers' internship was larger than described in the previous chapter. With respect to student teachers' CM competence development, the results suggest a broadening of their knowledge base, and strengthening of their skills and attitudes. Concerning student teachers' knowledge and skills, most attention was on the interpersonal aspect of CM, which is in line with Wubbels et al. (2015) and Evertson and Weinstein (2006). Interestingly, the other elements of Evertson and Weinstein's definition did not occur as core focusses of student teachers' CM learning. A possible explanation for this is that student teachers' interpersonal challenges are so urgent that it needs their immediate attention before they can develop other teachers skills (Wubbels et al., 2015).

Interestingly, regarding the development of student teachers' attitudes, outcomes seemed to relate to their professional growth in terms of self-confidence and discovering personal style. The outcomes, in particular the outcomes of the QTI, seemed to indicate that student teachers showed in the development of their interpersonal behaviour less anxiety, more self-efficacy, more comparable behaviour in different classes and more stable interpersonal teacher behaviour at the end of their internship (in line with Wubbels et al., 2015; Brekelmans et al., 2005).

Furthermore, the more student teachers displayed self-regulated learning, the more they seemed able to integrate theoretical and practical issues in their process. This led to deeper learning, which means that student teachers developed more often a meaning-oriented learning pattern in which SRL is accompanied with meaningful processing activities and intrinsic motivation (Oosterheert & Vermunt, 2003). Clearly, this needs more research, but this seems to be an outcome of this study. Another finding in this study was that student teachers' self-regulated learning was interconnected to learning from others. Moreover, student teachers who scored high on SRL made more explicit use of meaningful sources. Student teachers who scored rather low on SRL were less able to make their learning explicit, and need others, such as their teacher educators in order to do this (Oosterheert & Vermunt, 2003). The distinction of SRL of Endedijk et al (2012) was helpful in finding patterns in student teachers' processes of SRL. However, the researchers involved in this study noticed a large role for theoretical knowledge and teacher

educators, leading to different terminology in comparison with Endedijk et al. (2012).

In the present study, both theory and teacher educators played a crucial role in student teachers' learning processes. This finding regarding theoretical knowledge contrasts with the work of Sjølie (2014), who found that student teachers undervalue the role theory plays during their internship and did not appreciate pedagogical theory as 'real theory' and merely something they already knew. Teacher educators were in this study described as important for being a source of expertise and a role model. This might suggest a larger role than being a coach and supervisor, as argued for instance in the Handbook of CM by Jones (2006). Moreover, they were important in giving feedback and bridging the gap between theory and practice. Furthermore, the role of theory was important for student teachers' learning since in particular 'theory as foundation' and 'prescriptive for practice' were without exception dominantly present in all the reconstructed student teachers' learning processes. The role of theory was argued by student teachers as rather crucial for both understanding their practice as well as for giving them ideas to improve their CM issues. A plausible explanation might be that the student teachers in this study were in their first full academic year of teaching experience. They were confronted with their CM (especially with previous internship experiences), and for the first time had to find their own ways of support. In that perspective, theory and teacher educators were obvious, but relevant, (re)sources in student teachers' learning-to-teach process (Zanting et al., 2003).

3.5.2 Implications for teacher education practice

The outcomes of this study confirmed expectations and remarks made in the previous study by teacher educators who emphasised the importance of CM during the internship (see previous chapter). Furthermore, the researchers involved in this study found that, despite differences in learning processes and outcomes of student teachers, that the role of theoretical knowledge and the teacher educators must not be undervalued. These emerged as core elements in the successful trajectories of CM competence development of the student teachers in this study. For student teachers, both these roles were crucial, and fundamental in understanding their own practice and their challenges in terms of both their CM competence and their CM professional identity and in finding answers and exemplary strategies for their CM issues. Teacher education institutes need to think about how they empower the role of theory and teacher educators in order to support student teachers' CM during the internship.

Furthermore, teacher educators should stimulate student teachers' initiative and pro-activity in order to improve their SRL as this seemed to be a crucial factor in student teachers' learning of CM. When student teachers are more 'systematic and enterprising' they are less dependent on others, are more able to make meaningful experiences explicit which could both have a positive effect on their CM, since personal factors as self-confidence, motivation and efficacy were found as outcomes.

In addition, the role of others and the use of theoretical knowledge were seen as key elements in student teachers' learning of CM. Regarding the use and variety in these elements, student teachers seemed to differ. Teacher educators should take into account the value of using theory and others, but also the potential differences in student teachers learning, by staying closely involved and informed in the daily process of student teachers' learning.

Finally, teacher educators should be more aware of student teachers' learning curve. This study has shown that the student teachers showed both similarities and differences in their learning process. By following this process accurately, teacher educators could be more able to offer 'tailor-made' support. Moreover, teacher educators should consider what to offer in terms of theoretical knowledge and teacher educators' support and coaching in the beginning of the internship, in the run to the Christmas holiday. However, it depends on student teachers' preferences and styles what they need at what particular moment. Although more research is needed to unravel these processes of student teachers' CM development during their internship, the roles of theoretical knowledge and teachers educators seem crucial in student teachers' classroom management competence development at the workplace.

3.5.3 Limitations and opportunities for further research

In this study, there were two main limitations. First, the researchers involved in this study studied the learning process of only four student teachers. This limited number of students already gave insight into a rich and large amount of data, but also led to challenges in analyses. More research is needed, focused on more student teachers, to study if certain patterns apply to larger groups, what differences exist between them and what kind of roles teacher educators and theory precisely play. The second limitation was the context. This study was conducted in one particular context, involving student teachers from one university of applied sciences in the Netherlands. There is no reason to believe that this context differs from other contexts of student teachers' learning during the internship. Unknown, however, is to what extent these outcomes apply to student teachers' learning in different practice school

contexts, for example non-PDS schools or (often much shorter) academic university teacher education internship trajectories.

As student teachers' CM competence development was the main focus of this study, the question arises whether this learning process is comparable with the development of other competences at the workplace, for example the development of student teachers' pedagogical content skills? While the findings do seem to suggest this, as they to a considerable degree resemble processes described more in general elsewhere (see previous section), for future research, it would be interesting to map other competence areas to complete the picture of student teachers' competence development during the internship.
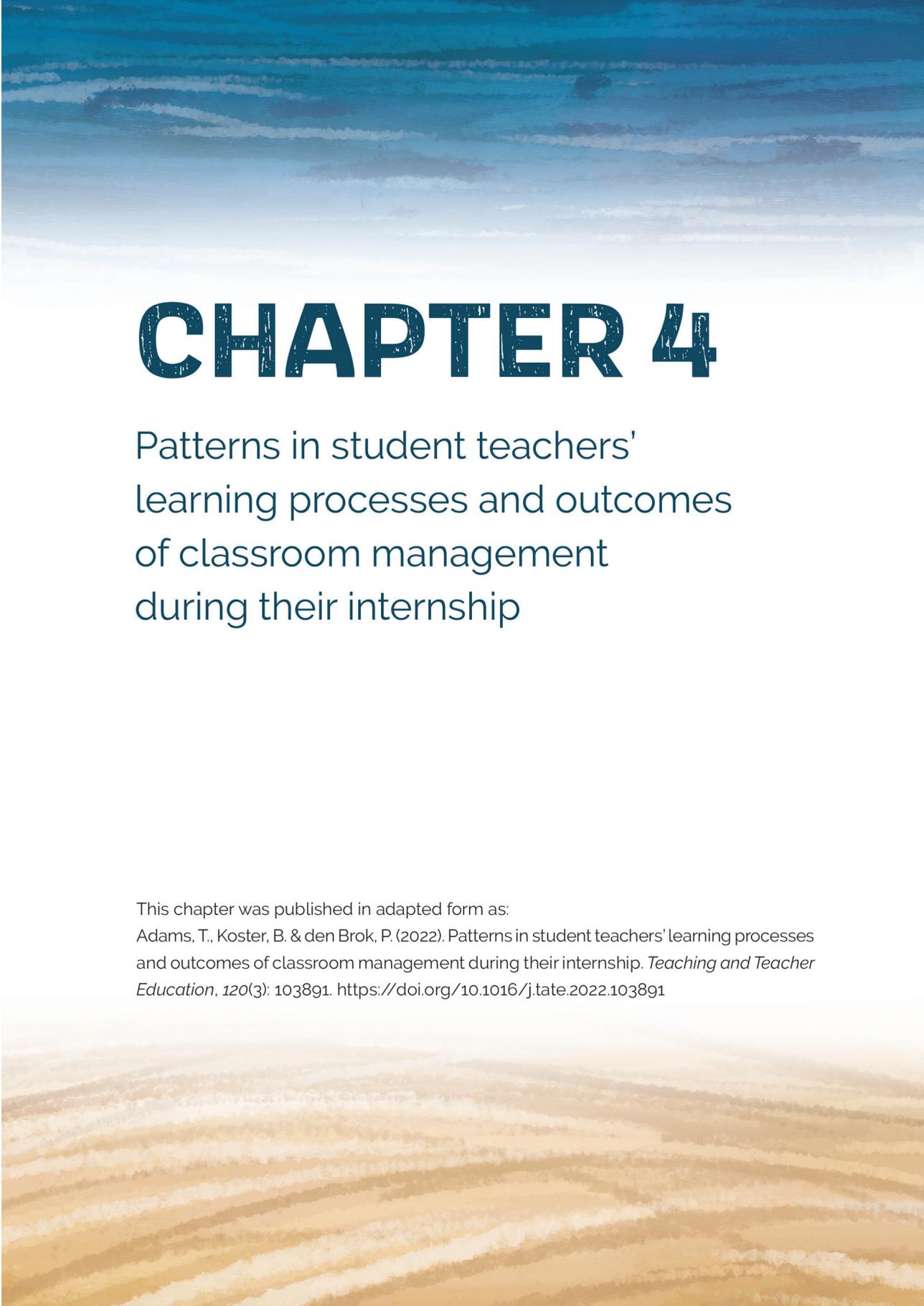
CHAPTER 4

Patterns in student teachers' learning processes and outcomes of classroom management during their internship

Abstract

Student teachers' classroom management (CM) learning is an important aspect of their teacher education internship. What is still unknown, however, is what the effect of workplace learning is on this development. This study focused on CM learning of 24 student teachers during their internship, looking at their CM goals, CM learning processes, the CM learning outcomes and the interrelationships between these.
Four patterns of student teachers' CM learning processes were found. Moreover, student teachers showed attention for a variety of different CM elements in their learning goals. Similar CM outcomes in terms of knowledge and skills were found in the four patterns. Concerning attitude as an CM outcomes, one statistically significant relation was found between CM learning profile and attitude as a learning outcome. Furthermore, student teachers developed their attitude in terms of 'motivated to develop their of (non-) verbal communication and teacher behaviour'.

4.1 Introduction

Various researchers have emphasized the importance of classroom management (CM) for (student) teachers learning (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015). CM is seen as a core competence for (student) teachers (Emmer & Stough, 2001; Oliver & Reschly, 2007). Furthermore, it is known that effective CM has a significant impact on teacher-pupil relationships and affects pupils' cognitive and affective learning outcomes (Hattie, 2009; Wubbels et al., 2015). However, attention for CM in teacher education curricula is limited and, therefore, researchers argue for more focus on CM in teacher education (van Tartwijk & Hammerness, 2011; Stough, 2006; Wubbels, 2011).

Looking at the practice of teacher education, not much is known about the role of the school internship in CM learning (Stough & Montague, 2015). Much of what is written about CM learning during the school internship concerns the importance of the internship in gaining CM experience and the needs student teachers have (Stough et al., 2006; Oliver & Reschly, 2007), and on the congruence between the internship and teacher education coursework (Jones, 2006).

In a broader sense, research shows that student teachers' learning in professional development schools (PDS) during their internship, may have a positive effect on student teachers' learning outcomes (Darling-Hammond, 2005; Oliver & Reschly, 2007). As the PDS is an intensified collaboration between teacher education institutes and secondary schools whereby, for instance, teacher education courses are integrated in the context of the workplace, student teachers get practical classroom experience and receive supportive feedback. What is still unknown, however, is what the effect of workplace learning within a PDS is on student teachers' CM learning and to what degree this differs between student teachers (Helms-Lorenz et al., 2018; Stough & Montague, 2015). Therefore, the present study focuses on finding patterns in student teachers' CM learning, looking both at the process and outcomes as well as the relations between these elements. Finding an answer will improve teacher educators and researchers understanding on how student teachers learn CM as a competence during their internship. Potential outcomes will give teacher educators and teacher education institutes more insights in how to improve CM learning during the internship, and to anticipate on student teachers' CM learning needs during their teacher education program, both at the teacher education institute as well as the practice school.

4.2 Conceptual framework

In order to conceptualize student teachers' CM learning processes and CM learning outcomes, the three elements of constructive alignment (learning goals, learning processes and learning outcomes) form the starting point of the conceptual framework (Biggs & Tang, 2011). In the conceptual framework, the PDS internship context is the place student teachers' learning took place (see Figure 4.1). Concerning learning goals, student teachers' attention for different CM elements will be explored. Regarding the learning process, the use of theory, the role of teacher educators and student teachers' self-regulated learning will be studied, as they are interconnecting concepts of a learning process (Tynjälä, 2008). Then, CM learning outcomes will be studied specifically to look at teacher-pupil interpersonal relationships and student teachers' learning in terms of knowledge, skills and attitudes. Each of these topics will be more explained in detail below.

Figure 4.1

Conceptual framework of this study
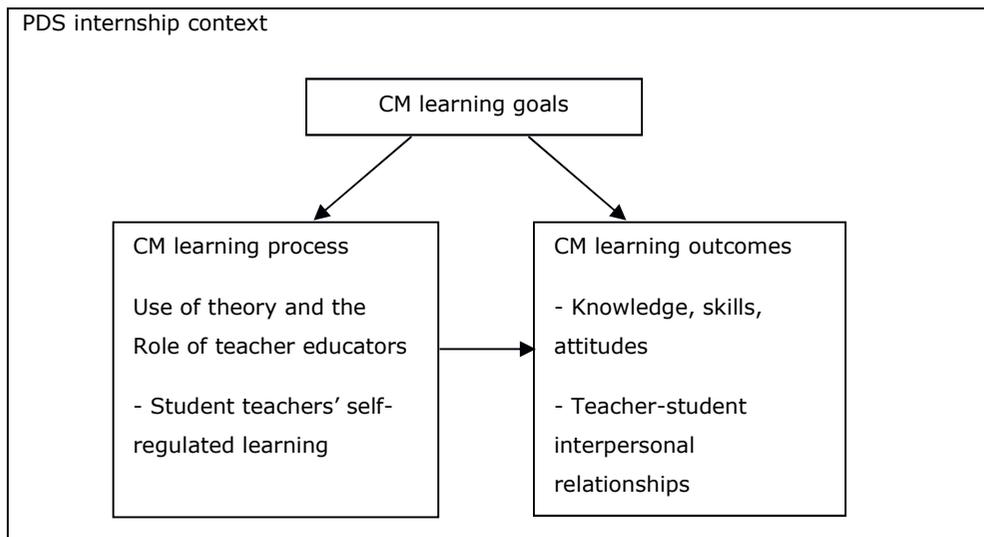
4.2.1 CM learning goals

The importance of CM as a central concept for the teacher education curriculum is emphasized by many researchers and educators (Evertson & Weinstein, 2006; Emmer & Sabornie, 2015; van Tartwijk & Hammerness, 2011). CM is often conceptualized as the establishment and

maintenance of order and discipline in class, as well as efficiently dealing with disturbances in class (Emmer & Stough, 2001). In line with prior research (Korpershoek et al., 2016; Girardet, 2018), the definition of CM by Evertson and Weinstein (2006) is regarded as a broadly shared definition, and, in this study, is considered to be the basis to conceptualize and categorize the goals and outcomes of student teachers' CM learning. According to Evertson and Weinstein (2006), teachers must, in order to reach a high level of CM, master the following five components: (1) establishing interpersonal relationships with and among pupils, (2) optimizing pupils' access to learning, (3) encouraging pupils' academic engagement, (4) developing pupils' social skills and self-regulation and (5) intervening when behaviour problems occur. In this study, this definition of CM serves as a framework to conceptualize CM regarding the learning goals student teachers set in their internship, the learning process student teachers plan, undergo and experience, as well as the learning outcomes they achieve in terms of their knowledge, skills and attitude.

4.2.2 CM learning process: The use of theory and the role of teacher educators

In order to stimulate student teacher learning, especially during the internship period, Zanting et al. (2003) argued that the role of teacher educators and theory are crucial. At the same time, learning at the workplace (e.g. internship school) is more authentic and collegial in nature than learning at the teacher education institute (Tynjälä, 2008). Much is learned from social interactions with colleagues and others at the internship school (Christensen, 2013; Marsick, 2009) in the form of support and feedback from educators, colleagues and peers (Järvelä et al., 2008). As for CM specifically, the role of the teacher educator is often mentioned as being important for student teachers' CM learning in research, as also placing student teachers in classrooms that already have established routines and procedures (Stough & Montague, 2015; Oliver & Reschly, 2007).

In Chapter 3, teacher educator roles in those of expert, role model, and mentor were distinguished. Experts master both practical knowledge and theoretical knowledge, and are therefore helpful to student teachers when gathering knowledge, discussing practical experiences, and linking those with theoretical knowledge and the practice in the school (Guile & Young, 2003; Loughran, 2006). The role of expert can be found throughout the whole school, as many experts (such as teacher colleagues) are present in that learning environment (van Velzen & Volman, 2008). The teacher educator as a role model models his own CM teacher behaviour for student teachers, and therefore provides an important, inspiratory role for student teachers (Loughran & Berry, 2005). Moreover, a role model inspires

student teachers in their professional development by showing and telling, and discussing teacher behaviour with student teachers for them to understand why and wherefore certain actions and teacher behaviour were needed (Guile & Young, 2003; Loughran, 2006; Norman & Feiman-Nemser, 2005). The teacher educator as a mentor supports the student teachers to cope with their initial experience in the classroom and also helps them define their own teaching style (Fairbanks et al., 2000). Finally, the mentor observes numerous lessons, provides ongoing feedback and stimulates reflection (Jones, 2006). In doing so, it helps reconstruct student teachers' teaching experiences and relate them to their personal theories of teaching (Fairbanks et al., 2000; van Ginkel et al., 2016).

Another crucial source of student teachers' CM learning during their internship and teacher education trajectory, is the use of knowledge. According to Cochran-Smith and Lytle (1999), a distinction can be made between knowledge of practice and knowledge for practice. Knowledge of practice is conceptual and factual knowledge of pedagogy. This type of knowledge concerns for instance about pupils and their development and learning, and with teaching performance in general (Guile & Young, 2003; Loughran, 2006). In her study, Sjølie (2014) argued that knowledge of practice could be considered as 'theory as foundation', as it structures and enriches professional and practical knowledge, forms a scaffold for teachers and can play an important role in the development of professional expertise. Knowledge for practice on the other hand, is more practical, and serves a more personal, particular and practical goal as it concerns how knowledge can be formed and used in a practical sense (Loewenberg Ball, 2000). Sjølie (2014) described this as 'prescriptive for practice', as theory can provide specific insights or advise for student teachers in their practice.

4.2.3 CM learning process: Student teachers' self-regulated learning

Self-regulated learning of student teachers is the combination of planning of learning and the active role of the learner (Endedijk et al., 2012). In their study, Endedijk et al. distinguished the way student teachers' planned their learning from the degree of learners' proactivity, and found two dimensions of student teachers self-regulation: (a) passive or active regulation, and (b) prospective or retrospective regulation (based on Pintrich, 2000; Zimmerman, 2000). Active regulation implies that the student teacher makes deliberate choices in relation to the learning goals and strategy, and reflects profoundly on what is learned, the learning process and one's own role. When there is a lack of activity by the student teacher, this regulation is passive. As for the second dimension, in prospective regulation the student teachers actively choose learning goals

and strategies; in retrospective regulation, a learning experience is often unplanned, and no active regulation takes place.

4.2.4 CM learning outcomes

Student teachers focus on certain CM goals throughout the internship, which ultimately leads to certain learning outcomes. In typifying the content of CM learning outcomes will explain again used the elements of Evertson and Weinstein (2006), as described above. Since the previous study showed that teacher-pupil interpersonal relationships – the first element of Evertson and Weinstein - play a central role in the student teacher period, this element will be more emphasized in the present study. Wubbels et. al. (2006) claim that this element is essential to other teacher competences. In their research, they used the Model for Teacher Interpersonal Behaviour to conceptualize teacher-pupil interpersonal relationship (Wubbels et. al., 2015). The model consists of two dimensions: (1) the control or agency dimension, measuring the degree of influence of the teacher, and (2) the proximity or communion dimension, measuring the degree of warmth versus interpersonal distance between teacher and pupils (see also Figure 4.2).

Figure 4.2

The Model for Interpersonal Teacher Behaviour (or Teacher Interpersonal Circle), (Pennings et al., 2014)
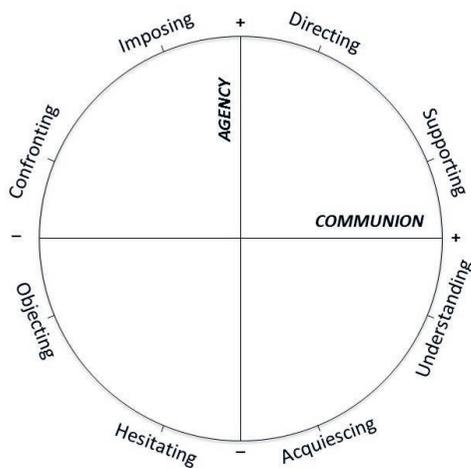
Based on the dimensions and sectors, eight teacher profiles can be distinguished: Directive (classroom is well-structured and task-oriented), Tolerant (atmosphere is pleasant and supportive, and pupils enjoy attending class), Tolerant-Authoritative (these teachers maintain a structure that supports pupils' responsibility and freedom), Authoritative (atmosphere is well-structured, pleasant and task-oriented), Uncertain-Tolerant (teachers are cooperative but do not show much leadership in the classroom), Uncertain-Aggressive (classroom is characterized by an aggressive kind of disorder), Repressive (pupils of Repressive teachers are uninvolved and extremely docile) and Drudging (these teachers constantly struggle to managing their class). The profiles Authoritative, Directive, Tolerant and Tolerant-Authoritative can be seen as effective teacher profiles. The others are considered to be less effective teacher profiles. As argued by Wubbels et al. (2006), the profiles Tolerant, Tolerant-Authoritative, Uncertain-Tolerant and Uncertain-Aggressive are the most common profiles for student and starting teachers. These profiles can be characterized by a high amount of communion but a neutral or low amount of agency.

Teachers' interpersonal styles are rather stable. Yet, different profiles can be found in different classes, especially with regards to teachers, and teachers might change from type to type during their teaching career (Brekelmans et al., 2005). In this study, the model and profiles are used to accurately map student teachers' CM learning outcomes in terms of the teacher-pupils relationship.

The relation between student teachers' CM learning processes and CM learning outcomes has not been researched much, as it is hardly mentioned in both Handbooks of Classroom Management (2006; 2015). It seems that little is known about how student teachers' CM learning processes relate to their CM learning outcomes.

Research questions
The aim of this research is to investigate patterns in student teachers' CM learning processes, student teachers' CM learning outcomes and the relationship between these two elements.

The main research question of this study is: What student teacher CM learning processes and CM learning outcomes can be found during their internship and what patterns emerge in the relationship between these elements?
This question is – based on the aforementioned theoretical framework – specified into the following three sub-questions:
- On what CM components are student teachers' learning goals focused in their course products?

- What learning processes are visible in student teachers' course products in terms of the use of theory, the role of teacher educators and student teachers' self-regulated learning?

- What CM learning outcomes are visible in terms of student teachers' knowledge, skills, attitudes and student perceptions of the teacher-pupil interpersonal relationship?

- What learning patterns can be discerned in student teachers' learning processes and how do these patterns relate to student teachers' CM learning outcomes?

4.3 Method

4.3.1 Context of the study

This study was conducted in the context of a network of professional development schools (PDS). Recent studies have provided indications that PDS contexts in general show better results in terms of student teacher development than non-PDS practice schools (Helms-Lorenz et al., 2018). In the PDS network, teacher education courses are integrated in the context of the workplace at a PDS. At non-PDS, schools no teacher education curriculum components are taught in the school context. Moreover, supervising teachers at PDS schools receive training from the university and obtain paid time from school management for student teacher supervision.

4.3.2 Participants

A group of 36 fourth year student teachers was selected, who were in the final stage of their teacher education program of one university of applied sciences and did an their internship at a PDS. These student teachers all worked and studied within the same PDS-network. The student teachers selected for this research were asked to participate in the research, but were also free to refuse or stop cooperation at any time. Data provided by them after agreeing to participate (see *Instruments*) was coded anonymously and stored in a digital data depository. Six student teachers suffered some delays during their internship, or even quitted their internship. Six student teachers refused to cooperate in this study. A wide range of valuable data was collected from the remaining 24 student teachers, who all participated in this study. More details regarding their school subject and gender are presented in the table below. During the entire academic year from September until June, student teachers worked in the context of their internship. Similar to other teachers at the schools, these student teachers were responsible for and taught their own classes.

Table 4.1

Total number of teachers per school subject and number of female student teachers

School subject	Number of student teachers; female student teachers
Biology	3; 2♀
Chemistry	1; 1♀
Dutch language	2; 2♀
Economics	3; 3♀
English language	3; 3♀
French language	1; 1♀
Geography	1; 0♀
German language	3; 3♀
History	2; 1♀
Mathematics	1; 1♀
Physics	1; 0♀
Spanish language	3; 3♀

4.3.3 Instruments

In order to study student teachers' CM learning processes and CM learning outcomes, course assignment outcomes of students in the fourth-year curriculum of the teacher education institute were analysed, taken from the professional development course (PDC), and the pedagogical research course (PRC). The PDC is the internship program, in which student teachers worked on their competence development. For this course, student teachers described their learning goals, process and outcomes in a portfolio. The PRC is a competence development research project with emphasis on the teachers' own roles. Student teachers were free to choose their own research activities, such as experimenting with teaching strategies in their classroom or observing and interviewing others, for example their teacher educators, fellow peers, experts, colleagues, etc. The PDC was documented in a portfolio, the PRC could take the form of a thesis, diary, blog or vlog. Both courses covered the entire length of the internship period, allowing us to study student teachers' learning processes and learning outcomes over the complete internship period. Moreover, course documents and student products gave the most elaborate and rich descriptions into learning processes and learning

outcomes. Therefore, these course documents and the resulting assignments were suitable for the analysis.

The Questionnaire on Teacher Interaction (QTI), which is the most widely accepted and commonly used instrument in teacher education in the Netherlands for gaining insight into student teachers' classroom management, was distributed by student teachers in two of their internship classes, mapping their pupils' perceptions of their interpersonal teacher behaviour at the beginning and end of the internship. The QTI shows one of the core elements of CM, student teachers' interpersonal relationship, by capturing this from their pupils' perception. In numerous studies, this instrument has shown to be reliable and valid, e.g. scale/section scores show Cronbach's Alpha coefficients between .80 and .90 and scales have shown to display a circular pattern (Wubbels et al., 2006). This instrument was used in addition to the self-report instruments mentioned above, to provide a more in-depth overview of CM from the pupils' perspective. After all, the questionnaire measures how pupils perceive teachers' interpersonal behaviour. Via this instrument, student teachers' pupils answered 24 questions about the student teachers' interpersonal behaviour (Wubbels et al., 2006).

4.3.4 Analysis

All relevant fragments about student teachers' CM learning process and CM outcomes, found in student teachers' produced documents, were placed in a case matrix, in order to structure the information regarding student teachers' use of theory, role of teacher educators, self-regulated learning CM goals and CM learning outcomes (with participants in the columns and topics in the rows). In the analysis procedure, the researchers searched for what was dominant for student teachers' CM learning and CM outcomes by counting the collected relevant fragments. Based on finding what was most frequently mentioned by the student teachers, the researchers assigned each student teacher to a category for each of the aforementioned sub-elements of the learning process and learning outcomes.

Fragments were considered to be relevant when student teachers described an experience they had at the workplace, which they implicitly or explicitly related to their learning process or learning outcomes. In explicit fragments they made that connection by themselves, and in implicit fragments the researchers involved in this study saw a connection with other fragments they wrote, in which they for instance, used similar terms or words, or described the same kind of experiences, but were unable to see a pattern themselves. Irrelevant fragments were fragments in which student teachers described general learning experiences, activities in their process or learning outcomes, not related to their CM learning. For instance, student teachers sometimes described their school

subject or the design or use of didactic materials. These fragments had no direct or clear connection to their CM, so were left out of the analysis.

These relevant fragments were labelled in terms of categories based on the elements as described in the theoretical framework. The five components of CM by Evertson and Weinstein (2006) were used as labels to typify student teachers' CM goals. For the CM learning process, three variables were used: use of theory, role of teacher educators, and self-regulated learning. The role of theory was labelled by the distinction of Sjølie (2014): theory as prescriptive for practice and theory as foundation. For learning from others, the distinction found in the previous study was used (see also Chapter 3): expert, role model and mentor. As for SRL, in line with Endedijk et al. (2012), fragments were coded in terms of 'passive/active regulation' and 'prospective/retrospective regulation'.

The researchers conducted this coding process for all 24 cases. Then, the researchers discussed their coding (consensus based coding), and found that they had similar codes, only varying in 10% of the cases in which they had comparable words meaning a similar codes. This step was followed by a discussion between the researchers in which they reflected on the coding process. This did not lead to any further questions or doubt. The analysis led to insight into how much attention was paid by the various student teachers to each of the variables, and their sub-categories (as presented in Table 4.2).

The outcomes of student teachers' CM learning were coded in terms of the main components of competence: skills, knowledge and/or attitude, and the interpersonal learning outcome. The codes used for the analysis of competence were determined from student teachers' documents (see *Instruments*). In these documents the student teachers described their learning outcomes in their own words. The codes were determined based on what they reported as their learning outcomes, and therefore emerged from (and were grounded in) the data. This led to the following main codes. Knowledge about: (1) pupils' socio-emotional development, learning processes and group-dynamics, and (2) non-verbal behaviour and teacher behaviour towards pupils' behaviour problems and order problems. Skills: (1) creating a safe and structured classroom climate, pupils' socio-emotional development and learning processes, and (2) non-verbal communication and teacher behaviour, consistency and enforcing the rules. Attitudes: (1) self-confidence, and (2) motivated to develop their (non-)verbal communication and teacher behaviour. In the results section these codes will be illustrated in more detail.

The interpersonal learning outcome was analysed using the QTI (Wubbels et al., 2006; see theoretical framework section). As mentioned above, the QTI consist of 24 questions, scaled from 1 (strongly disagree) to 5 (strongly agree). These scores reflect a certain outcome in 8 different sectors or scales (see also Figure 4.2: Directing, Supporting,

Understanding, Acquiescing, Hesitating, Objecting, Confronting and Imposing). Combined, scores on the sectors form patterns of images, that can be compared to eight profiles found in prior research. In the analysis a division was made between effective teacher profiles (Directive, Authoritative, Tolerant-Authoritative, Tolerant) and less effective teacher profiles (Uncertain-Tolerant, Uncertain-Aggressive, Repressive, Drudging), based on the characteristics of these profile types of the classroom environment as discussed in Wubbels et al. (2006). The researchers calculated the statistical distance from each student teacher (e.g. the aggregated scores of their classes) to each of the eight profiles, and allocated each class to the profile to which the closest distance was found.

The QTI was sent out to two classes per participant. A comparison between measurement moments and both classes has been made in order to determine whether the participant had an effective teacher profile during both moments and classes. Moreover, it was possible that a participant had less effective teacher profiles during both moments and classes, or showed growth, starting with a less effective teacher profile in one or two classes and had an effective teacher profile during the second measurement moment. Obviously, an adverse development was also possible, starting with an effective teacher profile during the first measurement and having a less effective teacher profile during the second measurement. No QTI outcomes were received from two participants. Therefore, the QTI was not included in the analyses in those cases. In the first round, 24 student teachers participated with 48 classes with in total 1060 pupils (range in class size was between 15 and 31). In the second round, 22 student teachers participated with 44 classes with in total 986 pupils (range in class size was between 17 and 30).

In order to find similar patterns in student teachers' CM learning processes and to distinguish profiles of student teachers' preferred CM learning, a Multiple Correspondence Analysis (MCA) was conducted. MCA is a data analysis technique used to detect and represent underlying structures in a data set that is categorical in nature. In this approach, associations between variables are uncovered by calculating the chi-square distance between different categories of the variables and between the participants. This results in a matrix, that allows for the direct representation of participants as points in geometric space, which aids the interpretation of the structures in the data (Greenacre, 2007; Le Roux & Rouanet, 2004). In doing so the researchers involved in this study obtained insight into which participants had a similar learning process in terms of the categories CM goals, use of theory, role of teacher educators, and self-regulated learning.

This phase was followed by a final step, in which the focus was finding relationships between the (MCA) profiles of student teachers' CM learning

and student teachers' CM learning outcomes. In order to do so, cross tabular analysis was conducted, using specifically the chi-squared statistic in order to identify any potential relation between the variables. This technique allowed the researchers to capture potential connections between the distinguished groups of student teachers' CM learning processes and CM outcomes in terms of knowledge, skills, attitudes and interpersonal learning outcomes. The MCA analysis and the cross tabular analysis was conducted using the SPSS statistical analysis software (version 23). The statistical analysis of the QTI and MCA were done separately by the involved researchers. They compared their analysis leading to the same findings. This did not lead to any further questions or doubt.

4.4 Results

In this section the results will be discussed. First, the frequencies (e.g. the number of student teachers in which the respective code was dominant) of the variables pertaining to CM learning processes and outcomes will be described (see also Tables 4.2 and 4.3). Then, the results of finding patterns in student teachers' CM learning processes will be presented. Finally, the relations between student teachers' CM processes and CM learning outcomes will be discussed.

4.4.1 CM goals

Student teachers' attention for CM as specified in their internship goals were rather diverse and covered the specific components of CM of Evertson and Weinstein (2006). Most attention was drawn to the component 'Intervening when behaviour problems occur' (6 student teachers), followed by 'Establishing interpersonal relationships with and among pupils' (5 student teachers) and 'Encouraging pupils' academic engagement' (5 student teachers). Slightly less attention related to the components 'Optimizing pupils' access to learning' (4 student teachers) and 'Developing pupils' social skills and self-regulation' (4 student teachers).

4.4.2 CM learning process

Concerning student teachers' CM learning processes, 16 student teachers used theory as foundation, 8 student teachers used theory as prescriptive. As for their dominant preference of the role of teacher educators, 10 student teachers used them as expert, 8 student teachers saw them as a role model and 6 student teachers used them as a mentor.

Student teachers' SRL consisted of the components active and passive, and prospective and retrospective. As for the component of (re)active, 19 student teachers were characterized as active, 5 student teachers as passive. The other component, prospective and retrospective, was balanced: 13 student teachers were prospective in the planning of their learning, 11 student teachers' SRL processes were characterized as retrospective.

4.4.3 CM learning outcomes

As for knowledge, 12 student teachers were focused on 'pupils' socio-emotional development, learning processes and group-dynamics'. The focus of the other 12 student students was on 'non-verbal behaviour and teacher behaviour towards pupils' behaviour problems'. With regards to the first aspect student teachers used various terms, such as processes of group-dynamics and pupils' social-emotional learning. The second aspect concerned knowledge about teacher behaviour characteristics, such as interpersonal teacher behaviour and pupils' behaviour and motivation.

For skills, 11 student teachers were focused on 'creating a safe and structured classroom climate, pupils' socio-emotional development and learning processes'. The attention of the other 13 student students was on 'non-verbal communication and teacher behaviour, consistency and enforcing the rules'. In the first aspect, skills were mentioned such as signalling (individual) needs and dealing with pupils' emotions, which could be described as pedagogical teacher skills. The second aspect comprised teacher skills, with a focus on classroom management, with terms such as instruction, offering structure and maintaining order. Almost equal attention was paid to both themes.

With regards to attitudes, 7 student teachers seemed to develop 'self-confidence', and 17 student teachers focused on 'motivated to develop their of (non-)verbal communication and teacher behaviour'. The first theme related to the student teacher as a person. Student teachers explicitly described this in terms of struggling with and overcoming their self-doubt. The second theme mainly referred to the development of the value of one's own professional behaviour, in which student teachers used terms such as understanding how pupils see them and the impact they have as teachers in the relation with their pupils.

As for interpersonal competence measured with the QTI, the majority of the student teachers (14 in total) displayed stable effective interpersonal profiles, e.g. they had effective profiles in both their classes at both measurements. Three student teachers displayed growth from less effective to more effective interpersonal profiles, while five student teachers remained in the less effective interpersonal profiles. From two

student teachers only one measurement was available so growth or stability could not be determined.

4.4.4 Patterns in student teachers' CM learning processes

The Multiple Correspondence Analysis showed how the variables of the student teachers' CM learning processes (student teachers' use of theory, the role of teacher educators and their SRL) were connected. This resulted in a grouping of student teachers who had similar CM learning processes. The analysis suggested three or four groups, in which student teachers shared certain similar CM learning characteristics (see Figure 4.3). In a more specific content analysis, in order to verify the MCA, the researchers came to four distinctive groups (see Table 4.2), as the differentiating factor of dimension 1 was 'student teachers' SRL', and of dimension 2 'Teacher educators roles'. The close similarities and specific differences concerning in particular Group B and C will be elaborated below. The groups were not distinctive in terms of student teachers' CM goals. Below the table, the groups will be elaborated in more detail.

Figure 4.3
Output of the Multiple Correspondence Analysis

Variable Principal Normalization.
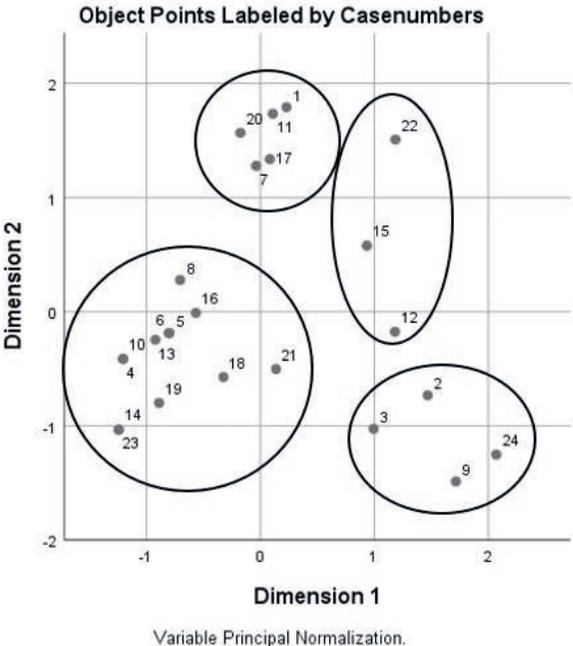
Table 4.2
Groups of student teachers' CM processes

Group	A	B	C	D
N	10	7	3	4
CM Goals*	All goals	All goals	All goals, except 'Establishing interpersonal Relationships with and among pupils' and 'Encouraging pupils' academic engagement'	All goals, except 'Developing pupils' social skills and self-regulation'
Typification	Knowledge driven	Feedback driven	Inspiration driven	Practice driven
Use of theory	Theory as foundation	Theory as foundation	Theory as foundation	Theory as prescriptive
Role of teacher educators	Expert	Mentor	Role model	Role model
SRL	Active / Prospective	Active / Prospective	Active / Retrospective	Passive / Retrospective

Group A is the largest group. These were the student teachers who used theory as foundation and were active and prospective in their SRL. These student teachers were very active in terms of overviewing their own learning, finding sources and undertaking learning activities. They were efficient in the organization of their planning and communication with others. They were also self-reflective in a sense that they were aware of what they needed in terms of support from others in the development of their CM learning. Participant 23 described it as follows: *"Thanks to the steps I took during my learning process, supported by the research courses, talking to a lot of people in the school and observing experts' lessons, I became more aware of my role as a teacher for my pupils, and the impact of my passion and enthusiasm in relation to pupils' motivation."*

Furthermore, these student teachers, but also the student teachers in group B and C, used theory as foundation. Participant 4 described that as follows: *"My major concern in my practice was working on my CM in a sense that I had behaviour problem issues. I was really struggling with pupils' behaviour. Therefore, I needed theoretical knowledge that taught me to understand certain behaviour, pupils' social-emotional phases and group-dynamics. That specific knowledge taught me to adjust my own*

teacher behaviour, which had a positive impact as difficulties maintaining order seemed to decrease.''
Based on this the researchers involved in this study would typify group A's learning process as 'Knowledge driven'.

The second largest group of student teachers is group B. They were the student teachers who used theory as foundation and in terms of SRL, were active and prospective in their learning. So far they had similar characteristics to the student teachers in group A. However, these student teachers needed a mentor throughout the whole CM learning process to help them to develop and gain experiences and insights. Participant 17 formulated this as follows: *"Each Friday, my teacher educator and I talked about my experiences throughout the week. Sometimes I tend to downgrade these experiences, but the insights and motivational talks from my teacher educator helped me to see these experiences in a meaningful perspective of my learning.''*
Furthermore, they were able to plan their own learning. They knew what kind of support they needed and what type of activities would help them. However, potentially due to the practical challenges they faced, they needed mentoring from others to help them in accomplishing their goals. Participant 11: *"I knew that I am technically a good teacher and that I can trust my CM skills. However, I sometimes struggle with that trust, and by doing so, tend to set a higher bar for myself. My teacher educator always tells me to keep an eye on the priorities I have in my learning. And trusting on some aspects and working on others, is one of the key priorities."*
Based on this the researchers involved in this study would typify the process of group B as 'Feedback driven'.

The student teachers in group C showed similarities with the student teachers in previous groups: they were active student teachers who used theory as foundation. In contrast to group A and B, the CM goals of this group were drawn to all goals, except 'establishing interpersonal relationships with and among pupils' and 'encouraging pupils' academic engagement'
They all described their CM learning process as a struggle in who they wanted to be as a teacher. They also had troubles planning and overseeing their CM learning process, hence the retrospective characterization of their SRL. In their struggle, they all described the need for role models who could give them examples of teacher behaviour. This role model would also give them also inspiration which was useful for them to develop their own style. Participant 21 formulated this as follows: *"My teacher educator is a great teacher, as he is able to enforce pupils' self-confidence and helps them to be the best version of themselves. I was so inspired, because that was exactly why I wanted to be a teacher.*

Right now, I feel that I have grown in that kind of behaviour, but it sure takes a lot more years to be the same kind of a teacher."
Based on this the researchers involved in this study would typify the process of Group C as 'Inspiration driven'.

The goals of the student teachers in group D were related to all goals, except 'developing pupils' social skills and self-regulation'. Furthermore, they were relatively reactive in their professional CM teacher behaviour, as they mainly waited until teacher educators, peers or others would give them advise, ideas for activities etc.
They were also weaker with regards to planning, they did not always oversee the shorter and longer term of their learning process. Furthermore, they tended to lean on the sources and activities indicated by others, such as fellow peer student teachers and their teacher educators. Moreover, they used theory as prescriptive. Participant 24 described that as follows: *"My teacher educator told me that were five suggestions how to handle disturbing pupils' behaviour, as described in teacher educational literature. My teacher educator thought it might be helpful for me, and I agreed I needed such suggestion. So I tried these suggestions out and found out some actually worked for me.''*
Working on their CM issues, these persons saw teacher educators as role models to learn from. Furthermore, the main challenge for student teachers in group D was their CM organization. Participant 3: *"My major pitfall is my organizational ability. I really found it hard to find a balance between my personal social life, the internship and teacher education courses. I had so much difficulty managing that process as a whole. This also resulted in CM problems such as bad organization, failing to advise my pupils adequately on time planning and materials. I even forgot to bring the tests to class one day, right at the moment my pupils had an exam. That was a big mistake."*
Moreover, similar to the previous quote, the teacher educator of participant 9 added a short observation in the student teachers' learning document: *"X is not committing himself professionally to certain agreements. Materials were often late and incomplete. He also missed some appointments we made. Those missteps reflect the poor organization in his classroom, as there was a structural lack of strict planning and continuity."*
Based on this the researchers involved in this study would typify Group D's process as 'Practice driven'.

4.4.5 The relation between student teachers' CM learning process and CM learning outcomes
Cross tabular analysis was used to find a relation between student teachers' CM learning processes, using the four profiles as presented above, and their CM learning outcomes. In this section the findings of this

analytical step will be presented, and can also be found in Table 4.3 (see below).

Concerning CM learning profile and knowledge as a learning outcome, a minor, not statistically significant, relationship was found (χ^2=3.019; p=0.374). The 'Knowledge driven' and 'Practice driven' student teachers tended to be slightly more often focused on 'Pupils' socio-emotional development'. The development of 'Feedback driven' and 'Inspiration driven' student teachers was slightly more often drawn to 'Non-verbal communication and teacher behaviour'.

As for CM learning profile and skills the 'Knowledge driven' student teachers paid slightly more attention for 'Creating a safe and structured classroom climate', the student teachers in the other groups tended more to 'Non-verbal communication and teacher behaviour'. According to Chi-squared test, no statistically significant relationship existed (χ^2=1.721; p=0.622).

The relation between CM learning profile and QTI outcomes was also not statistically significant (χ^2=6.208; p=0.298). Most student teachers of every group had an effective learning profile. However, interestingly, as five student teachers in total had a less effective teacher profile, it was notable that most of them belonged to the group 'Feedback driven'.

A statistically significant relationship was found between CM learning profile and attitude as a learning outcome. Most student teachers developed their attitude in terms of 'motivated to develop their (non-)verbal communication and teacher behaviour'. This was specifically the case for 'Knowledge driven', 'Feedback driven' and 'Inspiration driven' student teachers. Most 'Practice driven' student teachers tended to the development of 'Self-confidence' as their main attitudinal outcome. Chi-squared test showed a significance in this cross tabular analysis (χ^2=6.978; p=0.038).

Table 4.3

CM learning process vs. Learning outcome knowledge, skills, attitude and QTI

Knowledge		
Pupils' socio-emotional development	Non-verbal behaviour and teacher behaviour	Total
Knowledge driven	6	4	10
Feedback driven	2	5	7
Inspiration driven	1	2	3
Practice driven	3	1	4
Total	12	12	24

Skills		
Creating an safe and structured classroom climate	Non-verbal communication and teacher behaviour	Total
Knowledge driven	6	4	10
Feedback driven	3	4	7
Inspiration driven	1	2	3
Practice driven	1	3	4
Total	11	13	24

Table 4.3 continued

	Attitude		
	Self-confidence	Value of (non-)verbal communication and teacher behaviour	Total
Knowledge driven	3	7	10
Feedback driven	0	7	7
Inspiration driven	1	2	3
Practice driven	3	1	4
Total	7	17	2

Table 4.3 continued

	QTI				
	No comparison	Less effective teacher profiles	Growth to effective teacher profile	Effective teacher profiles	Total
Knowledge driven	2	1	0	7	10
Feedback driven	0	3	2	2	7
Inspiration driven	0	0	1	2	3
Practice driven	0	1	0	3	4
Total	2	5	3	14	24

4.5 Discussion

The aim of this research was to investigate patterns in student teachers' CM learning processes, student teachers' CM learning outcomes and the relation between these two elements. A main outcome of this study shows four patterns of student teachers' CM learning processes were found. Moreover, student teachers showed a wide variety in CM goals. Similar CM outcomes in terms of knowledge and skills were found for each of these four profiles. The only statistically significant relation was found between CM learning profile and attitude as a learning outcome. Furthermore, student teachers developed their attitude in terms of 'motivated to develop their (non-) verbal communication and teacher behaviour'.

4.5.1 Theoretical implications
In the first step of this research the researchers involved in this study analysed what goals were noticeable in student teachers' CM competence development. A wide variety was found in student teachers' focus on CM goals. The focus of the student teachers was on all components as described by Evertson and Weinstein (2006) and not just interpersonal relationships. They also focused on optimizing pupils' access to learning, encouraging pupils' academic engagement, developing pupils' social skills and self-regulation, and intervening when behaviour problems occur. Student teachers' attention to these various components was similarly divided over the various components. This finding is in line with other researchers who have studied CM and came to the conclusion that these five components form the core of CM (Martin et al., 2017; Emmer & Sabornie, 2015). In Chapter 3, student teacher attention was merely drawn to establishing healthy relationships between teachers and pupils. Interestingly, the finding of the present study that student teachers' attention is drawn to all components of CM resembles the finding of another earlier study (see Chapter 1) that, according to teacher educators' views of the ideal or preferred curriculum, student teachers' attention ideally and preferably is divided over the five components.

In the following step the researchers involved in this study specifically studied what student teachers' CM learning processes looked like. As for the student teachers' CM learning processes, four different profiles were found: 'Knowledge driven', 'Feedback driven', 'Inspiration driven' and 'Practice driven'. These profiles differed in their approach concerning student teachers' use of theory, the role of teacher educators and their SRL. In relation to other studies about student teachers' learning patterns, these profiles showed some differences and similarities. In comparison with Endedijk et al. (2012), an overlap was found between all combinations of the components 'Active and Passive' versus 'Prospective and Retrospective', except the combination 'Passive and Prospective'. This finding is in line with the previous chapter. In line with Endedijk et

al. (2012) I found that most student teachers had an 'active' and 'prospective' profile, which might indicate a confirmation of a desired tendency in teacher education. Oosterheert and Vermunt (2001) made a distinction between five orientations of student teachers' learning: survival, closed reproduction, open reproduction, closed meaning and open meaning. In their study, they focused on mental models of learning, student teachers' ideals, cognitive activities, regulation and concerns. These variables captured more generally how student teachers learn during their internship. However, their orientations show resemblances with the profiles in this study. For example, their research also indicated, and this confirms my finding, that student teachers with more ideal orientations (like 'Open Meaning') created more self-regulated knowledge, had deeper cognitive approaches and evaluations and searched for more external suggestions. Their findings also are in line with the finding that student teachers with less ideal orientations (like 'Survival') were more dependent on external solutions and were less likely to search actively for external suggestions. Thus, it seems that some of the processes and patterns found in this study in the context of CM bear some resemblance with how student teachers learn this during their internship.

As for CM outcomes of student teachers' learning, one aspect was rather dominant and concerned student teachers' development of attitude. This could be explained by the fact that the attention given to this aspect is rather abstract in curriculum courses, student teachers were inadequately prepared and if educated enough, and it might become more real and urgent during the internship. This confrontation with student teachers' attitude is the reality check of practical experiences, described in other research as professional identity tensions (Pillen, 2013; Bronkhorst, 2013).

As for the relation between student teachers' CM processes and CM outcomes, one statistically significant relation was found: active (and prospective) student teachers were mostly focused on the value of (non-)verbal communication and teacher behaviour, unlike passive (and retrospective) student teachers who were more likely to develop their self-confidence. This is an interesting insight as one would expect most student teachers' attitude development related to classroom management would relate to self-confidence (Pillen, 2013). More research is needed to further confirm whether this was a unique finding or not.

4.5.2 Implications for teacher education practice

The four types of student teachers' CM profiles that were described in this study could enrich teacher educators teaching CM. It may be helpful when teacher educators recognize these profiles in order to differentiate in their CM coaching and supervision. This also implies that teacher educators need to be capable of keeping the different profiles in mind, and need to have a varied repertoire of CM coaching and supervision as a result, so they can switch and differentiate between various student teachers' with different CM learning profiles. In that light, some particular profiles need specific teacher educators' attention, like 'Inspiration driven' student teachers, who struggle with their planning, or 'Practice driven' student teachers, who may need coaching on their passive attitude.

One of the findings of this study was the major attention to (non-)verbal teacher behaviour. What does that mean for the teacher education curriculum, for teacher education institutes, the practice of the schools, and the consistency between them? In any case, more specific attention should be given to teacher behaviour earlier in teacher education curricula.

Furthermore, as most attention of student teachers' CM competence development was related to their (non-)verbal teacher behaviour, the QTI could be used more frequently in order to visualize the interpersonal relation of student teachers with their pupils. By using this instrument, teacher educators and student teachers can have more structured conversations about student teachers' CM issues, in order to conceptualize student teachers' CM challenges and typify student teacher' CM learning strategies. Keeping that in mind, it be viable if teacher education institutes offer the QTI more systematically.

4.5.3 Limitations and opportunities for further research

One of the limitations was that the setup of this study was mainly based on self-reported data by the student teachers and did not provide insights into the quality of student teachers' CM (apart from the QTI), and the way these student teachers performed in practice as teachers.

The exclusion of the teacher educator perspective was also a limitation. Despite the fact that the teacher educators validated student teachers' documents, I did not use assessments documents, written by teacher educators, or their perceptions. Future research could include more teacher educator data in order to capture a more comprehensive view of student teachers CM learning process and CM outcomes.

Another limitation was that the QTI data profiles were based on student teachers' pupils' perspective only. I missed the opportunity to also include

the perceptions from teacher educators and student teachers themselves, as multiple types of perceptions could be an added value (den Brok et al., 2013). So, in terms of future research, it would be helpful to not only collect QTI data from student teachers' pupils, but also their supervisor, and the student teachers themselves. In doing so, one would obtain a much richer perspective on student teachers' CM learning.

The output of the MCA was another limitation, as the MCA showed a picture of three or four groups of student teachers' CM learning. Considering the implications of potential differences, I chose to present four groups. However, as the numbers of student teachers in this study were low, it remains a question for future research whether the same result would arise in larger samples.

Moreover, future research could include and evaluate an early intervention focused on the use of theory and the role of teacher educators in the internship (see also implications).

4.5.4 Conclusion

The results of this study showed an attention by student teachers for a variety of CM goals, and four different groups were found based on patterns in student teachers' CM learning, e.g. their use of theory, their need of teacher educator roles and their SRL. However, the question remains how student teachers' patterns in CM learning processes relate to their CM learning outcomes. I did find some trends, but only one statistically significant relation was found between CM learning profile and attitude as a learning outcome. Moreover, student teachers developed their attitude in terms of 'motivated to develop their (non-) verbal communication and teacher behaviour'.

CHAPTER 5

The effects of an intervention in student teachers' classroom management learning process

Abstract

Student teachers' CM learning at the workplace is often unfocused as they tend to struggle with the effective use of theoretical knowledge and how to use their teacher educators or others during their internship. As a consequence, student teachers lack efficiency in their CM learning process. This study presents the development and implementation of an intervention with the ambition to bring more focus and direction to student teachers' CM learning by offering them activities they can use in their interpersonal learning process. The results showed that student teachers mainly used a combination of unplanned conversations and lesson observations to promote their interpersonal learning, and that the intervention was helpful for student teachers to structure their interpersonal learning process. The main conclusion of this study is that the intervention was effective for student teachers and it had impact on developing their knowledge and beliefs/attitudes, and led to differences in their interpersonal behaviour. However, the student teachers perceived no differences in their pupils' behaviour in the classroom.

5.1 Introduction

The call for more attention to classroom management (CM) in teacher education curricula was a crucial topic in various studies a decade ago (van Tartwijk & Hammerness, 2011; Stough, 2006; Wubbels, 2011), with authors suggesting a mismatch between the CM research knowledge base and the content of teacher education programs (Freeman et al., 2014), limited content on and exposure to CM in the teacher education curriculum (Jones, 2006), lack of visibility of CM in the curriculum (O'Neill & Stephenson, 2011) and ineffective strategies taught for CM (Oliver & Reschly, 2010). As these studies mainly focused on the role of CM in the institutional part of teacher education, it remained unclear what role CM should play during the internship part of teacher education (Simonsen et al., 2014; Korpershoek et al., 2016). Recently, more research has been done to bridge the gap between CM theory and teacher education practice, focusing on sufficient attention for CM during the internship/practice phase of the teacher education curriculum (Dicke et al., 2015; Jenset et al., 2018; Hammerness & Kennedy, 2019). What is known from previous chapters on student teachers' CM learning during their internship in the school, is that most student teachers' CM learning outcomes focused on developing (non-)verbal communication repertoire and improving interpersonal teacher behaviour (see Chapter 4). These outcomes indicated growth in knowledge, skills and attitudes and covered a range of topics. The development of knowledge was focused on teacher behaviour, such as creating healthy interpersonal teacher-pupils relationships, and enhancing pupils' lesson engagement. The emphasis on development of student teachers' interpersonal skills was visible in classroom instruction, offering structure and maintaining order. The development of student teachers' teacher attitudes mainly referred to their interpersonal behaviour, in which student teachers used terms such as how pupils see them and the impact they have as teachers in the relation with their pupils. This finding is also in line with other research, arguing that the interpersonal components is essential in student teachers' learning (Wubbels et al., 2006). Other CM learning outcomes were development of knowledge on pupils' socio-emotional development, on creating a safe classroom climate and growth in self-confidence. Moreover, previous chapter showed the importance of student teachers' use of theory, the role of the teacher educator and student teachers own self-regulated behaviour in characterizing the CM learning process. However, the previous chapter also showed that student teachers' CM learning was quite often unfocused and ad-hoc, as they tend to struggle with the effective use of theoretical knowledge and how they use their teacher educators or others during their internship. As a consequence, some student teachers had difficulties in creating structure in their CM learning process during their internship (see Chapter 4).

The need for more training and support regarding student teachers' CM learning is also emphasized by Montaque and Kwok (2022). Therefore, this study presents the development and implementation of an intervention with the goal to bring more focus and direction to student teachers' CM learning, by offering them learning activities they could use in their interpersonal learning process during their internship.

5.2 Conceptual framework

In recent studies, researchers designed interventions and studied the effects on student teachers' CM learning at the workplace. Examples are using classroom simulation as a tool to train interpersonal teacher behaviour (Theelen et al., 2022), the development of student teachers' professional vision as part of CM competence based on self-reflection and a feedback intervention (Weber et al., 2018) and CM competency enhancement using a fully immersive virtual classroom (Seufert et al., 2022). These studies described promising effects of the interventions for student teachers' CM learning. Although these examples were intervention studies of technology enhanced learning, they had similar goals as the present study: the development and implementation of an intervention to promote student teachers' CM learning. In these studies, and also in the present study, CM learning (see 5.2.1) and the internship as context (see 5.2.2) were two central elements. Below, these elements will be discussed in more detail, as well as the evaluation of the intervention (see 5.2.3).

5.2.1 Conceptualizing student teachers' interpersonal behaviour

CM can be defined as *"the actions teachers take to create an environment that supports and facilitates both academic and social-emotional learning"* (Evertson & Weinstein, 2006, pp. 4). Since previous chapters showed that teacher-pupil interpersonal relationships played a central role in the student teacher CM development, this study focuses on this component. Wubbels et al. (2006) claim that this component is essential to other teacher competences. Teacher-pupils relationships can be understood as the generalized interpersonal meaning pupils and teachers attach to their interactions with each other.

In their research, Wubbels et al. (2015) conceptualized teacher-pupils relationships, by using the Teacher Interpersonal Circle. The model consists of two dimensions: (1) the agency dimension, measuring the degree of influence of the teacher, and (2) the communion dimension, measuring the degree of interpersonal closeness versus interpersonal distance between teacher and pupils (see also Figure 5.1). Words at the circumference of the circle are typical descriptions of interpersonal

teacher behaviour, each representing a specific blend of agency and communion. The top of the Agency blend represents dominance, while the bottom represents submission. As for the communion blend, the right side is characterized as cooperation, the left side as opposition.

Figure 5.1

The Teacher Interpersonal Circle (Pennings et al., 2014)
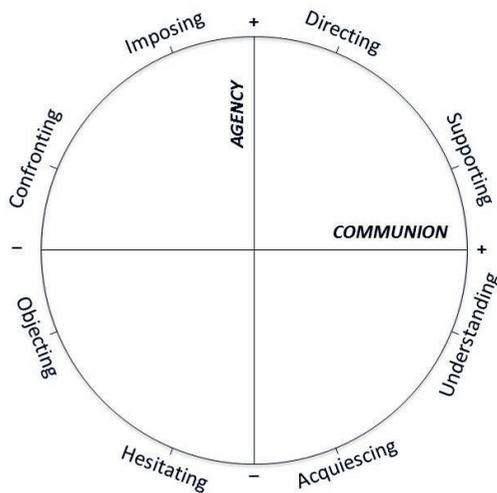
Based on the two dimensions and eight sectors, in research on interpersonal relationships in education eight teacher profiles have been distinguished (Brekelmans et al., 2006): Directive (classroom is well-structured and task-oriented), Tolerant (atmosphere is pleasant and supportive, and pupils enjoy attending class), Tolerant-Authoritative (these teachers maintain a structure that supports pupils' responsibility and freedom), Authoritative (atmosphere is well-structured, pleasant and task-oriented), Uncertain-Tolerant (teachers are cooperative but do not show much leadership in the classroom), Uncertain-Aggressive (classroom is characterized by an aggressive kind of disorder), Repressive (pupils of Repressive teachers are uninvolved and extremely docile), and Drudging (these teachers constantly struggle to managing their class) (see Figure 5.2).

Figure 5.2

Profiles of teacher interpersonal behaviour (Brekelmans, et al., 1993)
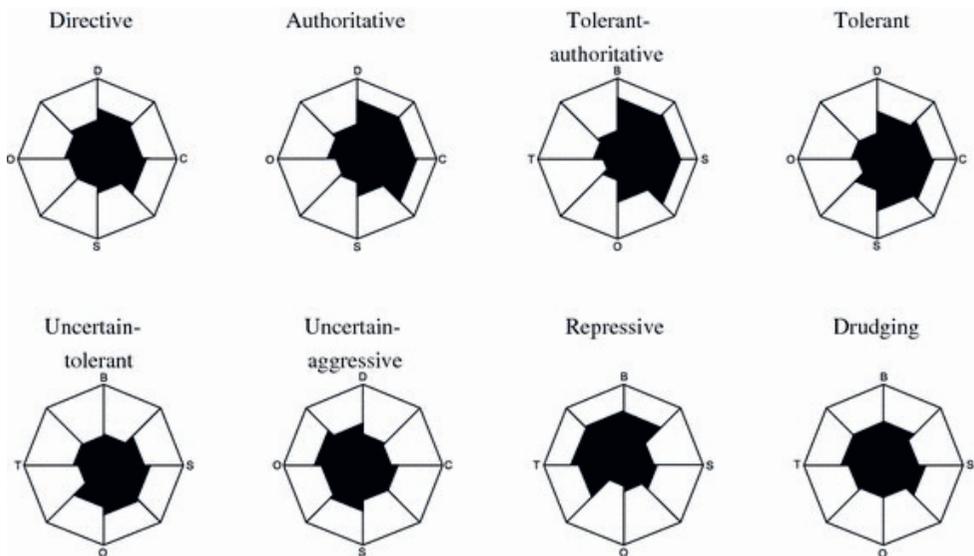
The profiles Authoritative, Directive, Tolerant, and Tolerant-Authoritative can be seen as effective teacher profiles (better teacher – pupil relationship and a classroom environment in which pupils' learn more), the others are considered to be less effective teacher profiles. As indicated by Brekelmans et al. (2005), the profiles Tolerant, Tolerant-Authoritative, Uncertain-Tolerant, and Uncertain-Aggressive are the most common profiles for student and starting teachers. These profiles can be characterized by a high amount of communion but a neutral or low amount of agency.

Teachers' interpersonal styles are rather stable. Yet, different profiles can be found in different classes, especially for student teachers or beginning teachers, and teachers might change from type to type during their teaching career (Brekelmans et al., 2005; Wubbels et al., 2006). In the present study, the two dimensions, eight sectors of the Teacher Interpersonal Circle and profiles are used to map student teachers' CM learning outcomes in terms of the teacher-pupils relationship.

5.2.2 The internship as context of CM learning

Learning at the workplace, as is the case during the internship, is authentic and collaborative in nature (Tynjälä, 2008). During their internship student teachers learn from field experiences and from coaching by mentor teachers and supervisors (Jones, 2006; Stough & Montague, 2015). Moreover, their supervising teachers and other colleagues at the workplace can serve as experts or role models for student teachers (see Chapter 3 and 4). Lecat et al. (2019) made an overview of the sources student teachers used for their learning during their internship, mentioning learning from others as one of the important aspects. Learning from others consist of speaking to colleagues (seeking feedback), talking to other people/non-colleagues (for instance people in the student teacher's personal domain) and observing colleagues' lessons (Lecat et al., 2019). These were also the main activities participants mentioned in the previous study (see Chapter 4). In the present study, these three aspects were used to design specific CM learning activities for the intervention.

5.2.3 The evaluation of the intervention

To evaluate the effects of the intervention, the Learning Evaluation Model of Kirkpatrick (1994) was used. This model is intended as an accumulative process that builds on the data collected at each previous level, and aims to provide assessment at each successive level. The model is based on four successive levels, each suggesting a more impactful effect: (1) reaction, (2) learning, (3) behaviour, and (4) results. The first level in the context measures student teachers' reaction to the intervention. As this level questions what elements of the intervention student teachers mention as effective, it also determines how much they invested in the intervention, which might have implications for the next levels. The second level measures what the student teacher has learned from the intervention in terms of knowledge and beliefs/attitudes. The third level measures changes in student teachers' behaviour after the intervention, assuming that changes in cognition ultimately lead to changes in behaviour. Finally, level four measures the effect of changed teacher' behaviour due to the intervention on student teachers' pupils behaviour in the classroom, perceived by the student teachers.

The discussed elements played a vital role in the design of the intervention, which will be presented in the method section. The focus of the intervention is to promote student teachers' interpersonal learning during the internship at the workplace. In order to measure the effects of the intervention on student teachers' interpersonal learning, the evaluation model of Kirkpatrick plays a key role.

Research questions

The aim of the present study was to investigate the implementation and the effect of an internship intervention, focused on the development of student teachers' interpersonal behaviour during their internship.

The main research question of this study is: To what extent is an intervention in student teachers' CM learning process a contribution to improving student teachers' interpersonal learning?

This question is specified into the following four sub-questions:

- Which elements of the intervention were mentioned by student teachers as being effective?

- What did the student teachers indicate to learn from the intervention in terms of knowledge and beliefs/attitudes?

- To what extent did the intervention show differences in student teachers' self-perceived interpersonal behaviour, the perceptions of their pupils and perceptions of their school-based teacher educator?

- What effect did the intervention have on pupils in their classroom in the perception of student teachers?

5.3 Method

5.3.1 Context of the study

This study was conducted in the context of a network of professional development schools (PDS). In a PDS, teacher education institutes and practice schools work collectively on educating student teachers. At a PDS, institutional courses are integrated in the context of the school. At non-PDS schools no teacher education curriculum components are taught in the school context. Supervising teachers at PDS schools also receive education from the university and obtain paid time from school management for student teacher supervision. Recent studies have provided indications that PDS practice schools as internship context in general show better results in terms of student teacher development than non-PDS practice schools (Helms-Lorenz et al., 2018).

5.3.2 Participants

A group of nine student teachers participated in this study, who were in the fourth year of their bachelors of teacher education program at a university of applied sciences and had their internship at a PDS. These student teachers all worked and studied at different practice schools within the same PDS-network. Similar to other teachers at the school, these student teachers were responsible for and taught their own classes.

The student teachers who participated in this study were free to refuse or stop cooperation at any time. Data provided by them after agreeing to participate was coded anonymously and stored in a digital data depository (see *Instruments*). During an entire academic year from September until June, nine student teachers learned in the context of their internship and participated in this study. The three student teachers that stopped their participation during the intervention suffered from delays during their internship.

5.3.3 Design of the intervention

The design of the intervention consisted of the following elements: first, the Questionnaire on Teacher Interaction (QTI; see *Instruments*) was used as a pre-test and pre-test information and this instrument also served as source for the start of the intervention. The outcomes of the QTI were discussed in an interview, in which student teachers' development of their interpersonal teacher behaviour was also discussed. The interview was followed by some activities proposed as intervention. Then, the student teachers were given five months to learn at their internship school, in which they had time to use the suggested activities. Finally, after these five months, a post-test was conducted, again using the QTI and an interview, the questions of which were identical to the first interview. In Figure 5.3 a timeline of this process is shown.

Figure 5.3

Timeline of the intervention

The QTI was used to measure the self-perception and the ideal-perception of the student teacher and also the perceptions from their pupils from two classes and their school-based teacher educator. In doing so, a 360 degrees image arose that showed the interpersonal relationship between the student teachers and their classes. The results of the QTI served as

the starting point of the first interview which was held with both the student teacher and their school-based teacher educator together. In this interview, the outcomes of the QTI were discussed (e.g. low/high scores on dimensions/sectors, large differences between self-perception and pupil-perception etc.) as well as interpersonal behaviour development goals (see *Instruments*). In the final part of the interview, follow-up activities were suggested, which were also e-mailed to the student teachers after the interview (see below).

Suggested activities of the intervention (based on Lecat et al., 2019) were:

- Lesson observations in consultation with the school-based teacher educator: who would be a potential expert or role model? Visit three or more colleagues in order to get a broad perspective on various interpersonal teacher styles. More specifically, observe interpersonal teacher behaviour: what strategies are shown? What aspects are inspiring for you and your own interpersonal teacher behaviour? Think of how these newly gained practical insights relate to your expectations and experiences and try to combine this with meaningful literature.
- Search actively for colleagues which you might consider as an expert or role model in the school with whom you have an incidentally, in passing conversation, for instance at the coffee machine, during lunch break, in the hallway etc. Try to focus this conversation on your interpersonal challenges and find tips and suggestions. Think how these newly gained practical insights relate to your expectations and experiences and try to combine this with meaningful literature.
- Organize a planned and focused conversation with colleagues you consider as expert or a role model. Try to define why this person is inspiring for you and describe what you would like to learn, what you are looking for in terms of interpersonal learning. After this conversation, think how these newly gained practical insights relate to your expectations and experiences and try to combine this with meaningful literature.

5.3.4 Instruments

In order to study the impact of the intervention on student teachers' interpersonal learning process and learning outcomes, the 24-items version of the Questionnaire on Teacher Interaction (QTI), which is the most widely accepted and commonly used instrument in teacher education in the Netherlands for gaining insight into student teachers' classroom management, was distributed by student teachers in two of their internship classes, mapping their pupils' perceptions of their

interpersonal teacher behaviour. In numerous studies, this instrument has shown to be reliable and valid, e.g. scale/sector scores show Cronbach's Alpha coefficients between .80 and .90 and scales have shown to display a circular pattern (Wubbels et al., 2006). This was also the case in the present study.

The focus of the first interview was to discuss the outcomes of the QTI, the student teachers' CM needs and the intervention. In the first phase of the interview the QTI outcomes were discussed. The following questions were asked: What QTI sector is scoring higher or lower than expected?, What are differences in the various perspectives? What explanation does the participant have?, Other points of interest?, What is recognizable?, At what dimensions or sectors would the participant want to work?, What would be helpful? What is the recommended strategy?

Then, the student teachers' interpersonal needs in their internship practice were discussed in order to help the student teachers set specific interpersonal learning goals. Finally, the potential activities of the intervention were presented in the interview, and discussed how the intervention could be beneficial for student teachers, working on their interpersonal learning goals. These activities of the intervention, along with the QTI data, were also sent by e-mail after the interview.

In the second round of the interviews the focus was on effects of the internship intervention, using the elements of the Evaluation Model of Kirkparick (1994). The following questions were asked, supplemented with follow-up questions to get more explanation or illustration: (1) Which elements of the intervention did you consider effective? (How did you perceive the intervention, what was done with the various activities, how often, how many colleagues, what was most helpful etc.), (2) What did you learn from the intervention? (what was learned from the various activities in terms of gained insights), (3) To what extent did the intervention lead to differences in your behaviour? (development or growth in teacher behaviour, (non-)verbal teacher behaviour etc.), and (4) What effect did the intervention in your opinion have on the pupils in your classroom? (pupils behaviour, classroom interactions etc.).

5.3.5 Analysis

All relevant interview fragments about student teachers' interpersonal teacher behaviour learning processes, and the potential and effects of the intervention, were placed in a case matrix. This matrix structured the information about student teachers' interpersonal goals, how the student teacher perceived the intervention, what was learned and the effects on their interpersonal teacher behaviour (with participant in the columns and topics in the rows). Fragments were considered to be relevant when

student teachers described an experience they had at the workplace, which they implicitly or explicitly related to the intervention and their learning process or learning outcomes. Explicit fragments were fragments in which student teachers made the connections themselves. and implicit fragments we as researchers saw a connection with other fragments, in which they, for instance, used similar terms or words, or described the same kind of experiences, but were unable to describe a pattern themselves. Irrelevant fragments were fragments in which student teachers described general learning experiences, activities in their process or learning outcomes, which were not related to their interpersonal learning and the intervention. For instance, student teachers sometimes described their school subject or the design or use of didactic materials. These fragments had no direct or clear connection to their interpersonal learning and the intervention, so were left out of the analysis.

In the analysis procedure, these relevant fragments were labelled in terms of categories based on the elements as described in the theoretical framework. The analysis was based on iterations of theory (Lecat et al., 2019; Kirkpatrick, 1994) and grounded in the data (Glaser & Strauss, 1967; Charmaz, 2014). For measuring elements on the first level (e.g. the effective level) as articulated in the Kirkpatrick Model, the following labels were used: (1) Planned conversations, (2) Unplanned conversations, and (3) Lesson observations. For gained insights (level 2) and developed behaviour (level 3) a large variation was found, which will be explained in the results section. The QTI data – relating to level 2 (self- and ideal perceptions of student teachers) and level 3 (pupil and teacher educator perceptions – were labelled into profiles (Brekelmans et al., 2005): (1) Directive, (2) Tolerant, (3) Tolerant-Authoritative, (4) Authoritative, (5) Uncertain-Tolerant, (6) Uncertain-Aggressive, (7) Repressive, and (8) Drudging. In the interviews these profiles were also discussed, as well as the two dimensions and eight sectors (or scales) of the Teacher Interpersonal Circle (Wubbels et al., 2015).

The researchers conducted the coding process for all nine cases. Then, the researchers discussed their coding (consensus based coding), and found that they had similar codes, only varying in 5% of the cases in which they had comparable words meaning similar code. This step was followed by a discussion between the researchers in which they reflected on the coding process. This did not lead to any further questions or doubt.

For analysing the QTI data, the scale and the dimension scores were computed for each student teacher, specifically looking at the self-perception and ideal-perception, as well as the perception from their pupils from two classes and their school-based teacher educator. Then, distances were computed between the scores for the scales/sectors and each of the earlier mentioned eight profiles, and each student teacher was assigned to the profile s/he was closest to. In the analysis a division

was made between effective and less effective teacher profiles, based on the characteristics of these profile types of the classroom environment as discussed in Wubbels et al. (2006). Moreover, a comparison between measurement moments was made in order to determine whether the participant had an effective teacher profile during both moments. It was possible that a participant had less effective teacher profiles during both moments, or showed growth, starting with a less effective teacher profile in the ideal-perception, self-perception, in one or two classes or the teacher educators' perception and had an effective teacher profile during the second measurement moment. Obviously, a reverse development was also possible, starting with an effective teacher profile during the first measurement and having a less effective teacher profile during the second measurement. To measure differences between the first and second measurement for ideal-perception, self-perceptions, teacher educator perception and pupil perceptions respectively, the researchers involved in this study used paired t-tests by looking at both dimension and sector scores.

5.4 Results

In the first part of the results section, the findings will be discussed concerning the implementation of the intervention, answering specifically the questions whether student teachers used the intervention and what elements they mentioned as effective (first level of Kirkpatrick). These details, as well as participants' fictional name, gender, and school subject are presented in the Table 5.1.
In the second part, the results of the three other levels of Kirkpatrick (1994) will be presented: the insights student teachers gained from the intervention, followed by the question whether the intervention led to differences in student teachers' behaviour, and the effect the intervention had on student teachers' pupils in the classroom.

Table 5.1

Student teachers' fictitious name, gender, and school subject, their main interpersonal challenge, the activities chosen and the effective elements of the intervention

Fictional name	Gender	School subject	Main interpersonal challenge	Activities chosen	Effective elements (1st level)
Peter	M	French language	Struggle with consistent teacher behavior. Afraid to relinquish control. Looking for strategies to keep control.	Colleagues lesson observations (six colleagues; three of his own subject, three of other subjects)	Colleagues lesson observations
Rhea	F	Mathematics	Dealing with undesired pupils' behavior, struggling how to intervene in those situations	All activities (two colleagues for unplanned conversations and lesson observations, one of her own subject, one of another subject / one planned conversation with a colleague-tutor)	Unplanned conversations and lesson observations
Julie	F	Mathematics	Struggle with consistent teacher behavior	All activities (ten colleagues of her own subject for unplanned conversations and lesson observations, two planned conversations with experienced colleague teachers of her own subject)	Unplanned conversations and lesson observations
Michael	M	German language	Feels insecure in authoritative teacher behavior when pupils show undesired behavior	Planned conversation with four colleagues (three colleagues of other subjects and one with a school counselor)	Planned conversation

Table 5.1 continued

Fictional name	Gender	School subject	Main interpersonal challenge	Activities chosen	Effective elements (1st level)
Patrick	M	Geography	Feeling too tolerant and permissive towards pupils. Is keen on becoming more strict on setting and keeping boundaries	All activities (four colleagues for unplanned conversations and lesson observations, three of his own subject, one of another subject. one planned conversations with a head of department	Unplanned conversations and lesson observations
Sofia	F	Mathematics	Struggles with consistent teacher behavior, wants to follow up own directions but finds it difficult to do so	Planned conversations with colleagues (five colleagues, three of her own subject, two of other subjects)	Planned conversation
Rose	F	French language	Is struggling with finding a balance between being strict and being liked by her pupils	All activities (two colleagues of her own subjects for unplanned conversations and lesson observations, one planned conversation with a school counselor)	Unplanned conversations and lesson observations
Jonathan	M	Chemistry	Is struggling with finding a balance between being strict and being liked by his pupils	All activities (four colleagues for unplanned conversations and lesson observations, one of his own subject, three of other subjects, one planned conversation with his school-based TE)	Unplanned conversations and lesson observations
Marc	M	Biology	Is seeking a more authoritative teacher behavior, also wants to be more relaxed in interpersonal contact with pupils	Planned conversations with colleagues (one colleague, his school-based TE)	Planned conversation

5.4.1 The implementation of the intervention
In the intervention, three types of activities were mentioned: lesson observations (6 student teachers), unplanned conversations (5 student teachers), and planned conversations (8 student teachers). The intervention gave them suggestions to set up and deepen this activity. Furthermore, student teachers were encouraged to combine the insights gained in this activity with literature. Except Peter, Michael, Sofia, and Marc, the other five student teachers indicated that they used literature to inform and support their approach. As mentioned previously, the student teachers who cooperated with this study were completely free to use the intervention or not. All student teachers claimed they used (parts of) the intervention. Peter only observed colleagues' lessons, Sofia, Michael, and Marc only had planned conversations with their colleagues. The other five student teachers did all three activities. All student teachers explicitly stated during the interviews that they regarded the content of the intervention as being effective, especially the combination of the information they got about the QTI and the ideas of activities suggested in the intervention. Michael: *"Without the intervention I would not have had the idea to have planned conversations with my colleagues, the suggested questions were really helpful. After all, these conversations helped me to find more routine in my contact with my pupils. In that sense, the intervention was a wake-up call.''*
Even Marc, despite experiencing a huge workload during his internship and having limited time to work with the intervention, regarded the relevance and the effectiveness of the intervention as being effective: *"My days at the school were quite full. I did not have the time to search for these activities myself. The intervention gave me concrete ideas and inspiration to work on the interpersonal issues I had, which were for me related to my attitude of a self-confident teacher in front of the classroom. Honestly, I really believe that the intervention gave my learning process, especially in the beginning, more structure and time-effectively''.*

Concerning the question which of the activities of the intervention was most mentioned as being effective, six student teachers (Rhea, Julie, Patrick, Rose, and Jonathan) explicitly mentioned that the suggestions for unplanned conversations and lesson observations inspired them and put them in an active role to really undertake activities at the workplace in order to work on their CM challenges. Interestingly, they mentioned they used these activities in a mix, starting initially with unplanned conversations with colleagues they regarded as expert at the workplace, and lesson observations which followed after the conversations they had. This was a self-chosen combination of their interpersonal learning needs, as this was not part of the formal instruction of the intervention. Julie described this strategy as follows:
"In the beginning, I had this 'problem class'. That was also what I found in the QTI's, as pupils graded me low on being friendly and showing

leadership. Thanks to the suggestions of the intervention I searched for more experienced colleagues who had this class under control and whom I and other colleagues regarded as an inspiring teacher. The suggested questions were helpful for the conversations I had with them. It really gave me more insights about our pupils, the way they behave, their needs, and how we as teachers can cope with them. I also combined it with lesson observation in the colleague's lessons. As a result, I learned to understand the practice of the classroom better, and I got some useful tips-and-tricks from both the conversations and his approach.''

These five student teachers were also the student teachers who used theory thoughtfully and made links from theory to their practice, as was explicitly mentioned in the intervention. Patrick described this as followed: *"Different colleagues had different approaches, that was what I found so interesting of having these conversation and lesson observations. The conversations were more concrete, really to get tips, the lesson observations were more to get an idea of how you do it in practice. Afterwards, I combined it with literature to use these experiences more specifically for my pedagogical research courses."*

The activity which was least mentioned as being effective was the planned conversation. The lack of time and practical opportunity to speak with colleagues was mostly mentioned by the student teachers who did not use this activity. According to Sofia, Michael, and Marc who did mention this activity as valuable, these conversations were held with their supervising teacher educators from whom they got feedback on their CM and suggestions, which was from their perspective sufficient for his interpersonal learning. Sofia described the importance of this role as followed: *"My coach is very supportive. In our talks, she often gave me pedagogical tips, such as how to respond to pupils, or 'what did you run into, what did you find difficult, what do you need'. Quite general. These conversation were also mostly scheduled, so basically not always at the moment you need it most."*

5.4.2 Effects of the intervention

In this part of the results section, the findings of what was learned in terms of gained insights (2nd level Kirkpatrick), whether the intervention led to differences in student teachers' behaviour (3rd level Kirkpatrick), and the effect of the intervention on student teachers' pupils in the classroom (4th level Kirkpatrick), will be presented. The second, third, and fourth level were regarded from the student teachers' perspective, the third level also from pupils' and school based teacher educators' perspective. As for the QTI outcomes in the results section, only the statistical significant outcomes were reported.

What did the student teachers learn from the intervention in terms of knowledge and beliefs/attitudes?

All student teachers described insights they gained following on the use of the intervention. More specifically, a large variation of different forms of knowledge and insights were mentioned by the student teachers. Four student teachers (Rhea, Michael, Sofia, and Rose) gained knowledge about how to be consistent in their teacher behaviour towards their pupils and (non-)verbal interpersonal communication techniques. Sofia, for instance, struggled with finding an own interpersonal style and learned strategies to follow up her own directions. Michael gained knowledge about the impact of his teachers' interpersonal behaviour on his pupils and, as a result, getting and keeping pupils' attention. All of them consulted colleagues and teacher educators at the workplace. The impact of that was very well described by Rose: *"My main struggle is consistent teacher behaviour. I really find it hard to act strict when I said I would be. What helped me mostly were the lesson observations, as I saw the same pupils showing the same behaviour to my fellow colleagues and understand this was not personal to me. I also learned that my colleagues reacted strict, but with humour. That inspired me. These insights helped me to be more relaxed about it and gave me strategies what to do, what to say and how to act."*

Julie and Patrick gained not only knowledge about teachers' interpersonal behaviour, but also the impact it can have on the structure in the classroom, building up lessons, gaining dominance and pupils' span of concentration.

Peter and Jonathan gained knowledge about pupils' behaviour and the interaction with them. Jonathan: *"Sometimes, I am too impatient and demanding towards pupils. I tried to find colleagues in whom I find recognition with my own beliefs and style. From the conversations I had with them, and especially the lesson I observed, I learned how more experienced colleagues have their things in order. That gave me some practical tips how to act during changeovers during my own lessons, such as finalizing a phase of the lesson only when you have complete attention of all pupils, summarizing or asking pupils to do that, and then go on to the next phase, still demanding complete attention. When you do so, pupils start to correct each other, but only if you are really consistent in that, I had never experienced that before. That was a great insight, because before that, I only experienced rather chaotic changeover moments."*

Like Jonathan, Marc gained knowledge about changeover moments during his lessons. Furthermore, five student teachers (Rhea, Julie, Michael, Sofia, and Marc) explicitly mentioned that the intervention made them feel more self-confident in their interpersonal teacher behaviour.

Outcomes of the QTI: student teachers' self-perception and ideal perception

There were no statistically significant differences between the first and second measurement in student teachers' self-perceptions. However, there were differences in self-perceived effective or ineffective profiles between both measurements. Julie had an ineffective teacher profile in one class. In all other measurements she had effective teacher profiles. Patrick and Jonathan had both an ineffective teacher profile during the first measurement, but were effective in both classes in the second measurement.

As for student teachers' ideal- perceptions, all student teachers had an effective teacher profile in both measurements. There was a statistically significant difference in the scores for the cooperation-submission dimension: measurement 1 (M= .94, SD= .071) and measurement 2 (M= .71, SD= .13); (17)= 9.85, p< 0.01. The other statistically significant difference was found in the score for cooperation-opposition: measurement 1 (M= 1.20, SD= .31) and measurement 2 (M= .97, SD= .39); (17)= 3.90, p< 0.01. These findings indicate less preferred understanding and less preferred cooperation over time.

To what extend did the intervention lead to differences in student teachers' behaviour?

All student teachers indicated that the intervention was helpful in developing their interpersonal teacher behaviour. Peter, Michael, Patrick, Sofia, Marc, Julie, and Rose described developments concerning their own (non-)verbal interpersonal teacher behaviour. They mentioned differences towards their teacher behaviour as becoming calmer in (non-)verbal teacher behaviour and more predictive behaviour towards his pupils (Peter), becoming more anticipated on directing pupils' behaviour (Michael), developing a more friendly and effective teacher style (Patrick), learning how to use eye-contact and hand gestures in her behaviour (Sofia), becoming more consistent in his teacher behaviour (Marc), and the tone of voice that became both more friendly and clear (Julie). These findings mostly related to themselves, as also Rose described: *"During this year, I learned that minor things can make an impact, like standing close to pupils, making eye-contact, or a hand gesture, it all can influence the dynamics with the pupils in the classroom. For me, especially making eye contact works the best, when I do that, I immediately see response from my pupils, they become more calm immediately."*

Rhea and Jonathan reported outcomes which were not only related to their own (non-)verbal interpersonal behaviour, as the other student teachers described, but also focused on the interaction between them and their pupils. They described aspects of their own (non-)verbal

interpersonal behaviour and connected this to the challenging situations they experienced with their pupils and the classroom. For instance Rhea, who struggled with her time-management and pupils behaviour during changeovers in her lessons, learned how to use hand gestures to instruct her pupils, to manage these processes more effectively. Rhea: *"My main challenge was keeping order during changing moments. So I had to find structures, such as having good practices of effective didactic forms, combining the right pupils to each other and as soon as I started to know them better, I felt more equipped to address them during these moments. What worked for me as well were hand signals to gain order during moments of change. In a matter of time pupils knew what I expected from them."* Furthermore, she described how her time-management and changeovers during her lessons improved.

Jonathan struggled with finding a balance between being strict and being liked by his pupils. He learned to be more persistent and less hesitant towards his pupils. Jonathan: *"As I gained experience and practical knowledge in terms on how to act and what to do, I noticed that I was having less order problems and I became more self-confident about my teacher attitude. I learned that both establishing and maintaining rules became a second nature to me, I became more persistent and less hesitant, stricter in my demands towards my pupils, but on the other hand also giving them more compliments."*

Outcomes of the QTI: pupils' perceptive and teacher educators' perspective
There were no statistically significant differences found between the first and second measurement in student teachers' pupils-perceptions. However, there were some differences found in effective and ineffective teacher profiles. According to student teachers' pupils, Rhea, Julie, Sofia, Jonathan, and Marc showed a desired development, resulting in having an effective teacher profile in both measurements and showing growth in both measurements. Patrick had an effective teacher profile in class during the first measurement, but an ineffective profile in the other class. However, in the second measurement in both classes he had an effective teacher profile. Peter scored an effective teacher profile in one class during the first measurement, and an ineffective teacher profile in the other class. Both scores remained the same in the second measurement. According to pupils' QTI, Michaels' scores showed a stable but undesired development, having ineffective teacher profile scores in both classes during both measurements. The CM learning process of Rose also showed an undesired development, as her scores during the first measurement showed effective teacher profiles, but during the second measurement ineffective teacher profiles.
There were no statistically significant differences found between the first and second measurement in the teacher educator perceptions. More

specifically, looking at changes in teacher profiles, eight teacher educators evaluated student teachers' development in a desired direction. Peters' QTI showed a student teacher' development from a Drudging profile in the first measurement to a Uncertain-Tolerant profile in the second measurement.

What effect did the intervention have on student teachers' pupils in the classroom?

There were no indications the intervention had an effect on student teachers' pupils in the classroom. Although Rhea, and Jonathan explicitly argued that, according to their own pupils, pupils behaviour in the classroom improved, it remained unclear what specifically changed and how this was potentially related to the impact of the intervention. For Michael, Patrick, Sofia, and Julie it did not became clear what the effect of the intervention is on their pupils in the classroom. Marc and Peter were during their internship mostly focused on their own (non-)verbal teacher behaviour. Therefore, their outcomes were not directly related to changes in pupils' behaviour.

5.5 Discussion

The main question of this study was: to what extent is an intervention in student teachers' interpersonal learning processes a contribution in improving student teachers' interpersonal behaviour? The ambition of the implementation of a designed intervention during student teachers' internship was to add focus and direction in student teachers' interpersonal learning, and to find out whether that was effective. The main results of this study showed that the participants regarded the intervention as being effective and the results indicated that the intervention provided the student teachers with opportunities to structure their interpersonal learning process. Concerning the interpersonal learning process, there were indications that the intervention indeed added focus and direction to student teachers' interpersonal learning process, as all student teachers used the intervention to structure their interpersonal learning process in a timeline of activities, already from the beginning of the internship, which is in contrast to the previous study whereby an outcome was that student teachers required more effort to find a structure (see Chapter 4).

With regards to the use of the various activities of the intervention, the planned conversation was least mentioned. This activity was not desired or considered effective by the student teachers. The most used activity was the combination of unplanned conversations and lesson observation. Interestingly, as this was not suggested as a combined activity in the design of the intervention, this combination was probably what student teachers preferred in their interpersonal learning. Moreover, the student

teachers who used this as such, explicitly stated this put them in an active role to work on their interpersonal challenges. This combined activity seems to indicate an added value of this study for promoting student teachers' interpersonal learning during the internship. This finding is in line with previous research about the importance of informal learning at the workplace (Lecat et al., 2019). By working with this intervention they all added structure to their interpersonal learning process, which is, in comparison to the previous chapter a difference, as half of the participants of that study lacked focus, especially during the first four months of their internship, and experienced an unstructured start with negative consequences as to the quality of their interpersonal learning process. Another added value of this study is the variety in the consultation of different colleagues at the workplace, who did not have a formal status as teacher educator, but were usually daily colleagues.

Regarding what student teachers indicated they have learned from the intervention in terms of knowledge and beliefs/attitudes, results showed a large variation in gained knowledge and insights. Student teachers gained insights about (non-)verbal interpersonal teacher behaviour, pupils behaviour, how to be consistent in their own teacher behaviour, the interaction between teacher and pupils, and changeover moments during their lessons. These topics of knowledge and insights were helpful for them in finding their own interpersonal teacher style, using strategies to obtain control on classroom situations, gaining structure in the classroom, pupils' behaviour and getting their attention. Moreover, as five student teachers explicitly mentioned this (while it was not explicitly asked during the interviews), the intervention seemed to improve student teachers' self-confidence in their interpersonal teacher behaviour.

These findings are in line with other studies which tested an intervention to promote student teachers' CM learning, and found similar outcomes in terms of increased insights, having a deeper understanding of CM situations and their performance, and growth in self-confidence (Weber et al., 2018; Seufert, 2022; Theelen et al., 2022). Although the gained knowledge and insights were not visible in student teachers' self-perception, there were two statistically significant differences found in student teachers' ideal-perceptions. These findings seem to indicate less preferred understanding and less cooperation. This is an interesting finding as previous research suggests that ideal perceptions tend to stay stable over time (Brekelmans et al., 2005).

As for the extent in which the intervention showed differences in student teachers' interpersonal behaviour, perceived by themselves, the perceptions of their pupils and perceptions of their school-based teacher educator, only found self-perceived indications of differences were found. No statistically significant differences were found in the QTI, nor did teacher educators refer to this during the interviews. According to the student teachers themselves, however, they all described differences in their interpersonal teacher behaviour. These differences referred mainly

to developed (non-)verbal teacher behaviour, as being calmer in front of the classroom, being more predictive for their pupils, being more friendly as the tone of voice changed, and using eye-contact and hand gestures. Jonathan and Rhea, who used the combination between unplanned conversations and lesson observations, not only described these kind of outcomes, but also related this to the interaction they had with their pupils and the interest their learning had for them. Their interpersonal learning outcomes, in contrast to all other student teachers, show characteristics of expert teachers focus as they described classroom dynamics and interactions. Similar to the other student teachers in this research, novice teachers are mostly focused on pupils' behavior or behavioral norms (Wolff et al., 2021). These findings show that all student teachers benefit from the intervention, and the structure it provided in the promotion of their interpersonal learning process.

As for the fourth level of Kirkpatrick, no effects of the intervention on pupils in the classroom in the perception of the student teachers were reported. This can probably be explained by the focus of this study on student teachers' interpersonal learning, which might have led to (mostly) student teacher centred outcomes. Moreover, the design of the method only captured pupils' opinions through the QTI. Verifying the impact of student teachers' use of the intervention on the level of changes in pupil behaviour would have entailed a more complex and elaborated methodological setup. For future research I would recommend to collect more data from pupils, by for example by conducting classroom observations or interviews with pupils. The finding that most data was found in the first, second and third level of Kirkpatrick is in line with studies to the effectiveness of Kirkpatrick, which also indicates that no valuable information on the fourth level is found (Reio et al., 2017; Bates, 2004).

Finally, the main conclusion of this study is that the intervention was regarded as effective to student teachers. The combination of the activities unplanned conversations and lesson observations worked for student teachers. In order to structure this into the student teachers' learning process, the QTI played a helpful role. Furthermore, the added value of this research is that the interventions were helpful for student teachers to structure and promote their interpersonal learning process, considering the broad variety of gained knowledge and beliefs/attitudes, and to differences in their interpersonal behaviour.

Implications for teacher education practice
By offering student teachers an intervention to promote their CM learning, I addressed researchers' calls for more exposure of CM in the teacher education curriculum (Jones 2006), increasing the visibility of CM in the

curriculum (O'Neill & Stephenson, 2011) and teaching effective strategies for developing student teachers' CM (Oliver & Reschly 2010).

Looking at the design of this intervention, it is arguable the QTI and its theoretical basis play a key role, not specifically for mapping the effects (as these findings were limited, but mostly for giving student teachers and their supervisors opportunities for student teachers' interpersonal learning development). By using this instrument in the intervention, and by measuring multiple perspectives (student teachers' self and ideal, their pupils and their school-based teacher educator), it gives the student teacher and the teacher educator insights concerning student teachers' interpersonal teacher behaviour. As a result, it directly confronts the student teacher with these multiple perspectives, leading to deepened conversations about how the various perspectives value their performance, which allows them also the opportunity to work on that directly. This is a significant gain in comparison to the practice of student teachers who were in the same stage of their teacher education, not having these meaningful insights, resulting in having an unstructured internship and experiencing interpersonal issues for an unnecessarily longer period of time.

As the QTI not only provided insights in the current situation, it also allowed student teachers to work on specific activities of the intervention to improve their interpersonal teacher behaviour. This element was rather important, as this was greatly valued by the student teachers, in particular the combination between unplanned conversations and lesson observations. In their consultation of certain expertise, they found various colleagues within the context of the school. From a teacher educators perspective, that is a crucial element which does not need more guidance: the student teachers will find this expert in the school and it is not necessary that this expert is a formal teacher educator. However, teacher educators do need to keep an eye on that process, by finding out if those informal processes in student teachers' learning are being planned and carried out (see also Lecat et al., 2019).

The researchers in this study recommend student teachers be stimulated in student teaching with activities such as seeking unplanned conversations with colleagues in the school who they regard as experts, and observing their lessons as well. This combination seems to be motivating for student teachers. The activity of planned conversations, on the other hand, did not seem to be very effective. The student teachers had these planned conversations generally with formal teacher educators and official experts in the school (e.g. counselling and management staff), who might be not as well positioned for discussing specific issues of student teachers' interpersonal learning.

Furthermore, as for the future use of the activities in the intervention, I also recommend to track the interpersonal learning process more deeply by asking student teachers more frequently what activities they work on, with whom etc. By doing so, teacher educators can have a better

understanding of the progress and decide whether it helps them, or any additional adjustments or any other help is needed. There is a possibility that some student teachers cannot oversee that for themselves. Therefore, the role of teacher educators is essential for keeping an eye on the progress of student teachers' interpersonal learning processes.

Limitations and opportunities for further research

Probably the main limitation of this study is the broader impact of the intervention on student teachers' interpersonal learning. With this study I mapped what was learned about elements of the intervention. What is (still) unknown is what would have been learned, with whom and at what pace, without the intervention. In my view, it was not ethical to split the group of participants and have a control group, which learned without the benefits of the intervention. Therefore, I could only compare the findings to the previous study.

In the data collection process of the second round of interviews, I asked the student teachers which activities they used and how many colleagues they consulted. However, I did not ask them how many times they did a lesson observation or had a conversation with a particular colleague or teacher educator. This could have given us more detailed data about the intensity of certain activities.

I collected the data from September till March. However, student teachers had their internship till the end of the academic year, which finished in June. One could argue to set out another round of QTI, at the end of the internship, for a potentially more detailed picture of student teachers' interpersonal teacher behaviour and the outcomes of the intervention.

Another limitation was the primary focus on student teachers' interpersonal learning, and the way this intervention helped them to develop their interpersonal teacher behaviour. As I had the QTI as an instrument mapping various perspectives on student teachers' interpersonal teacher behaviour, I did not look at any other aspect of outcomes of the student teachers' internship such as their reflection reports and their internship portfolio. Therefore, I was unable to determine which student teachers developed most significantly regarding interpersonal teacher behaviour qualities or who became a 'good teacher'. Obviously, I knew this beforehand, as a result of the method setup, but for future research it might be advisable to also use other elements of the internship, in perceiving student teachers' growth in interpersonal learning.
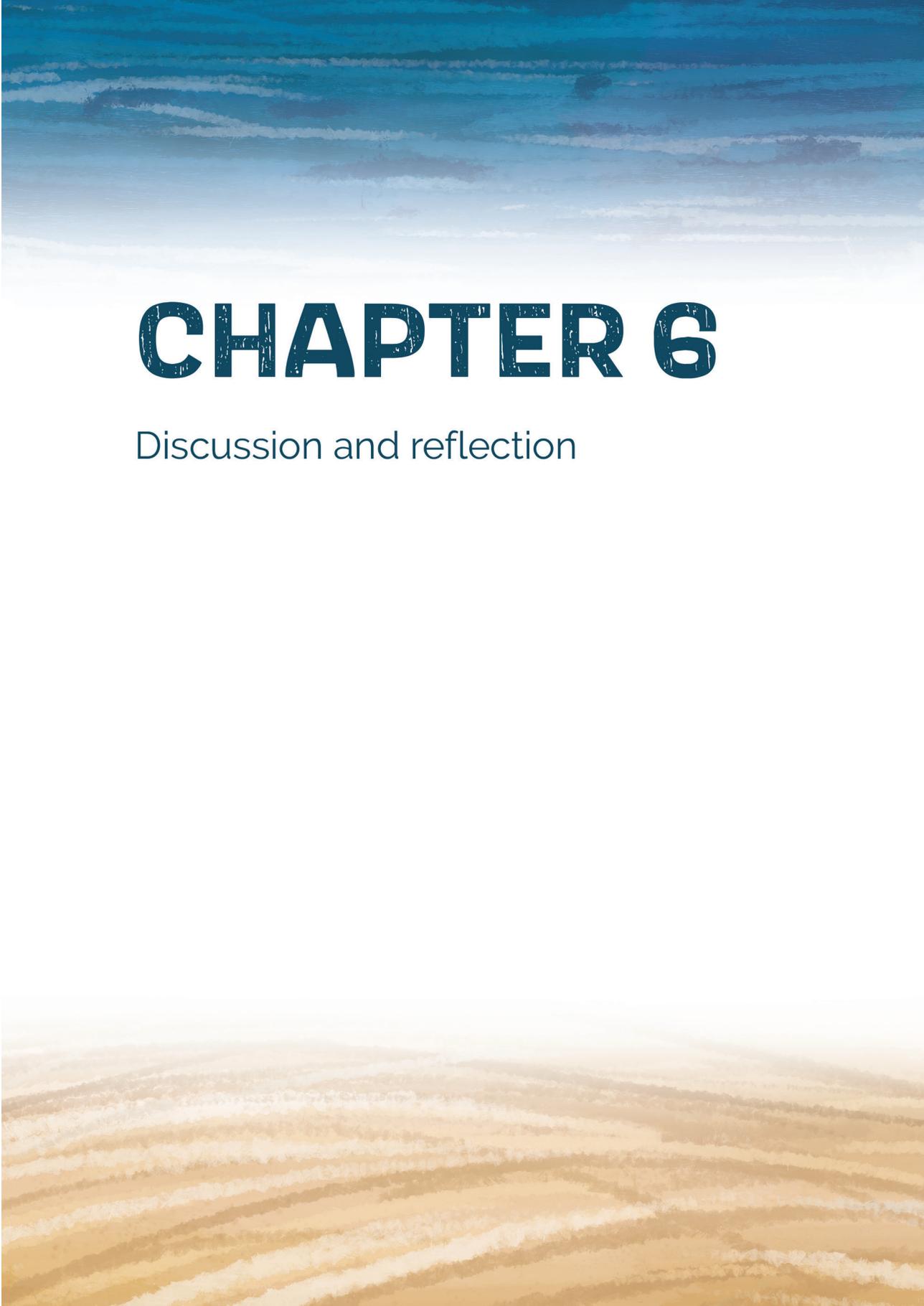
CHAPTER 6

Discussion and reflection

6.1 Introduction

The main research question of this dissertation was: *How does the teacher education institute and (PDS) school-based part of the teacher education curriculum contribute to the development of classroom management of student teachers?*

To answer this main research question, the following sub-questions were investigated:

1. What do the teacher education institute and (PDS) school-based part of the curriculum concerning classroom management look like in terms of the written and preferred curriculum, and how does this compare to the theoretically suggested curriculum content?

2. What student teacher CM learning processes (implemented curriculum) and CM learning outcomes (attained curriculum) can be found during their internship and what patterns emerge in the relationship between these elements?

3. To what extent does an intervention in student teachers' CM learning process contribute to the improvement of student teachers' interpersonal relationships with their classes?

These three sub-questions were answered in three consecutive studies, which were reported in four empirical chapters (Chapters 2 through 5). In the present chapter, the results of these studies are summarized and synthesized to a general conclusion, followed by a discussion of the main results, limitations, suggestions for future research, and implications for practice. Finally, in the epilogue a retrospective view will be given to the personal experience which was written at the start of this dissertation.

6.2 Overview of the empirical studies

6.2.1 Student teachers' classroom management during the school internship
Chapter 2 focused on the attention for CM in the internship part of the curriculum. I addressed the research question: What do the teacher education institute and (PDS) school-based part of the curriculum concerning classroom management look like in terms of the written and preferred curriculum, and how do these compare to the theoretically suggested curriculum content? With a qualitative research approach, using a single case study design, the study focused on (a) identifying relevant CM curriculum topics in the Handbook of Research on Classroom Management, (b) analysing curricular documents for the intended CM curriculum, and (c) interviewing teacher educators who taught in the context of the program, regarding their preferred CM curriculum. The five

components of CM (Evertson & Weinstein, 2006) - namely (1) establishing interpersonal relationships with and among pupils, (2) optimizing pupils' access to learning, (3) encouraging pupils' academic engagement, (4) developing pupils' social skills and self-regulation and (5) intervening when behaviour problems occur - were used to map the content focus on CM. To map the teaching-learning process of CM, I looked at didactical principles mentioned in the data that described how to (best) teach CM to student teachers, such as teaching methods, theoretical framing, sequencing, the role of the teacher educator, and so on.

In both editions of the *Handbook of Classroom Management* (Evertson & Weinstein 2006; Wubbels et al. 2015), the CM components 'establishing interpersonal relationships with and among pupils', 'developing pupils' social skills and self-regulation' and 'intervening when behaviour problems occur' were most frequently mentioned. Only two handbook chapters explicitly focused on didactical principles and the process of how (student) teachers learn to become good classroom managers, and only a limited number of chapters explicitly provided suggestions for teacher education. The six teacher educators also seemed to value these component most. Furthermore, they indicated that student teachers were in the lead of their own learning process, that the practical side of CM (experience in teaching) was essential and that the relationship with pupils was the core of student teachers' CM learning.

As for the written curriculum, the available teacher education program documents were studied: (1) the professional development course document (portfolio: general set of competences of student teachers' internship learning goals), and (2) the pedagogical research course document (thesis: competence development research project with emphasis on the pedagogical teachers' role). In the studied teacher education program documents, only limited attention for CM was found and that what was found related mainly to the components 'establishing interpersonal relationships with and among pupils' and 'optimizing pupils' access to learning'. However, due to the design of the curriculum, student teachers did have the opportunity to fully focus on CM, should they want to do so.

Overall, four out of the five CM components of Evertson and Weinstein (2006) were found, yet their presence differed between the different data sources.

In sum, there was a discrepancy in the amount of attention for CM and its focus between theoretical sources, the written curriculum of the case studied and the preferred curriculum according to teacher educators. Moreover, even differences in attention and focus existed between the different teacher educators involved.

6.2.2 Patterns in student teachers' learning processes and outcomes of classroom management during their internship

Chapters 3 and 4 described an exploratory study into the processes of student teachers' CM competence development and its outcomes in the context of professional development schools. The following question was addressed: What student teacher CM learning processes (implemented curriculum) and CM learning outcomes (attained curriculum) can be found during their internship and what patterns emerge in the relationship between these elements?

In Chapter 3 the output of curriculum assignments of four student teachers was analysed. Furthermore, the student teachers, their school-based and institution-based teacher educators were interviewed. The focus of the investigation was on student teachers' CM goals, learning processes and learning outcomes. In the analysis process, I created a reconstructive picture of the CM learning process, by placing meaningful moments (as mentioned by the student teachers) and input from teacher educators on a timeline. In doing so, the learning process of the student teachers for CM was reconstructed in terms of (self-regulated) learning, the role of others and (un)planned (learning) activities. The results showed relatively similar CM goals between the four student teachers: develop a caring and supportive relationship with and among pupils. Also, the results showed similar learning outcomes: more knowledge of teacher and pupils' behaviour and CM procedures, more confidence in maintaining order, more skill repertoire in dealing with classroom disruptions. A large variation in learning processes related to CM was found. I distinguished three student teacher' CM learning approaches: a 'Systematic learning and enterprising approach', a 'Searching and struggling approach' and a 'Following and wait-and-see approach'. The 'Systematic learning and enterprising approach' was characterised by an active and prospective regulation of the two student teachers that showed this approach, meaning that they were in the lead of their own learning process, actively searched for expertise and (learning) activities. They also consciously worked on their learning goals. Moreover, the two student teachers with this approach needed others as experts. The 'Searching and struggling approach' was typified by a pro-active attitude, by searching and doing various activities, but also by having difficulties with getting a grip on the learning process. The one student teacher with this approach needed a role model. Distinctive for the 'Following and wait-and-see approach' was that the student teacher that had this approach was rather reactive and unsystematic, leading him to have an unplanned and unconscious learning process. This student teacher needed others as a coach.

As for CM outcomes, results showed that the learning outcomes of three student teachers related to 'establishing interpersonal relationships with and among pupils', one student teachers' CM learning outcomes were

related to 'intervening when behaviour problems occur'. Although all student teachers showed a considerable CM development, learning outcomes showed some differences in what elements of competence development were dominant: the emphasis of two student teachers' CM outcomes was on their attitude development. One student teacher mostly developed her skills. Another student teacher CM learning outcomes showed an integration of attitude and skills. However, outcomes of the QTI – a questionnaire to map the teacher-pupils interpersonal relationship via the perceptions of pupils in student teachers' classrooms (and via their self-perceptions) - showed only minimal differences in development between the student teachers. Therefore, it seemed that outcomes overall were relatively similar, and that different learning processes only led to marginally different learning outcomes.

Following Chapter 3, Chapter 4 focused on finding patterns in student teachers' learning processes and outcomes of CM during the internship with a larger group of student teachers (n= 24). More specifically, Chapter 4 focused on CM goals, learning processes and learning outcomes of student teachers during their internship, and further investigated the interrelationships between these, as I could not identify such relationships in chapter three. Student teachers' CM goals varied widely. The focus of the student teachers was on all components as described by Evertson and Weinstein (2006) and not just on 'developing interpersonal relationships', as was found in Chapter 3.

Four patterns in student teachers' CM learning processes were found: 'Knowledge driven', 'Feedback driven', 'Inspiration driven' and 'Practice driven'. These profiles differed in terms of student teachers' use of theory, the role of their teacher educators and student teachers' self-regulated learning (SRL). The most occurring pattern, e.g. largest group could be identified as 'Knowledge driven' student teachers ($n = 10$). They used theory as foundation, meaning that theory had the function to structure and enrich their professional and practical knowledge. Concerning the role of teacher educators, they were looking for experts. In their SRL, they were active and prospective, meaning that they made deliberate choices concerning their learning goals and strategies, and reflected deeply on what was learned, their learning process and their own role.

'Feedback driven' student teachers ($n = 7$) also used theory as foundation, but preferred a teacher educator who would coach them and making their learning process visible. Similar to the 'Knowledge driven' profile, these student teachers were also active and prospective in their SRL.

'Inspiration driven' student teachers ($n = 3$) also used theory as foundation. They were looking for a role model, who would give them inspiration and ideas for teaching practices. Furthermore, these student teachers were active and retrospective in their SRL. They made deliberate choices in relation to their learning goals and strategies, reflected deeply

on their learning process, but they were retrospective as most of their learning experiences were unplanned and no active regulation took place. 'Practice driven' student teachers (n = 4) used theory as prescriptive, which means that they looked in theory for specific insights or advises which they could use in their practice. Similar to 'Inspiration driven' student teachers, these student teachers needed a role model. In their SRL, these student teachers were passive and retrospective, meaning that there was a lack of activity and regulation of their learning process.

The 'Knowledge driven' and 'Practice driven' student teachers tended to be slightly more often focused on 'Pupils' socio-emotional development'. The development of 'Feedback driven' and 'Inspiration driven' student teachers was slightly more often on 'non-verbal communication and teacher behaviour'. As for the relationship between CM learning profiles and skills, the 'Knowledge driven' student teachers paid slightly more attention for 'creating a safe and structured classroom climate', the student teachers in the other groups tended more to 'non-verbal communication and teacher behaviour'. Regarding the QTI outcomes, most student teachers of every group had an effective learning profile and showed positive developments in their teacher-pupils relationships. Interestingly, the five student teachers that had a less effective teacher profile in terms of the QTI, mostly belonged to the 'Feedback driven' group.

As for the relation between student teachers' CM processes and CM outcomes, one statistically significant relation was found: active (and prospective) student teachers' had CM learning outcomes that were more likely focused on (non-)verbal communication and teacher behaviour, unlike passive (and retrospective) student teachers, whose CM learning outcomes were more likely associated with their self-confidence. No other clear links between processes and outcomes could be found.

6.2.3. The Effects of Early Intervention In Student Teachers' Classroom Management Learning Process

In Chapters 2 to 4 of this dissertation I addressed student teachers' CM learning processes and CM learning outcomes. In order to improve their learning and these outcomes, I designed an intervention. Chapter 5 focused on the development and the implementation of this intervention, which had as goal to give more focus and direction to student teachers' CM learning by offering them activities they could use and with a focus specifically on their teacher-pupils interpersonal relationships (one of the CM components). First, the QTI was used as a pre-test and pre-test information and this instrument also served as source for the start of the intervention. The outcomes of the QTI were discussed in an interview, in which student teachers' (focus on the) development of their interpersonal teacher behaviour was discussed. The interview was followed by some

activities proposed. Then, the student teachers were given five months to learn at their internship school, in which they had time to use the suggested activities. Finally, after these five months, a post-test was conducted, again by using the QTI and by conducting an interview, the questions of which were identical to the first interview. Nine student teachers who engaged in this intervention participating throughout the course of an academic year.

This study aimed to address the following question: To what extent does an intervention in student teachers' CM learning process contribute to the improvement of student teachers' interpersonal relationships with their classes?

The results of this study showed that the participants considered the intervention as being effective, and the results indicated that the intervention provided the student teachers with opportunities to focus and direct their CM learning process, as all student teachers used the intervention to structure their learning process in a timeline of activities, already from the start of the internship.

With regard to the use of the various activities proposed, the planned conversation was least mentioned. This activity was not preferred by the student teachers. The most used was the combination of unplanned conversations and lesson observations. Interestingly, as this was not suggested as a combined activity in the design of the intervention, this combination was probably what student teachers preferred in their learning.
Results showed a large variation in gained knowledge and insights. Student teachers gained insights as a result of the intervention about (non-)verbal teacher behaviour, pupils' behaviour, how to be consistent in their behaviour, the interaction between teacher and pupils, and changeover moments during their lessons.
As for the extent to which the intervention led to differences in student teachers' interpersonal behaviour, as perceived by themselves, the perceptions of their pupils and perceptions of their school-based teacher educator, only self-indicated indications of differences were found. Moreover, in the interviews, student teachers also described differences in their interpersonal teacher behaviour. These differences referred mainly to developed (non-)verbal teacher behaviour, being calmer in front of the classroom, being more predictive for their pupils, being more friendly especially via the tone of voice, and using eye-contact and hand gestures. In the interviews, no effects of the intervention on pupils in the classroom were reported by student teachers. No statistically significant differences were found in the pupil perceptions of the student teachers on the QTI.

6.3 Discussion of main findings

Content focus of CM - CM learning can include many different goals/topics and approaches (see Wubbels et al., 2006; Evertson & Weinstein 2006), but it was unclear what components of CM are important for student teachers during their internship.

Chapter 2 showed that most attention in literature and by teacher educators was related to the components 'establishing interpersonal relationships with and among pupils', 'developing pupils' social skills and self-regulation' and 'intervening when behaviour problems occur'. In the teacher education curriculum of the studied teacher education institute, courses focused only on the components 'establishing interpersonal relationships with and among pupils' and 'optimizing pupils' access to learning'. This finding is in line with previous research arguing the discrepancy between the CM knowledge base and the content of the teacher education curriculum (Freeman et al., 2014), and the limited content and exposure of in CM in the teacher education curriculum (Jones, 2006; O'Neill & Stephenson, 2011). Furthermore, it is known that discrepancy occurs between what is written in the curriculum (intended curriculum) and what is actually taught and learned in practice (implemented curriculum) (Thijs & van den Akker, 2009; van den Akker, 2003). In Chapter 3, the CM learning processes of the participating four student teachers were focused on 'establishing interpersonal relationships with and among pupils'. This finding is in line with various researchers (e.g. Wubbels et al., 2006), who argue that this component is the most important aspect of student teachers' CM learning, and even essential to other teacher competences. Furthermore, this is explainable by the attention this components also had in the teacher education curriculum (see Chapter 2).

Chapter 4 showed a more detailed picture of student teachers' CM learning goals and outcomes. In this larger scale study ($n = 24$), student teachers had attention for all five components of CM (Evertson & Weinstein, 2006) were found in student teachers' learning goals. Interestingly, this changed over the course of the internship, as more than half of the student teachers reported predominantly learning outcomes on topics such as (non-verbal) communication, their teacher behaviour and the relationship with their pupils. This might be explained by the fact that the attention given to these topics is typically rather abstract in curriculum courses, but that student teachers might need them to become more concrete and urgent during the internship. Again, this finding is in line with previous studies describing the interpersonal components as conditional, essential and recurring element in student teachers' learning (Wubbels et al., 2006; Maulana et al., 2015), and in the development of professional identity of student teachers (Pillen, 2013). In sum, all components of CM play an important role during student teachers'

internship and thus should be given sufficient attention by teacher education curriculum and teacher educators from both the teacher education institute and at the practice school. However, the interpersonal component, described by Evertson and Weinstein (2006) as developing interpersonal relationships remains over all the years of research in teacher education the most vital component in student teachers' learning (Wubbels et al, 2006; Shuell, 1996; Veenman, 1984).

The CM learning process – Regarding student teachers' CM learning process, three elements played a key role: sources of learning (in particular the role of teacher educators), the use of theory and student teachers' SRL. One of the main factors of student teachers' CM learning during the internship was student teachers' SRL. In both Chapters 3 and 4 I found similar variation in student teachers' self-regulated learning. The largest group (71%) were student teachers with an active/prospective profile. Fewer student teachers had an active/retrospective profile (12%) or a passive/retrospective profile (17%). The finding concerning the largest group having an active/prospective profile is in line with Endedijk et al. (2012). They also indicated that the largest group had an active/prospective profile. Furthermore, in their study with a larger number of participants ($N =$ 133), they also reported a considerable amount of student teachers being active/retrospective, passive/retrospective and, in contrast to the present study, passive/prospective.

Concerning the role of theory, this study reported some unique finding, because the use of theory seemed important for student teachers' CM learning. All student teachers seemed to value theory and used it as such during their CM learning process. However, there was a distinction in the way they used it: 83% of the student teachers in the present study used theory as foundation, 17% used theory as prescriptive. In her work, Sjølie (2014) described also other forms of student teachers' use of theory, which makes it invalid to compare the percentages, but the findings in my study are in contrast with her work, as she found that a smaller number of student teachers used theory as foundation, and more student teachers used theory as prescriptive.

Moreover, the findings in this study suggest a larger role for teacher educators than being a coach and supervisor, as indicated by Jones (2006).Besides the role of a coach, also the role of an expert and role model played a key role in this study. These roles were described in previous research (e.g. Guile & Young, 2003; Loughran & Berry, 2005; Loughran, 2006), but have not been explicitly related to student teachers' CM learning. Moreover, the findings of the present study seem to indicate

that these roles not only apply to formal teacher educators, but can also concern others at the workplace (e.g. peers, colleagues). The importance of the use of informal others at the workplace is also described by Lecat et al (2019).

Finally, chapter four showed an interesting pattern, with regards to the importance and value student teachers attached to unplanned activities and that they preferred informal conversations in their CM learning. A possible explanation for this finding might be that this type of learning is more collaborative than learning in (formal) traditional learning settings at the teacher education institute (Tynjälä, 2008), and more self-directed (student teachers choose the others they indicate as valuable themselves), which offers them a safe way of learning and gives agency (Colognesi et al., 2020).

From learning processes to learning outcomes - In this study, one of the aims was to find a pattern in the relationships between student teachers' CM learning process and their CM learning outcomes. In this dissertation, no clear picture emerged regarding this relationship: little variation in learning outcomes was found in Chapters 3 and 5 – leading to no found relationships between learning processes and learning outcomes -, and although much more variation was found in Chapter 4, still only a weak relationship was found between some learning patterns and learning outcomes.

Perhaps, an explanation for this absence in the relationship between process and outcomes can be found in the fact that there was a lot of freedom/space in the teacher education curriculum and the freedom teacher educators had to offer guidance to their student teachers, which created trajectories in which student teachers could achieve their CM learning outcomes in various ways. It is also possible that this research design contributed to a lack of relationships: the numbers of participants were rather small and I focused on a specific set of variables characterizing student teachers' CM learning processes and their CM learning outcomes. Perhaps, the variables I mapped in student teachers' CM learning processes were not the only or not the most determining elements in student teachers' CM learning outcomes. The difficulty in finding verifiable relation between the learning process and learning outcomes in the dynamic field of the workplace was also described in other studies in different professional contexts with a comparable focus on workplace learning (Snoeren et al., 2016).

This leads to the ultimate conclusion that I found a mixed image concerning alignment between the intended, implemented and attained curriculum. As described above, coherent elements in the intended and implemented curriculum were found (see Chapter 2 and 3), but also

discrepancies between the intended curriculum were found (Chapter 2 and 5) and with the attained curriculum (Chapter 4).

6.4 Limitations and suggestions for future research

In this research, most data collected was from the student teachers' perspective (interviews with student teachers, student teachers' portfolios and the products of their research courses). In three of the four empirical chapters also the pupil perspective was included (via the QTI) and in all four chapters the teacher educator perspective (via the QTI and interviews). In doing so, I could compare and validate the perceptions and reported experiences from student teachers with the perceptions and data of other actors. In almost all of the chapters, some differences in learning processes and learning outcomes were found when comparing these data sources. Thus, for future research, I would certainly recommend to use the perspectives of the pupils and teacher educators more elaborately. This could be done by including lesson observations or interviewing pupils. Both activities would allow researchers to find confirmation or nuance of the (mostly) self-reported learning processes and outcomes of student teachers. Furthermore, it would also be possible that more and other changes in behaviour would be found, even behaviours or outcomes student teachers would be unaware of.

The context of this present study was a network of PDS related to one teacher education institute. This teacher education institute was at an university of applied sciences, offering a four-year trajectory including an institute part of the teacher education curriculum and a school-based part of the teacher education curriculum. It would be interesting for future research to include academic university trajectories, which are with 1 or 2 years much shorter and often contain more elaborate knowledge and theory components. Furthermore, it would be interesting to understand better how CM learning differs in various types of PDS schools, how different types of backgrounds (schools in rural versus urban areas, schools with different pedagogical approaches, schools with different teacher and pupil populations) play a role in the challenges student teachers experience in their CM learning process.

In each part of the present study, the focus was on the development of student teachers' CM learning. I used different methodological approaches in the various studies, such as analysing teacher education institute documents, student teachers portfolios, interviewing teacher educators and student teachers (with and without a storyline method) and the QTI. This allowed us to study student teachers' CM learning at the workplace from multiple perspectives (student teachers, their pupils, teacher educators, potentially even peers and colleagues). In doing so, I gathered a broad and comprehensive view on student teachers' CM learning.

A document analysis, the QTI and the interviews are in that sense an ideal mix, as the content are supplemental to each other: the document give insight in the contents and stages of what is learned during the learning process, the QTI gives information about the direction and the different perspectives and the interviews allow researchers to obtain a more qualitative, concrete and nuanced view on the learning process. Especially the interview with the storyline method deserves recommendation (in combination with document analysis and QTI), as it offers the interviewed participants with a certain distance towards their learning. From that perspective, not only the meaningful elements for their learning at the discussed time were mentioned, but also what it meant over a period of months. However, the downside of working with this combination of methods is that it is rather time-consuming. In order to measure these processes and variables a larger scale (in comparison to the present study), a more quantitative approach would be needed, for example via semi-structured surveys. This asks for a tool that can obtain information quickly, at multiple measure moments, and that comprises what is learned, how and when and what the impact for student teachers' CM learning was. Another possible way to do this, is to design a Smartphone App as being both a measurement tool as well as a tool in which student teachers can capture their learning process. Currently, various researchers are reporting on the possibilities of this development (see Harvey et al., 2019; Baars et al., 2022).

6.5 Implications for practice

In terms of CM content, this study showed that there was a discrepancy between the attention (the various components of) CM had in literature, in the teacher education curriculum, according to teacher educators and in terms of student teachers' learning processes. Most attention in all studies and all data sources was found for 'establishing interpersonal relationships with and among pupils', which is understandable as this is the component mentioned as conditional by other researchers (Wubbels et al., 2006). Although attention for all components of CM is important, this study clearly showed that it is advisable to start with student teachers' interpersonal relationship with their pupils. As a consequence, it may also need the most attention in teacher education curriculum, since it seems to be the basic need of all student teachers.

Chapters 3 and 4 showed the importance of the role of teacher educators, in being a mentor, a role model and an expert. In these roles, as indicated in this study, providing theory and linking theory to experiences must not be underestimated. Therefore, this element deserves major attention for both the teacher education institutes and practice schools. Teacher educators should be educated well enough at an academic level to provide their student teachers the needed CM theoretical support so that also

during coaching or peer coaching meetings at school, they can provide such input. Furthermore, as teacher educators work with several types of student teachers in different stages of their teacher education trajectory, PDS networks need to think about what should be learned, when and how, having well-educated teacher educators at every stage of student teachers' CM development, in order to maintain consistence between the school and institute context.

Chapter 5 showed that teacher education institutes and PDS schools might consider to offer more opportunity for informal and unplanned learning of CM. Moreover, emphasizing the importance of unplanned conversations with diverse colleagues gives student teachers the opportunity to discuss their shared practices (e.g., same classes, pupils), finding recognition in perceived challenges, and thus for the student teacher the confirmation that he or she is not the only one who sometimes struggles with CM. Moreover a desired CM learning process provides theory, support of teacher educators, formal moments of supervision, as well as informal moments, which helps to improve and structure student teachers' CM learning during the internship.

Offering structure towards student teachers' CM learning process was an important element in Chapter 5, as a consequence of the difficulties some student teachers had with the start of their CM learning in chapters 3 and 4. Following the intervention, I suggest that it is important for teacher educators to organize and structure student teachers' focus on interpersonal relations at the start of the internship: crucial is the conversation they have about the use of the learning activities: what will be chosen?, who to consult?, when will they meet again to discuss the insights (gained from the activities)?

Finally, as there was only a weak link between CM learning processes and CM learning outcomes (as argued in particular in chapter 4 and 5), one could argue whether it would be worthwhile to exclusively focus on this alignment. This research showed in particular that various CM learning processes can lead to comparable desired CM learning outcomes. Perhaps, it is more beneficial to focus on the various different types of student teacher CM learning processes. It may be helpful when teacher educators recognize learning profiles in order to differentiate in their CM coaching and supervision. This also implies that teacher educators need to be capable of keeping the different profiles in mind, and need to have a varied repertoire of CM coaching and supervision as a result, so they can switch and differentiate between various student teachers' with different CM learning profiles. In that light, some particular profiles need specific teacher educators' attention, like 'Inspiration driven' student teachers, who struggle with their planning, or 'Practice driven' student teachers, who may need coaching on their passive attitude. Research with a comparable focus on workplace learning (e.g. Bransen, 2022; Hadwin &

Oshinge, 2011) shows that learners at the workplace build their own individual networks of people at the workplace for various specific developmental needs. This asks for a constant dialogue between student teachers, school based teacher educators and institute based teacher educators about the significance of specific activities, significant others and the role of theory have on both the learning process and the learning outcomes on student teachers' CM learning.

6.6 Epilogue - final remarks

Fifteen years after my graduation as a history teacher, my PhD dissertation comes to an end. With the insights I have gained during this research I would like to conclude my dissertation by looking back at my final year as a student teacher: which type of CM learner was I actually? Who and what would I have needed?

As I described in the first chapter, I had some classes with a lot of enthusiastic children who were really challenging me. Therefore, I was keen on preventing order problems, which I successfully did. However, I forgot to be nice in the classroom as well. So in my case this meant I was too strict. My main challenge was to find a better balance in being strict (low communion) and nice (high communion) in the classroom, while at the same time maintaining influence (high control). In terms of Evertson and Weinstein (2006), my challenge was connected to 'developing interpersonal relationships'. In terms of Wubbels et al. (2006) my challenge was to end up in the upper-right quadrant of the interpersonal model, showing high communion and control.

Although I appreciated these theoretical insights, I think I missed practical support in the school to discuss the insights and impact this could have on my practice. I think I largely found it out myself, but – with the insights of the present study in mind - it would have been very helpful if I had more help to make this bridge between theory and practice. The same goes for the QTI. I used this instrument throughout my own learning process, but more coaching would have been helpful to really understand the outcomes, to find links with theory and suggestions in terms of concrete verbal and non-verbal behaviour.

I was quite active in my SRL, but mostly looked back in retrospection. In relation to my supervisors and colleagues I was most in need of role models. I remember we had monthly based meeting with all the teachers of the school, in which we discussed current teacher challenges we experiences. Telling my stories and listening to others helped me, but visiting them in the classroom was most helpful.

I think the intervention I created for this dissertation would have given me more structure in my learning process. I think the intervention would

have helped me to make the informal, unplanned and planned activities more explicit and more directly valued, as the insights I gathered came mostly reactive and (much) later. Looking at the profiles found in this research, I think I would have been an 'Inspiration driven' CM learner.

As a teacher educator, I think the most important finding of this dissertation is the profiling of student teachers' CM learning. Before I started this research, I was obviously aware of the importance of CM in student teachers' learning, but now there are these four profiles helping me to recognize the teachers' approaches, so I can give them the needed support. Earlier, I was not aware of those differences, so I taught my students the same, general CM content and gave them comparable CM coaching and support. Given the present insights about the differences how students use theory and about their own SRL, I can coach and help them more specifically, for instance what activities they can do and how they can be inspired by others at the workplace.

I hope that the insights of this dissertation are helpful to school-based and institute-based teacher educators, the teacher education institute, PDS networks and student teachers themselves. I look forward to further disseminate and implement the recommendations and findings of this study into teacher education and PDS schools, so that student teachers receive the best possible support for their CM development!
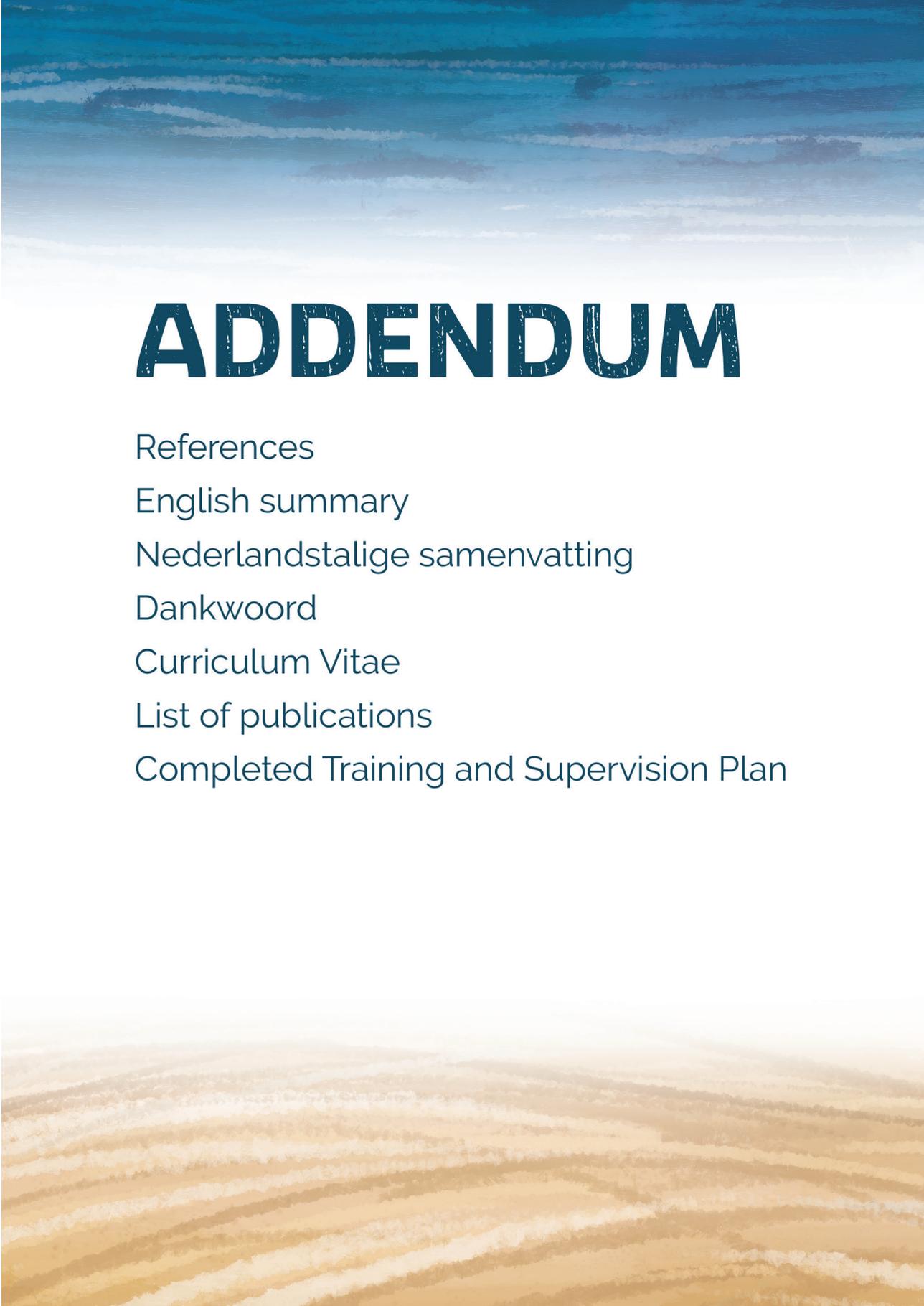
ADDENDUM

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English summary

Nederlandstalige samenvatting

Dankwoord

Curriculum Vitae

List of publications

Completed Training and Supervision Plan

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English summary

It is widely known that beginning teachers experience problems with the gap between theory in teacher education and practice at internship schools, in particular with respect to classroom management. Student teachers face various problems during and shortly after their internship period, many of which are related to classroom management and teacher-pupils relationships. Research has shown that teachers who manage their classes effectively have better teacher-pupils relationships and realize more effective education for their pupils. These teachers succeed in preventing order problems: they oversee their class and are able to divide their attention over multiple things at once.

Although research findings reinforce the role of classroom management in teacher education, it is often ignored in the program or embedded in other courses. Moreover, a large part of most teacher education programs takes place at practice schools during an internship period, and many student teachers often indicate that this period is crucial for the development and mastering of classroom management. However, little is known about how classroom management is addressed during this internship period, how practice schools differ in this respect and what effect this has on the classroom management competence development of student teachers.

The present research will provide more insight into the role of the school-based curriculum concerning classroom management competence development. This is still missing in current research: there is little research on competence development in the domain of classroom management, as much research on student teacher/teacher development during their internship is more general in nature and not specifically related to classroom management. Therefore, the results of the present study aim to provide teacher education institutes with indications to improve the curriculum with respect to classroom management. These insights may be helpful in preventing further dropout of (starting) teachers, and contribute to countering teacher-shortage as a whole, which is a great concern in Dutch secondary education.

The purpose of the present dissertation is to discover how and to what extent classroom management is established in the internship or practice school-based part of the teacher education curriculum, and how this relates to the development of the classroom management competence of student teachers. Based on these insights, an intervention concerning classroom management learning was designed, implemented and evaluated in order to improve student teachers' CM learning process at the workplace or during internship.

This lead to the main research question, which is: *How does the teacher education institute and (PDS) school-based part of the teacher education curriculum contribute to the development of classroom management of student teachers?*

In the first phase of the study, the attention for CM was studied in theoretical sources, in teacher education curriculum and at the internship (Chapter 2). In the second phase of the study, student teachers' CM learning processes was reconstructed (Chapter 3 and 4).

Studying these questions led to more in-depth understanding of how student teachers' CM learning during the internship takes place. Based on these findings, an intervention was designed, and it was evaluated whether this intervention contributed to student teachers' CM learning during their internship (Chapter 5).

Chapter 2 presented the investigation to the intended CM attention in both the institute curriculum and the workplace curriculum. An qualitative research approach was employed, using a single case study design in one network of PDS. The intended curriculum for CM was mapped by analysing curricular documents (written curriculum), by interviewing teacher educators who taught in the context of the program (ideal/preferred curriculum) and by comparing these findings to topics suggested by literature (theoretical curriculum).

In order to study the written intended curriculum, the attention for CM in 16 documents focussing on the four years of the curriculum was investigated. In order to study the preferred curriculum, the six teacher educators of the selected network of the programme were interviewed. To establish the most relevant topics for the theoretical CM curriculum, both editions of the *Handbook of Classroom Management* (the 1st and 2nd editions) were used, as these were the only scientific handbooks uniquely focusing on CM (in 2022 the third edition was published). The data of the interviews, as well as the contents of the documents and of each chapter of the handbooks the most dominant theme(s) or topic(s) were mapped onto the five components of CM: (1) establishing interpersonal relationships with and among pupils, (2) optimizing pupils' access to learning, (3) encouraging pupils' academic engagement, (4) developing pupils' social skills and self-regulation and (5) intervening when behaviour problems occur.

In both editions of the *Handbook of Classroom Management*, the CM components 'establishing interpersonal relationships with and among pupils', 'developing pupils' social skills and self-regulation' and 'intervening when behaviour problems occur' were most frequently mentioned. Only two handbook chapters explicitly focused on didactical principles and the process of how (student) teachers learn to become good classroom managers, and only a limited number of chapters

explicitly provided suggestions for teacher education. The six teacher educators also seemed to value these components most. Furthermore, they indicated that student teachers were in the lead of their own learning process, that the practical side of CM (experience in teaching) was essential and that the relationship with pupils was the core of student teachers' CM learning.

As for the written curriculum, the available teacher education program documents were studied: (1) the professional development course document (portfolio: general set of competences of student teachers' internship learning goals), and (2) the pedagogical research course document (thesis: competence development research project with emphasis on the pedagogical teachers' role). In the studied teacher education program documents, only limited attention for CM was found and that what was found related mainly to the components 'establishing interpersonal relationships with and among pupils' and 'optimizing pupils' access to learning'. However, due to the design of the curriculum, student teachers did have the opportunity to fully focus on CM, should they want to do so. Overall, four out of the five CM components were found, yet their presence differed between the different data sources. In sum, there was a discrepancy in the amount of attention for CM and its focus between theoretical sources, the written curriculum of the case studied and the preferred curriculum according to teacher educators. Moreover, even differences in attention and focus existed between the different teacher educators involved.

Chapters 3 and 4 described an exploratory study into the processes of student teachers' CM competence development and its outcomes in the context of professional development schools.

In Chapter 3, an exploratory study design was used as not much was known about how student teachers learn CM during the internship. Four student teachers were selected as cases, whose internship-related course products were comprehensive and rich, and together showed a wide variety of CM learning. To study the learning process and outcomes with respect to CM, curriculum assignment output of the student teachers was analysed. More specifically, this concerned a portfolio in which student teachers described their professional development during their internship, and a research course thesis with the emphasis on student teachers' pedagogical role.

In addition, both the student teachers and their school-based teacher educators and institute-based teacher educators were interviewed at the end of the internship. The student teacher interview focused on finding meaningful moments of CM learning during their internship. With this interview, the learning process of the student teachers for CM was reconstructed in terms of (self-regulated) learning, the use of theory, the

role of others and (un)planned (learning) activities. Also, student teachers' goals and learning outcomes were investigated.

In the teacher educator interview, educators were asked how they coached their student teachers, what content they provided and how they perceived their student teachers' CM learning during the internship. Moreover, the Questionnaire on Teacher Interaction (QTI) was distributed by student teachers in two of their internship classes twice during their internship, at the beginning and end of the internship. The QTI was recommended by the teacher education institute for the portfolio and was useful as a measurement tool for research purposes.

As start of the analysis process, the researchers created a reconstructive picture of the CM learning process, by placing meaningful moments (as mentioned by the student teachers) and input from teacher educators on a timeline. This resulted in a description of the student teacher's learning curve. Moreover, all relevant fragments found in student teachers' produced documents and the interviews were placed in a case matrix, in order to structure the information about student teachers' CM goals, sources of learning, self-regulated learning (SRL) and CM learning outcomes. As for the relation between the process and the outcomes, the data were first analysed within each case. The researchers searched for patterns in the various variables, as described before. Next, data were analysed across the four students, by comparing overall patterns.

The results showed relatively similar CM goals between the four student teachers: develop a caring and supportive relationship with and among pupils. Also, the results showed similar learning outcomes: more knowledge of teacher and pupils' behaviour and CM procedures, more confidence in maintaining order, more skill repertoire in dealing with classroom disruptions. A large variation in learning processes related to CM was found. Three student teacher' CM learning approaches were distinguished: a 'Systematic learning and enterprising approach', a 'Searching and struggling approach' and a 'Following and wait-and-see approach'. The 'Systematic learning and enterprising approach' was characterised by an active and prospective regulation of the two student teachers that showed this approach, meaning that they were in the lead of their own learning process, actively searched for expertise and (learning) activities. They also consciously worked on their learning goals. Moreover, the two student teachers with this approach needed others as experts. The 'Searching and struggling approach' was typified by a pro-active attitude, by searching and doing various activities, but also by having difficulties with getting a grip on the learning process. The one student teacher with this approach needed a role model. Distinctive for the 'Following and wait-and-see approach' was that the student teacher that had this approach was rather reactive and unsystematic, leading him

to have an unplanned and unconscious learning process. This student teacher needed others as a coach.

As for CM outcomes, results showed that the learning outcomes of three student teachers related to 'developing interpersonal relationships', one student teachers' CM learning outcomes were related to 'using interventions to assist pupils with behavioural problems'. Although all student teachers showed a considerable CM development, learning outcomes showed some differences in what elements of competence development were dominant: the emphasis of two student teachers' CM outcomes was on their attitude development. One student teacher mostly developed her skills. Another student teacher CM learning outcomes showed an integration of attitude and skills. However, outcomes of the QTI – a questionnaire to map the teacher-student interpersonal relationship via the perceptions of pupils in student teachers' classrooms (and via their self-perceptions) - showed only minimal differences in development between the student teachers. Therefore, it seemed that outcomes overall were relatively similar, and that different learning processes only led to marginally different learning outcomes.

Chapter 4 studied a more extended sample, as CM learning of 24 student teachers (all student teachers of one PDS network who wanted to join the research) during their internship was studied, looking at their CM goals, CM learning processes, the CM learning outcomes and the interrelationships between these.

In order to study student teachers' CM learning processes and CM learning outcomes, course assignment outcomes of students in the fourth-year curriculum of the teacher education institute were analysed (the same course products as in the previous study). Moreover, the Questionnaire on Teacher Interaction (QTI), was distributed by student teachers in two of their internship classes, mapping their pupils' perceptions of their interpersonal teacher behaviour at the beginning and end of the internship.
All relevant fragments about student teachers' CM learning processes and CM outcomes, found in student teachers' produced documents, were placed in a case matrix, in order to structure the information regarding student teachers' use of theory, role of teacher educators, self-regulated learning CM goals and CM learning outcomes. In the analysis procedure, the researchers searched for what was dominant for student teachers' CM learning and CM outcomes by counting the collected relevant fragments.

In order to find similar patterns in student teachers' CM learning processes and to distinguish profiles of student teachers' preferred CM learning, a Multiple Correspondence Analysis. In doing so I obtained insight into which participants had a similar learning process in terms of the categories CM goals, use of theory, role of teacher educators, and self-regulated learning.

This phase was followed by a final step, in which the focus was on finding relationships between the profiles of student teachers' CM learning and student teachers' CM learning outcomes. In order to do so, cross tabular analysis was conducted, using specifically the chi-squared statistic in order to identify any potential relations between the variables. This technique allowed the researchers to capture potential connections between the distinguished groups of student teachers' CM learning processes and CM outcomes in terms of knowledge, skills, attitudes and in terms of interpersonal learning outcomes.

Four patterns in student teachers' CM learning processes were found: 'Knowledge driven', 'Feedback driven', 'Inspiration driven' and 'Practice driven'. These profiles differed in terms of student teachers' use of theory, the role of their teacher educators and student teachers' SRL. The most occurring pattern, e.g. largest group could be identified as 'Knowledge driven' student teachers ($n = 10$). They used theory as foundation, meaning that theory had the function to structure and enrich their professional and practical knowledge. Concerning the role of teacher educators, they were looking for experts. In their SRL, they were active and prospective, meaning that they made deliberate choices concerning their learning goals and strategies, and reflected deeply on what was learned, their learning process and their own role.

'Feedback driven' student teachers ($n = 7$) also used theory as foundation, but preferred a teacher educator who would coach them and making their learning process visible during their learning process. Similar to the 'Knowledge driven' profile, these student teachers were also active and prospective in their SRL.
'Inspiration driven' student teachers ($n = 3$) also used theory as foundation. They were looking for a role model, who would give them inspiration and ideas for teaching practices. Furthermore, these student teachers were active and retrospective in their SRL. They made deliberate choices in relation to their learning goals and strategies, reflected deeply on their learning process, but they were retrospective as most of their learning experiences were unplanned and no active regulation took place.
'Practice driven' student teachers ($n = 4$) used theory as prescriptive, which means that they looked in theory for specific insights or advises which they could use in their practice. Similar to 'Inspiration driven' student teachers, these student teachers needed a role model. In their SRL, these student teachers were passive and retrospective, meaning that there was a lack of activity and regulation of their learning process.
The 'Knowledge driven' and 'Practice driven' student teachers tended to be slightly more often focused on 'Pupils' socio-emotional development'. The development of 'Feedback driven' and 'Inspiration driven' student teachers was slightly more often on 'non-verbal communication and teacher behaviour'. As for the relationship between CM learning profiles and skills, the 'Knowledge driven' student teachers paid slightly more

attention for 'creating a safe and structured classroom climate', the student teachers in the other groups tended more to 'non-verbal communication and teacher behaviour'. Regarding the QTI outcomes, most student teachers of every group had an effective learning profile and showed positive developments in their teacher-pupils relationships. Interestingly, the five student teachers that had a less effective teacher profile in terms of the QTI, mostly belonged to the 'Feedback driven' group.

As for the relation between student teachers' CM processes and CM outcomes, one statistically significant relation was found: active (and prospective) student teachers' had CM learning outcomes that were more likely focused on (non-)verbal communication and teacher behaviour, unlike passive (and retrospective) student teachers, whose CM learning outcomes were more likely associated with their self-confidence. No other clear links between processes and outcomes could be found.

In chapters two to four of this dissertation I addressed student teachers' CM learning processes and CM learning outcomes. In order to improve their learning and these outcomes, I designed an intervention. Chapter five focused on the development and the implementation of this intervention, which had as goal to give more focus and direction to student teachers' CM learning by offering them activities they could use and with a focus specifically on their teacher-student interpersonal relationships (one of the CM components). Based on both the findings in the first and second phase of this study, as well as on suggestions from literature, the development and implementation of activities to promote student teachers' CM learning, e.g. an intervention, took place.

In this study, a group of nine student teachers participated who learned in the context of their internship from September until June. The design of the intervention consisted of the following elements: first, the QTI was used as a pre-test and pre-test information and this instrument also served as source for the start of the intervention. The outcomes of the QTI were discussed in an interview, in which student teachers' (focus on the) development of their interpersonal teacher behaviour was discussed. The interview was followed by some activities proposed. Then, the student teachers were given five months to learn at their internship school, in which they had time to use the suggested activities. Finally, after these five months, a post-test was conducted, again by using the QTI and by conducting an interview, the questions of which were identical to the first interview.

The results of this study showed that the participants considered the intervention as being effective, and the results indicated that the intervention provided the student teachers with opportunities to focus and direct their CM learning process, as all student teachers used the

intervention to structure their learning process in a timeline of activities, already from the start of the internship. With regard to the use of the various activities proposed, the planned conversation was least mentioned. This activity was not preferred by the student teachers. The most used was the combination of unplanned conversations and lesson observations. Interestingly, as this was not suggested as a combined activity in the design of the intervention, this combination was probably what student teachers preferred in their learning.

Results showed a large variation in gained knowledge and insights. Student teachers gained insights as a result of the intervention about (non-)verbal teacher behaviour, pupils' behaviour, how to be consistent in their behaviour, the interaction between teacher and pupils, and changeover moments during their lessons.
As for the extent to which the intervention led to differences in student teachers' interpersonal behaviour, as perceived by themselves, the perceptions of their pupils and perceptions of their school-based teacher educator, only self-indicated indications of differences were found. Moreover, in the interviews, student teachers also described differences in their interpersonal teacher behaviour. These differences referred mainly to developed (non-)verbal teacher behaviour, being calmer in front of the classroom, being more predictive for their pupils, being more friendly especially via the tone of voice, and using eye-contact and hand gestures. In the interviews, no effects of the intervention on pupils in the classroom were reported by student teachers. No statistically significant differences were found in the pupil perceptions of the student teachers on the QTI.

In conclusion, this study showed that all CM components play an important role during student teachers' internship and thus should be given sufficient attention by teacher education curriculum and teacher educators from both the teacher education institute and at the practice school. However, the 'developing interpersonal relationships' remained over all the years of research in teacher education as the most vital component in student teachers' learning. Although attention for all components of CM is important, this study clearly showed that it is advisable to start with this component. As a consequence, it may also need the most attention in teacher education curriculum, since it seems to be the basic need of all student teachers.

Regarding student teachers' CM learning process, three elements played a key role: sources of learning (in particular the role of teacher educators), the use of theory and student teachers' SRL. The teacher educator can have the role of a mentor, a role model and an expert. In these roles, as indicated in this study, providing theory and linking theory to experiences must not be underestimated. Therefore, this element

deserves major attention for both the teacher education institutes and practice schools.

Theory is important during student teachers' CM learning process. All student teachers seemed to value theory and used it as such during their CM learning process. However, there was a distinction in the way they used it: 83% of the student teachers in the present study used theory as foundation, 17% used theory as prescriptive.

With regards to student teachers' SRL, most student teachers (71%) had an active/prospective profile. Fewer student teachers had an active/retrospective profile (12%) or an passive/retrospective profile (17%).

Furthermore, teacher education institutes and PDS schools might consider to offer more opportunity for informal and unplanned learning of CM. Moreover, emphasizing the importance of unplanned conversations with diverse colleagues gives student teachers the opportunity to discuss their shared practices (e.g., same classes, pupils), finding recognition in perceived challenges, and thus for the student teacher the confirmation that he or she is not the only one who sometimes struggles with CM.

Finally, as there was only a weak link between CM learning processes and CM learning outcomes, one could argue whether it would be worthwhile to exclusively focus on this alignment. This research showed in particular that various CM learning processes can lead to comparable desired CM learning outcomes.

Nederlandstalige samenvatting

Introductie

Het is bekend dat veel beginnende leraren tijdens of kort na de lerarenopleiding problemen ervaren met het verbinden van de theorie van de lerarenopleiding met de praktijk op de school, met name ten aanzien van het leren van het klassenmanagement. Onderzoek toont aan dat leraren die hun klassenmanagement op orde hebben een betere relatie hebben met hun leerlingen, en voor hen effectiever onderwijs kunnen verzorgen. Bovendien overzien deze leraren hun klas beter, zijn ze in staat hun aandacht te verdelen over de leerlingen en kunnen ze meerdere processen tegelijk managen. Hiermee slagen zij erin ordeproblemen te voorkomen.

Hoewel onderzoek naar de rol van klassenmanagement in het curriculum van de lerarenopleiding als cruciaal beschouwd wordt, wordt het over het algemeen te beperkt of versnipperd aangeboden. Ook komt het voor dat klassenmanagement alleen als onderdeel van andere modules is opgenomen.

Het werkplekleren vormt een belangrijk deel van het curriculum van de lerarenopleiding, waarbij aanstaande leraren leren en werken binnen de context van de school. Deze periodes worden door aanstaande leraren vaak beschreven als cruciale onderdelen in hun leren en hun ontwikkeling, ook als het gaat over klassenmanagement. Er is echter nog weinig bekend hoe en wanneer klassenmanagement geadresseerd en begeleid wordt tijdens het werkplekleren, hoe scholen in dat opzicht van elkaar verschillen en wat het effect is op het leren van het klassenmanagement van aanstaande leraren.

Dit promotieonderzoek beoogt meer inzicht te krijgen in de bijdrage van het curriculum op de leerwerkplek met betrekking tot de ontwikkeling van klassenmanagement van aanstaande leraren. Dit ontbreekt in het huidige spectrum van onderzoek naar klassenmanagement, veel onderzoek is gericht op de algemene, bredere ontwikkeling van (aanstaande) leraren op de werkplek. Het doel van dit onderzoek is dat het aanbevelingen oplevert waarmee lerarenopleidingen het curriculum ten aanzien van klassenmanagement gericht kunnen verbeteren, zowel op het instituut als op de opleidingsschool. Deze inzichten kunnen daarnaast ook helpend zijn in het verder voorkomen van uitval onder veel startende leraren, en in het tegengaan van een lerarentekort in het algemeen, wat beide grote problemen zijn in het Nederlands onderwijs.

Meer specifiek is het doel van dit onderzoek te ontdekken hoe en in welke mate klassenmanagement aangeboden wordt, in zowel het curriculum

van de lerarenopleiding als op de leerwerkplek, en hoe dit zich verhoudt tot de ontwikkeling van klassenmanagement van aanstaande leraren.

De volgende onderzoeksvraag stond centraal: in hoeverre draagt het curriculum van de lerarenopleiding en het aanbod op de leerwerkplek bij aan de beheersing van het klassenmanagement van aanstaande leraren?

Opzet van het onderzoek

In de eerste fase van deze studie is onderzocht wat de aandacht voor klassenmanagement was in theoretische bronnen, het curriculum van de lerarenopleiding en het aanbod op de werkplek (hoofdstuk 2). In de tweede fase van het onderzoek zijn vervolgens de leerprocessen van aanstaande leraren ten aanzien van hun beheersing van het klassenmanagement gereconstrueerd (hoofdstukken 3 en 4). Hiermee is meer diepgaand in kaart gebracht hoe en op welke wijze het leren van aanstaande leraren ten aanzien van de beheersing van het klassenmanagement tijdens de afrondende stage van hun opleiding precies plaatsvindt. Gebaseerd op deze inzichten is een interventie ontworpen en geïmplementeerd met als doel het leerproces van aanstaande leraren te ondersteunen en structureren. Deze interventie is vervolgens geëvalueerd om uit te vinden in welke mate dit bijdroeg aan het leerproces van aanstaande leraren met betrekking tot hun klassenmanagement (hoofdstuk 5).

Onderzoeksresultaten

Hoofdstuk 2 gaat in op een studie naar de beoogde aandacht voor klassenmanagement in het curriculum van zowel de lerarenopleiding op het instituut als op de leerwerkplek van de scholen. Onder de beoogde aandacht in het curriculum wordt het geschreven curriculum (zoals uitgewerkt in documenten en materialen) en het denkbeeldige curriculum (visie, ideaal, onderliggende ideeën) verstaan. Deze deelstudie kende een kwalitatieve onderzoeksmethode, gebruikmakend van een case study design waarin een netwerk van een Academische Opleidingsschool (AOS), gelieerd aan een tweedegraads lerarenopleiding in Nederland de context vormde. Het beoogde curriculum ten aanzien van de aandacht voor klassenmanagement is in kaart gebracht door curriculaire documenten (geschreven curriculum) te analyseren en door schoolopleiders en instituutsopleiders verbonden aan deze AOS te interviewen (het denkbeeldige curriculum). Deze inzichten zijn in perspectief geplaatst door het te vergelijken met de thema's die vanuit de literatuur als potentiële aandacht voor klassenmanagement gesuggereerd worden (theoretisch curriculum).

Het geschreven curriculum is bestudeerd door de aandacht voor klassenmanagement in de beschikbare documenten die voorkwamen in alle jaren van het vierjarige curriculum van de lerarenopleiding, te analyseren. Om het denkbeeldige curriculum in kaart te brengen, zijn zes opleiders (drie instituutsopleiders en drie schoolopleiders) die betrokken waren bij het geselecteerde netwerk geïnterviewd. Om de meest relevante thema's vanuit de theorie, geldend als de potentiële aandacht die klassenmanagement in het curriculum zou kunnen hebben, in kaart te brengen zijn beide edities van het *Handbook of Classroom Management* (de 1^e en 2^e editie) gebruikt, omdat dit de enige wetenschappelijke handboeken waren die alleen specifiek op klassenmanagement zijn gericht (de 3^e editie is medio 2022 gepubliceerd). De data van de interviews, alsmede de inhoud van de documenten en voor de handboeken de meest dominante thema('s) of onderwerpen in de hoofdstukken zijn in kaart gebracht door ze in te delen volgens de vijf componenten van klassenmanagement: (1) relatie creëren met en tussen leerlingen (interpersoonlijk lerarengedrag), (2) een productief leerklimaat creëren (organisatie/activiteiten/werkvormen), (3) een veilig klimaat creëren in de klas (regels/rust/overzicht), (4) de ontwikkeling van sociale vaardigheden en zelfregulatie ondersteunen (preventieve maatregelen om gewenst leerlingengedrag te bevorderen) en (5) optreden bij gedrags- of ordeproblematiek (reactieve maatregelen om ongewenst leerlingengedrag bij te sturen).

Wat betreft het theoretische curriculum: In beide edities van het *Handbook of Classroom Management* werden de klassenmanagement-componenten 'relatie creëren met en tussen leerlingen', 'de ontwikkeling van sociale vaardigheden en zelfregulatie ondersteunen' en 'optreden bij gedrags- of ordeproblematiek' het meest aangehaald. Slechts twee hoofdstukken van het handboek gingen expliciet in op didactische principes en het proces van hoe aanstaande leraren leren klassenmanagement te beheersen. Slechts een beperkt aantal hoofdstukken gaf expliciet suggesties voor de lerarenopleiding.

Wat betreft het denkbeeldige curriculum noemden zes lerarenopleiders het belang van didactische principes voor het aanleren van klassenmanagement in de praktijk het vaakst. Verder gaven zij aan dat aanstaande leraren de leiding zouden moeten hebben over hun eigen leerproces, dat de praktische kant van klassenmanagement essentieel is, en dat de relatie met leerlingen de kern vormt van het leerproces van aanstaande leraren met betrekking tot klassenmanagement. Bovendien waren er zelfs onderlinge verschillen in aandacht en focus tussen de verschillende betrokken lerarenopleiders.

Wat het geschreven curriculum betreft, werden beschikbare documenten van de lerarenopleiding bestudeerd: (1) het document professionele ontwikkeling op de leerwerkplek (portfolio: algemene set van

competenties van doelen van leraren in opleiding op de leerwerkplek), en (2) het document van de module onderwijs-pedagogisch onderzoek (thesis: onderzoeksproject competentieontwikkeling met nadruk op de onderwijs-pedagogische rol van de leraar). In de bestudeerde opleidingsdocumenten werd slechts beperkte aandacht voor klassenmanagement gevonden en dat wat gevonden werd had vooral betrekking op de onderdelen 'relatie creëren met en tussen leerlingen' en 'een productief leerklimaat creëren'. Door de opzet van het curriculum hadden aanstaande leraren – mochten zij dat willen – wel de mogelijkheid om zich volledig op klassenmanagement te richten.

In het algemeen werden vier van de vijf klassenmanagement-componenten aangetroffen, maar het verband in de vergelijking tussen de theorie en het geschreven curriculum en het denkbeeldige curriculum verschilde. Kortom, er was een discrepantie in de hoeveelheid aandacht voor klassenmanagement en de focus erop in theoretische bronnen, het geschreven curriculum en het denkbeeldige curriculum.

De hoofdstukken 3 en 4 beschrijven een exploratief onderzoek naar de leerprocessen van de ontwikkeling van het klassenmanagement van aanstaande leraren en de leeruitkomsten daarvan in de context van opleidingsscholen. In hoofdstuk 3 gebruikte ik een exploratieve studieopzet omdat er niet veel bekend was over hoe aanstaande leraren zich op de leerwerkplek bekwamen in klassenmanagement. Ik selecteerde vier aanstaande leraren als casus die in hun portfolio en thesis zeer gedetailleerd hun leerproces beschreven, welke momenten hierin cruciaal waren, welke activiteiten ze ondernamen en hoe bronnen hierin nuttig waren. Bovendien beschreven ze ook uitgebreid over hun eigen rol in het zelfregulatief leren, en hoe deze processen uiteindelijk leidden tot de ontwikkeling van hun klassenmanagement leeruitkomsten.

Om het leerproces en de resultaten met betrekking tot klassenmanagement te bestuderen, werd het portfolio (opdracht ten aanzien van het professioneel handelen op de leerwerkplek), en de thesis (onderzoeksproject gericht op een onderwijs-pedagogisch onderzoek) geanalyseerd. Meer specifiek betrof dit een portfolio waarin aanstaande leraren hun professionele ontwikkeling tijdens hun stage beschreven, en een thesis met de nadruk op de onderwijs-pedagogische rol van de leraar. Daarnaast werden zowel de aanstaande leraren als hun werkplekbegeleiders op school en hun lerarenopleiders van het instituut geïnterviewd aan het einde van de stage. Het interview met de aanstaande leraren was gericht op het vinden van betekenisvolle leermomenten die betrekking hadden op het klassenmanagement tijdens hun stage. Met dit interview werd het leerproces van de aanstaande leraren gereconstrueerd in termen van het (zelfregulerend) leren van de aanstaande leraar, de wijze waarop theorie werd gebruikt, de rol van anderen (zoals opleiders, collega's) op de werkplek, en (on)geplande

(leer)activiteiten. Ook werden de leerdoelen en leeruitkomsten ten aanzien van het leerproces van de aanstaande leraren onderzocht.

In het interview met de lerarenopleiders werd hen gevraagd hoe zij hun aanstaande leraren begeleidden, welke (theoretische) inhoud zij aanboden, en hoe zij het leren met betrekking tot het klassenmanagement van hun aanstaande leraren tijdens het werkplekleren waarnamen.

Bovendien werd de Vragenlijst Interpersoonlijk Lerarengedrag (VIL) – een vragenlijst om de interpersoonlijke relatie tussen leraar en leerling in kaart te brengen via de perceptie van leerlingen in de klas van de aanstaande leraren (en via hun zelfperceptie) – door de aanstaande leraren in twee van hun klassen aan het begin en aan het eind van de stage uitgezet. De VIL werd aanbevolen door de lerarenopleiding met het oog op het vastleggen van hun ontwikkeling in het portfolio en was daarnaast nuttig als meetinstrument voor de onderzoeksdoeleinden van dit onderzoek.

Als vertrekpunt van het analyseproces is een beeld gereconstrueerd van het leerproces door de betekenisvolle leermomenten (zoals genoemd door de aanstaande leraren) en de input van de lerarenopleiders op een tijdlijn te plaatsen. Dit resulteerde in een leercurve van het leerproces van het werkplekleren van de aanstaande leraar. Bovendien werden alle relevante fragmenten uit de geproduceerde documenten van de aanstaande leraren en de interviews in een casusmatrix geplaatst, om de informatie over de klassenmanagement doelen, bronnen, de zelfregulatief leren en klassenmanagement leerresultaten van de aanstaande leraren te structureren. Wat de relatie tussen het leerproces en de leeruitkomsten betreft, werden de data eerst binnen elke casus geanalyseerd (within case analysis). Vervolgens is naar patronen gezocht in de verschillende variabelen. Tenslotte werden de data geanalyseerd over de vier aanstaande leraren heen (cross case analysis) om algemene patronen op te sporen.

Uit de resultaten volgde een beeld dat de vier aanstaande leraren relatief vergelijkbare doelstellingen hadden voor wat betreft hun klassenmanagement, namelijk dat deze doelen betrekking hadden op de ontwikkeling van een zorgzame en een ondersteunende relatie met en tussen leerlingen. Ook toonden de resultaten vergelijkbare leeruitkomsten: meer kennis van het leerlingengedrag en het uitbreiden van klassenmanagement-procedures, meer vertrouwen in het handhaven van de orde in de klas, meer vaardigheidsrepertoire in het omgaan met verstoringen in de klas. Er werd een grote variatie in leerprocessen gevonden. Ik onderscheidde drie leerbenaderingen van aanstaande leraren met betrekking tot klassenmanagement: een 'Systematisch leren en ondernemende aanpak', een 'Zoekende en worstelende aanpak' en een 'Volgende en afwachtende aanpak'. De 'Systematische leer- en

ondernemende aanpak' werd gekenmerkt door een actieve en prospectieve regulering van de twee aanstaande leraren die deze aanpak lieten zien, wat betekent dat zij de leiding hadden over hun eigen leerproces, actief op zoek gingen naar expertise en (leer)activiteiten. Ook werkten ze bewust aan hun leerdoelen. Bovendien hadden de twee aanstaande leraren met deze aanpak anderen als expert nodig. De 'Zoekende en worstelende aanpak' kenmerkte zich door een proactieve houding, door het zoeken en ondernemen van diverse activiteiten, maar ook door moeite te hebben met het krijgen van grip op het leerproces. De aanstaande leraar met deze aanpak had een rolmodel nodig. Onderscheidend voor de 'Volgende en afwachtende aanpak' was dat het leren van de aanstaande leraar te karakteriseren was als reactief en niet-systematisch, hetgeen resulteerde in een ongepland en onbewust leerproces. Deze aanstaande leraar had vooral behoefte aan een coach.

Wat de leeruitkomsten betreft, bleek dat de leeruitkomsten van drie aanstaande leraren betrekking hadden op 'relatie creëren met en tussen leerlingen', terwijl de klassenmanagement-leeruitkomsten van één aanstaande leraar betrekking hadden op 'optreden bij gedrags- of ordeproblematiek'. Hoewel alle aanstaande leraren een aanzienlijke ontwikkeling in hun klassenmanagement lieten zien, toonden de leeruitkomsten enige verschillen in welke elementen van competentieontwikkeling dominant waren: de nadruk van de leeruitkomsten van twee aanstaande leraren lag op hun attitudeontwikkeling. Eén aanstaande leraar ontwikkelde vooral haar vaardigheden. De leeruitkomsten van een andere aanstaande leraar vertoonden een integratie van houding en vaardigheden. De resultaten van de VIL toonden echter slechts minimale verschillen in ontwikkeling tussen de aanstaande leraren.

In navolging van de voorgaande studie gaat hoofdstuk 4 in op het onderzoek onder een uitgebreidere populatie van aanstaande leraren. In deze studie werden data van 24 aanstaande leraren (alle participanten in het geselecteerde netwerk die deel wilden nemen aan het onderzoek) onderzocht die betrekking hadden op hun klassenmanagement-doelen, het leerproces, de leeruitkomsten en de onderlinge verbanden daartussen. Om de leerprocessen en leeruitkomsten van aanstaande leraren te bestuderen, werden de resultaten van de cursusopdrachten in het vierdejaars curriculum van de lerarenopleiding geanalyseerd (dezelfde producten als in de vorige deelstudie). Bovendien werd de VIL uitgezet door aanstaande leraren in twee van hun klassen, om de perceptie van hun leerlingen over hun interpersoonlijke lerarengedrag aan het begin en het einde van de stage in kaart te brengen.

Alle relevante fragmenten over de leerprocessen en leeruitkomsten van aanstaande leraren over klassenmanagement, gevonden in de

documenten van aanstaande leraren, werden in een casusmatrix geplaatst, om informatie over het theoriegebruik van aanstaande leraren, de rol van lerarenopleiders, zelfregulatie, klassenmanagement leerdoelen en leeruitkomsten te structureren. In de analyseprocedure is gezocht naar wat dominant was voor het leren en de leeruitkomsten met betrekking tot klassenmanagement door de verzamelde relevante fragmenten te selecteren.

Om vergelijkbare en onderscheidende patronen te vinden in de leerprocessen van de aanstaande leraren, is vervolgens een Meervoudige Correspondentie Analyse (MCA) uitgevoerd. Daarbij is inzicht verkregen in welke participanten een vergelijkbaar leerproces hadden in termen van de klassenmanagement doelen, de wijze waarop ze theorie gebruikten, de rol van lerarenopleiders en hun eigen zelfregulerend leren.

Deze fase werd gevolgd door een laatste stap, waarin de nadruk lag op het vinden van relaties tussen de patronen van het leren van aanstaande leraren en de leeruitkomsten. Hiertoe werd een kruistabelanalyse uitgevoerd. Met deze techniek is gezocht naar potentiële statistische verbanden tussen de onderscheiden groepen op leerprocessen en de leeruitkomsten met betrekking tot klassenmanagement in termen van kennis, vaardigheden, attitudes en in termen van interpersoonlijke leeruitkomsten.

Er zijn vier patronen gevonden waarin aanstaande leraren voor wat betreft hun leerprocessen met betrekking tot klassenmanagement onderscheiden kunnen worden: 'Kennisgericht', 'Feedbackgericht', 'Inspiratiegericht' en 'Praktijkgericht'. Deze patronen verschilden in de manier waarop aanstaande leraren gebruik maakte van theoretische kennis, hun lerarenopleiders en praktijkbegeleiders nodig hadden en de eigen zelfregulatie. Het meest voorkomende patroon, en daarmee ook de grootste groep waren de aanstaande leraren die gekarakteriseerd konden worden als 'Kennisgericht' ($n=10$). Aanstaande leraren die 'kennisgericht' leren, gebruikten de theorie prospectief (als onderbouwing), wat betekent dat de theorie de functie had om praktische kennis over de praktijk te verrijken en te structureren. Ze waren ondernemend in het vinden van expertise, bijvoorbeeld door gericht lessen van collega's te observeren. Wat de rol van lerarenopleiders betreft, waren zij op zoek naar experts, die zij zelf ook gericht wisten te vinden op de school. In hun zelfregulatie waren zij actief en vooruitkijkend, wat betekent dat zij weloverwogen keuzes maakten met betrekking tot hun leerdoelen en -strategieën, en diepgaand reflecteerden op hetgeen ze hebben geleerd, hun leerproces en hun eigen rol daarbij.

Het patroon 'Feedbackgericht' ($n=7$) vertoonde overeenkomsten met het kennisgerichte patroon, maar in plaats van een expert, hadden deze aanstaande leraren een coach nodig om zich op basis van ervaringen te bekwamen in klassenmanagement. Deze groep had behoefte aan

gesprekken met lerarenopleiders waarin ze ervaringen en situaties vanuit verschillende perspectieven bekeken. Zo kregen zij betekenisvolle inzichten die hen hielpen om grip te krijgen op hun klassenmanagement. Deze aanstaande leraren waren goed in staat om hun eigen leren te plannen. Ze wisten welke steun ze nodig hadden en welk soort activiteiten hen hielpen, maar ze hadden veelal begeleiding van anderen nodig om hun doelen te bereiken.

Aanstaande leraren met het patroon 'Inspiratiegericht' (*n*=3) gebruikten theorie ook als beschrijvend. In tegenstelling tot de andere patronen, beschreven inspiratiegerichte aanstaande leraren hun klassenmanagement leerproces als een worsteling over wie ze wilden zijn als leraar. Zij hadden daarom vooral behoefte aan een rolmodel, die hen inspireerde om een eigen stijl te ontwikkelen ten aanzien van (non-)verbaal lerarengedrag, zoals houding voor de klas, stemgebruik et cetera. Dit rolmodel hoefde niet per se de eigen werkplekbegeleider te zijn. Het kon ook een collega zijn met bepaalde karakteristieken, waarvan de aanstaande leraar wilden leren. Bovendien waren deze aanstaande leraren actief en retrospectief in hun zelfregulatie. Zij maakten bewuste keuzes met betrekking tot hun leerdoelen en -strategieën, reflecteerden diep op hun leerproces, maar waren retrospectief omdat de meeste van hun leerervaringen niet gepland waren en er geen actieve regulering plaatsvond.

Aanstaande leraren met het patroon 'Praktijkgericht' (*n*=4) gebruikten de theorie als prescriptief, wat betekent dat zij in de theorie zochten naar specifieke inzichten of adviezen die zij in hun praktijk konden gebruiken. Praktijkgerichte aanstaande leraren hadden een passieve houding en waren geneigd om sterk te leunen op de lerarenopleider en/of andere (aanstaande) leraren die hen advies of ideeën gaven. Om meer grip te krijgen op hun eigen leerproces, hadden zij baat bij voorbeeldgedrag van een lerarenopleider als rolmodel. Aanstaande leraren in dit patroon waren ook relatief zwak in plannen en hadden niet altijd overzicht van hun leerproces op korte en op lange termijn. Dit kon leiden tot organisatorische problemen in het klassenmanagement, zoals het missen van afspraken en het niet op orde hebben van materialen.

Aanstaande leraren met de patronen 'Kennisgericht' en 'Praktijkgericht' waren iets vaker gericht op 'sociaal-emotionele ontwikkeling van leerlingen'. De ontwikkeling van aanstaande leraren met een 'Feedbackgericht' en 'Inspiratiegericht' patroon waren iets vaker gericht op 'non-verbale communicatie en lerarengedrag'. Wat de relatie tussen leerpatronen en vaardigheden betrof, besteedden de aanstaande leraren met een 'Kennisgericht' patroon iets meer aandacht aan 'het creëren van een veilig en gestructureerd klasklimaat', de aanstaande leraren in de andere groepen neigden meer naar 'non-verbale communicatie en

lerarengedrag'. Met betrekking tot de VIL-resultaten, hadden de meeste aanstaande leraren van elke groep een effectief VIL-profiel en toonden zij positieve ontwikkelingen in hun leraar-leerling relaties. Interessant was dat de vijf aanstaande leraren die een minder effectief VIL-profiel hadden op de VIL, meestal behoorden tot de groep met het 'feedbackgericht' patroon.

Wat de relatie tussen de leerprocessen en leeruitkomsten van de aanstaande leraren betreft, werd er één statistisch significant verband gevonden: actieve (en vooruitkijkende) aanstaande leraren hadden leeruitkomsten die eerder gericht waren op (non-)verbale communicatie en lerarengedrag, in tegenstelling tot passieve (en terugkijkende) aanstaande leraren, van wie de leeruitkomsten eerder verband hielden met hun zelfvertrouwen. Er werden geen andere duidelijke verbanden tussen leerprocessen en leeruitkomsten gevonden.

In hoofdstuk 5 wordt verslag gedaan van de ontwikkeling en de implementatie van een interventie, die tot doel had meer focus en richting te geven aan het leren van klassenmanagement van aanstaande leraren door hen activiteiten aan te bieden die ze konden gebruiken en met een specifieke focus op hun interpersoonlijke relaties (een van de klassenmanagement-componenten). Op basis van zowel de bevindingen in de eerste en tweede fase van dit onderzoek, als op basis van suggesties uit de literatuur, werd een interventie, ontwikkeld en geïmplementeerd.

Aan deze studie nam een groep van negen aanstaande leraren deel die van september tot juni in het kader van hun afrondende stage leerden op de leerwerkplek van de school. De opzet van de interventie bestond uit de volgende elementen: ten eerste werd de VIL gebruikt als voormeting. Dit instrument diende tevens als bron voor de start van de interventie. De uitkomsten van de VIL werden besproken in een interview met als focus de) ontwikkeling van het interpersoonlijke lerarengedrag van aanstaande leraren. Na het interview werden enkele activiteiten voorgesteld die de aanstaande leraar zou kunnen inzetten op de leerwerkplek om het leerproces te structureren (lesobservatie, gepland gesprek, ongepland gesprek). Vervolgens kregen de aanstaande leraren vijf maanden de tijd om te leren binnen de school, waarin zij de voorgestelde activiteiten konden gebruiken. Ten slotte werd na deze vijf maanden een nameting afgenomen, opnieuw met behulp van de VIL en door het afnemen van een interview, waarvan de vragen identiek waren aan die van het eerste interview.

Uit de resultaten van dit deelonderzoek bleek dat de participanten de interventie als effectief beschouwden. De resultaten gaven aan dat de interventie de aanstaande leraren mogelijkheden bood om hun leerproces te focussen en te sturen. Wat het gebruik van de verschillende voorgestelde activiteiten betreft, werd het geplande gesprek het minst genoemd. Deze activiteit had niet de voorkeur voor de aanstaande

leraren. Het meest gebruikt werd de combinatie van ongeplande gesprekken en lesobservaties. Dat is interessant omdat dit in het ontwerp van de interventie niet als een gecombineerde activiteit werd voorgesteld, maar dat deze combinatie tijdens het proces van de interventie waarschijnlijk wel de voorkeur had van de aanstaande leraren bij het leren.

De resultaten van de analyse van de interventie toonden een grote variatie aan in verworven kennis en inzichten van aanstaande leraren. De aanstaande leraren ontwikkelden, als gevolg van de interventie, inzichten over (non-)verbale lerarengedrag, leerlingengedrag, hoe ze consequent kunnen zijn in hun gedrag, de interactie tussen leraar en leerlingen, en omschakelmomenten tijdens hun lessen.

Wat betreft de mate waarin de interventie heeft geleid tot verschillen in het interpersoonlijke gedrag van aanstaande leraren, zoals waargenomen door henzelf, de perceptie van hun leerlingen en de perceptie van hun schoolopleider, zijn alleen in hun zelf gepercipieerde interpersoonlijke gedrag aanwijzingen voor verschillen gevonden. Wel beschreven aanstaande leraren in de interviews ook hierin verschillen. Deze verschillen hadden vooral betrekking op ontwikkeld (non-)verbaal lerarengedrag, rustiger zijn voor de klas, meer voorspelbaar zijn voor hun leerlingen, vriendelijker zijn, stemgebruik, en het gebruik van oogcontact en handgebaren. In de interviews rapporteerden de aanstaande leraren geen effecten van de interventie op de leerlingen in de klas. Er werden ook geen statistisch significante verschillen gevonden in de leerlingpercepties van de aanstaande leraren in de analyse van de VIL.

Conclusie

Concluderend bleek uit deze studie dat alle klassenmanagement-componenten een belangrijke rol speelden tijdens de stage van aanstaande leraren en dus voldoende aandacht moeten krijgen in het curriculum van de lerarenopleiding en op de leerwerkplek op de praktijkschool. De component 'relatie creëren met en tussen leerlingen' bleef echter in alle jaren van onderzoek in de lerarenopleiding de meest vitale component in het leren van aanstaande leraren, dit werd ook in dit onderzoek herbevestigd. Hoewel aandacht voor alle componenten van klassenmanagement belangrijk is, toonde deze studie duidelijk aan dat het raadzaam is met de interpersoonlijke component te beginnen. Bijgevolg moet het wellicht ook de meeste aandacht krijgen in het curriculum van de lerarenopleiding, aangezien het de essentiële behoefte van alle aanstaande leraren lijkt te zijn.

Met betrekking tot het leerproces van aanstaande leraren speelden drie elementen een sleutelrol: bronnen (in het bijzonder de rol van

lerarenopleiders), het gebruik van theorie en de zelfregulatie. De lerarenopleider kan de rol hebben van coach, rolmodel en expert. In deze rollen, zoals aangegeven in deze studie, mag het belang van het aanreiken van theorie en het koppelen van theorie aan ervaringen niet onderschat worden. Daarom verdient dit element meer aandacht in zowel de lerarenopleidingen als in de praktijk van de scholen. Alle aanstaande leraren die deelnamen aan dit onderzoek waardeerden de rol van theorie en gebruikten het tijdens hun leerproces. Er was weliswaar een verschil in de wijze waarop ze dat gebruikten: 83% van de aanstaande leraren gebruikten theorie als onderbouwing, 17% gebruikten theorie als voorschrijvend.

Met betrekking tot de zelfregulatie van aanstaande leraren hadden de meeste aanstaande leraren (71%) een actief/prospectief patroon. Minder aanstaande leraren hadden een actief/retrospectief patroon (12%) of een passief/retrospectief patroon (17%).

Lerarenopleidingen en opleidingsscholen zouden kunnen overwegen meer gelegenheid te bieden voor informeel en ongepland leren van het klassenmanagement. Bovendien geeft het benadrukken van het belang van ongeplande gesprekken met diverse collega's aanstaande leraren de gelegenheid om hun gedeelde praktijken te bespreken (bijvoorbeeld dezelfde klassen, leerlingen), herkenning te vinden in waargenomen uitdagingen, en dus voor de aanstaande leraar de bevestiging dat hij of zij niet de enige is die soms worstelt met klassenmanagement.

Ten slotte, aangezien er slechts een zwak verband gevonden is tussen leerprocessen en leeruitkomsten, kan men zich afvragen of het de moeite waard is zich uitsluitend op deze afstemming te richten. Dit onderzoek toonde met name aan dat verschillende leerprocessen kunnen leiden tot vergelijkbare gewenste leeruitkomsten op het terrein van klassenmanagement.

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ben ik niet alleen als onderzoeker gegroeid, maar daarmee ben ik ook een betere opleider geworden. Je stond altijd voor me klaar om te sparren over het onderzoek als ik weer eens ergens mee zat te puzzelen. Daarnaast hebben we elkaar ook persoonlijk goed leren kennen en hebben we veel gedeelde interesses in cultuur en sport. Maar bovenal ben ik dankbaar dat je voor mij in die jaren uitgegroeid tot een mentor aan wiens inzicht en advies ik veel waarde hecht.

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Mirella Verspiek, je gaf me de kans om mijn onderzoek onder de aandacht te brengen op het podium van het Platform Samen Opleiden. We hebben gewerkt aan een mooi en handzaam katern waarmee opleiders in Nederland en Vlaanderen met de opbrengsten van het onderzoek aan de slag kunnen gaan. Ik ben heel blij met deze prachtige publicatie; dit is waar ik onderzoek voor heb willen doen!

Mijn dank gaat ook uit naar de collega's van de leerstoelgroep Onderwijs- en Leerwetenschappen (ELS) van de Wageningen Universiteit. Een

speciale dank aan Hanneke Theelen en Kennedy Tielman. Met jullie heb ik dit pad mede mogen bewandelen. Ik heb veel steun aan jullie gehad en putte motivatie uit jullie successen wanneer jullie weer eens een publicatie binnen hadden gehaald en daarna ook de top van de berg hadden bereikt.

Natuurlijk mag ik mijn vrienden niet vergeten voor alle belangstelling en bemoedigende woorden. In het bijzonder Corné, Kevin, Marc en Pieter: bedankt mannen, voor zowel jullie belangstelling als al die momenten van ontspanning. Alle uitstapjes, weekendjes weg, avondjes op stap etc. Het waren allemaal welkome afwisselingen in een druk bestaan waar we allemaal (richting onze) 40-er jaren inzitten. Het gaf veel relativering in drukke tijden en ik blijf uitzien naar die mooie momenten.

Dit proefschrift heb ik grotendeels geschreven op de pianomuziek van Joep Beving. Het hielp me om te concentreren en gaf me rust en focus om te werken. Bedankt Joep!

Een speciale dank aan mijn paranimfen,

Michiel, we hebben elkaar altijd gestimuleerd en ondersteund in ons lerend en werkend leven. We zijn beide begonnen op de mavo en hebben nu allebei een PhD op zak. Wie had dat kunnen denken op het moment dat we elkaar leerden kennen? Bedankt voor je tomeloze steun, motivatie en inspiratie. Het was fijn om deze reis met jou afgelegd te hebben. Op naar de volgende etappe!

Lieve mam, al die jaren heb je – samen met mijn vaders Nico en Raf – aan mijn onderwijs gerelateerde zijlijn gestaan en mij aangemoedigd om mijn best te doen op school en mij aan te moedigen om vooral te dingen te doen waar ik goed in ben en die ik leuk vind. Dit was soms een grillig pad en heeft me langs verschillende scholen geleid. Al die tijd bleef je vertrouwen in me houden en gaf je me door wie je bent veel inspiratie. Je hebt me geleerd om iedere dag dankbaar te zijn voor alles om me heen en het beste uit mezelf te halen. Dankjewel dat je er altijd voor mij bent!

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Tot slot mijn drie rotsen in de branding, degenen om wie alles draait. Lieve Lotte, al die tijd was je aan mijn zijde en heb je mij de tijd en ruimte gegeven om hieraan te werken. Dat heeft ook van jou veel gevergd en dat heb je uit liefde gedaan omdat je wist hoe belangrijk dit voor me was.

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Curriculum Vitae

Tom Adams was born on 8 July, 1983 in Breda, The Netherlands. After completing his secondary schooling, Tom attended the teacher education institute for secondary education at the Fontys university of applied sciences in 2003, where he graduated in 2007. After his graduation he started as a secondary school teacher, while simultaneously he started as school-based teacher educator. Alongside his job, he obtained his Master of Science degree in Educational Sciences at the Open University in 2013. His master thesis focused on student teachers' perspective on classroom management situations. After completing his master's degree, he started working in higher education as teacher educator at the teacher education institute for secondary education. Since 2013 he is a teacher educator at the Fontys university of applied sciences for teacher education. In 2018 he started, alongside his work as teacher educator, his PhD project on the development of student teachers' classroom management competence at the workplace during teacher education internship, funded by the Netherlands Organization for Scientific Research (NWO).

List of publications

Articles in international peer-reviewed journals

Adams, T., Koster, B. & den Brok, P. (2022). Student teachers' classroom management during the school internship. *European Journal of Teacher Education, 45*(5), 727-745. https://doi.org/10.1080/02619768.2020.1860011

Adams, T., Koster, B. & den Brok, P. (2022). Patterns in student teachers' learning processes and outcomes of classroom management during their internship. *Teaching and Teacher Education*, *120*(3), 103891. https://doi.org/10.1016/j.tate.2022.103891

Conference papers

Adams, T., Koster, B. & den Brok, P. (2023, April 13 - 16). *Student Teachers' Classroom Management Learning Process During The Internship.* [Roundtable session]. AERA Annual Meeting, Chicago, USA.

Adams, T., Koster, B. & den Brok, P. (2023, July 5 - 7). *Patronen in de ontwikkeling van klassenmanagement van aanstaande leraren tijdens het werkplekleren* [Paper presentation]. Onderwijsresearch Dagen, Amsterdam, the Netherlands.

Adams, T., Koster, B. & den Brok, P. (2023, March 13-14). *Klassenmanagement op de werkplek: hoe kun je aanstaande leraren daarbij ondersteunen?* [Paper presentation]. VELON conference, Zwolle, the Netherlands.

Adams, T., Koster, B. & den Brok, P. (2022, March 17-18). *De opleidersrol in de begeleiding van het klassenmanagement van aanstaande leraren op de werkplek* [Paper presentation]. VELON conference, Brugge, Belgium.

Adams, T., Koster, B. & den Brok, P. (2022, April 21 - 26). *Student Teachers' Classroom Management Learning Process And Outcomes During The Internship.* [Poster presentation]. AERA Annual Meeting, San Diego, USA.

Adams, T., Koster, B. & den Brok, P. (2021, March 16-18). *The Attention For Classroom Management In The Intended And Implemented*

Teacher Education Workplace Curriculum [Paper presentation]. ICO International Spring School. Online.

Adams, T., Koster, B. & den Brok, P. (2020, April 17 - 21) *The Attention for Classroom Management in the Intended and Implemented Teacher Education Workplace Curriculum* [Roundtable Session]. AERA Annual Meeting San Francisco, CA (Conference Canceled)

Adams, T., Koster, B. & den Brok, P. (2019, November 27-29). *The Attention For Classroom Management In The Intended And Implemented Teacher Education Workplace Curriculum* [Paper presentation]. *EAPRIL conference,* Tartu, Estonia.

Adams, T., Koster, B. & den Brok, P. (2019, March 18-19). *De ontwikkeling van klassenmanagement competenties van aanstaande leraren op de werkplek* [Paper presentation]. VELON conference, Breda, The Netherlands.

Adams, T., Koster, B. & den Brok, P. (2019, March 14-15). *The development of student teachers' classroom management competence at the workplace during teacher education internship* [Paper presentation]. ICO National Spring School, Amsterdam, The Netherlands.

Professional literature

Adams, T., Koster, B. & den Brok, P. (2023). *Klassenmanagement op de leerwerkplek: hoe kun je aanstaande leraren daarbij ondersteunen?* VO-raad/PO-Raad/Platform Samen Opleiden & Professionaliseren.

Adams, T. (2023, June 27). Reconstructing student teachers classroom management learning processes. BERA blog. https://www.bera.ac.uk/blog/reconstructing-student-teachers-classroom-management-learning-processes

Adams, T., Koster, B. & den Brok, P. (2022). Patronen in de ontwikkeling van klassenmanagement van aanstaande leraren tijdens het werkplekleren. *Tijdschrift van Lerarenopleiders. 43*(4), 38-55.

Completed Training and Supervision Plan

Tom Adams

Wageningen School of Social Sciences (WASS)
Completed Training and Supervision Plan

Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences			
A1 Managing a research project			
WASS Introduction Course	WASS	2019	1
Writing Research proposal	WUR	2019	6
'The Attention for Classroom Management in the Intended and Implemented Teacher Education Workplace Curriculum'	AERA, online	2020	1
'Student Teachers' Classroom Management Learning Process And Outcomes During The Internship'	AERA, San Diego	2022	1
'Patronen in de ontwikkeling van klassenmanagement van aanstaande leraren tijdens het werkplekleren'	Onderwijs Research Dagen, Amsterdam	2023	1
'Student Teachers' Classroom Management Learning Process During The Internship'	AERA, Chicago	2023	1
Scientific Writing	Wageningen in'to Languages	2021	1.8
A2 Integrating research in the corresponding discipline			
Qualitative Research (advanced)	ICO	2019	3
Learning in and for vocations and professions	ICO	2020	3
'The development of student teachers' classroom management competence at the workplace during teacher education internship'	ICO National Spring School	2019	1
ICO International Spring School	ICO	2021	3
Expertise group network workplace learning	FLOT	2015 - 2020	2

B) General research related competences

B1 Placing research in a broader scientific context

ICO Introduction course	ICO	2018	5
Scientific Integrity	WGS	2021	0.6
Interdisciplinary PhD research group	Fontys	2021	1

B2 Placing research in a societal context

'Klassenmanagement op de leerwerkplek: hoe kan je aanstaande leraren daarbij ondersteunen?'	Platform Samen Opleiden	2022	1
'Patronen in de ontwikkelingen van klassenmanagement van aanstaande leraren tijdens het werkpicleren'	Tijdschrift voor lerarenopleiders	2020	1

C) Career related competences/personal development

C1 Employing transferable skills in different domains/careers

Teaching / supervision	FLOT	2018 - 2023	4

Total	**37.4**

*One credit according to ECTS is on average equivalent to 28 hours of study load