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Collaboration in groups during teacher education

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Chapter 4

The regulation of collaboration in teacher education⁵

Collaboration in teacher education can be seen as a way to prepare student teachers for future social practices at school. Collaboration requires the regulation of interaction and work by group members. We studied the ways in which teacher educators and student teachers regulate the different types of collaborative practices in which they were engaged in a typical teacher education program in the Netherlands. We concluded that it cannot be taken for granted that student teachers will regulation their own collaboration and that it should be taken up as a more explicit learning aim in this program.

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4.1 Introduction

Teacher education programs are intended to prepare student teachers for the profession, not only in terms of how they behave with pupils in the classroom, but also for working as professionals in close collaboration with colleagues in an institutional context. In an exploration of how this collaborative role is reflected in three teacher education programs in the Netherlands (Chapter 1), we found that, despite a strong recognition of its importance amongst teacher educators, in reality the teacher education program does not devote systematic and explicit attention to learning to collaborate. Similar results were found by Timoštšuk and Ugaste (2010) and Beck and Kosnik (2001), both concluding that teacher education is often rather individualistic. We found that teacher education programs do include forms of collaboration in which student teachers work and learn together in groups, but that collaboration in such groups is not formally designed as a learning objective in itself. As such, the potential of these groups as learning environments in terms of collaboration has not yet been fully realized.

One essential aspect of collaboration is regulation (e.g., Järvenoja & Järvelä, 2009; Jermann & Dillenbourg, 2008; Volet, Vauras, & Salonen, 2009). Regulating collaboration involves directing and supporting the collaborative activity (Damşa, Kirschner, Andriessen, Erkens, & Sins, 2010). Although an increasing amount of attention is being paid to (learning to) collaborate in teacher education (e.g., Gellert, 2008; Kaasila & Lauriala, 2010) and the importance of regulation processes in groups (e.g., Volet, Vauras, & Salonen, 2009; Järvenoja & Järvelä, 2009), we did not find any studies that combined these points of interest. This chapter aims to contribute to the existing knowledge about student teachers' collaboration in teacher education by considering their own role in regulating this collaboration. Particularly relevant are moments when student teachers are asked to take the lead in plenary sessions or to work in groups without the teacher educator for the first time. During these moments the student teachers themselves become responsible for the regulation of collaboration.

How to regulate collaboration is not self-evident. As we will describe, theories on group work differ in terms of what is considered to be an appropriate form of regulation for collaboration. In response to the literature, we hypothesize that the appropriate form of regulation in teacher education depends on the nature of the group. The aim of our study is to investigate the ways in which the student teachers regulated the various collaborative activities in which they participated during the program.

4.2 Collaboration in teacher education programs

Within teacher education programs in Western countries, collaborative activities are common (Korthagen, Loughran, & Russel, 2006; Richards, 2008; Kaasila & Lauriala, 2010). Collaborative learning can create a safe climate and build trust between student teachers, which then provides opportunities to give feedback and reflect together (Chamberlin-Quislik, 2010). It can also have a positive effect on the cooperative instruction skills of student teachers in the classroom (Veenman, Van Benthum, Bootsma, Van Dieren, & Van der Kemp, 2002). The attention which is paid to collaboration in these programs shows that teachers are recognized as professionals who work within a social institutional context, where they have to discuss matters such as pupils, school policy or the curriculum with colleagues. This social role of teachers is also reflected in formal descriptions of teacher competence. In the Netherlands, teachers are formally expected to be competent collaborators (Stichting Beroepskwaliteit Leraren (SBL), 2004). The SBL prescribes that teachers should be able to make constructive contributions to different kinds of meetings within the school, as well as to the activities which enable the school to function appropriately and to the continuing development and improvement of the school.

Although policy documents relating to teacher education programs in the Netherlands explicitly mention this SBL competence as an inherent part of becoming a teacher, we found that this role is often neglected in three of the largest teacher education programs (Chapter 2). Many collaborative activities take place, but they are not explicitly designed as learning objectives. Instead, they are organized as efficient ways of grouping the student teachers and of working on certain topics. The student teachers' ability to collaborate with peers or colleagues at school are scarcely reflected upon and assessed. The teacher educator asks the student teachers to reflect on their collaboration with fellow teachers at their internship or school, or with fellow student teachers at the institute, mostly only if a problem occurs. Ruys, Van Keer, and Aelterman (2010) concluded that collaborative learning was not frequently implemented in Belgian teacher education institutes for primary schools. Timoštšuk and Ugaste (2010) found similar outcomes in their study of the professional identities of student teachers in Estonia, namely that student teachers do not perceive themselves as belonging to a teaching community. Ellis (2010), drawing on an Oxford teacher education program, discusses the tension between the individualistic, cognitive view of knowledge within this program and the social situation in which the student teachers participate during their internship. Similarly, Van Huizen, Van Oers, and Wubbels (2005) describe how teacher education "has been traditionally shaped and organized along a dichotomy between a pre-service, chiefly theoretical professional preparation outside the target practice, and an in-service professional life firmly directed to productivity, with only rare and incidental moments of further schooling" (p. 274).

Malderez, Hobson, Tracey, and Kerr (2007) conclude that teacher educators should consciously employ strategies which are aimed at achieving a cohesive student teacher learning group, in order to prepare student teachers for managing classroom relationships as well as teacher collaboration. The findings of these studies suggest that the focus of teacher education programs is still largely on (theoretical) preparation for the teacher's tasks in the primary process of teaching in the classroom.

While this priority is understandable given the complexity of teaching, we contend that teachers' position in the school context should not be disregarded. Professional learning and development are stimulated by evolving participation in a social practice (Van Huizen, Van Oers, & Wubbels, 2005). For new teachers, support from mentors and colleagues has a significant impact on their assimilation at school (Nasser-Abu Alhija & Fresko, 2010). The importance of the social role of teachers is clearly described in the literature on teacher communities, in which such a role can be given shape. Admiraal, Akkerman, and De Graaff (in press) argue that teacher communities represent a professional culture, provide learning environments and are valuable within different phases of the teaching career. Others found that such communities can improve professional practice, collective capacity, and continuing intellectual development (Grossman, Wineburg, & Woolworth, 2001; Little, 2003; Hammerness, Darling-Hammond, & Bransford, 2005).

Given these advantages of collegial collaboration for both the school as well as for the teachers themselves, it is relevant to explore the ways in which teacher education programs allow student teachers to become (more) competent in this respect. In this light, we investigated the characteristics of teacher education programs. We found that collaborative activities in Dutch postgraduate teacher education programs are shaped by different types of group. Each student teacher participates in each type of group during the one year program, but the configurations of student teachers between groups differ. These configurations are determined by the type of group. For example, in the subject matter group, all of the student teachers from the same subject are grouped together, while student teachers from different subjects participate in the mentor group, the reflection group and the research group. The groups also differ in size and with regard to whether or not a teacher educator is present. Table 4.1 describes the nature of the four types of group found in three Dutch teacher education programs (based on Chapter 2).

Table 4.1

Description of four types of group in teacher education in the Netherlands

Group	Main objective	Main activities	Number of student teachers	Role of student teachers	Role of teacher educator
Mentor group	Secure home base within the program	Exchange, collaboration	8–16	Participant	Leads the process, is a model and stimulates the student teachers
Subject matter group	Develop vision and practice in relation to the subject	Modelling, developing teaching material	2–50	Participant and colleague	Lead and monitor the process, stimulate activities of student teachers
Reflection group	Learn to reflect collaboratively and give feedback on experiences	Reflection	3–4	Student teachers control the process	Not present, but helps with forming groups, providing structure and feedback
Research group	Learn how to perform educational research	Conducting research	2–5	Student teachers control the process	Not present, but helps with providing feedback and keeping track of the groups

In the reflection and research groups, student teachers participate in groups that work independently, without the teacher educator being present. The mentor and subject matter groups may prepare them for these groups. We contend that collaborative activities can be employed more explicitly as a way to learn to collaborate. Based on focus groups with teacher educators, community experts and student teachers, we defined a set of (additional) activities that could be undertaken in each of these groups, with the aim of helping the student teachers to learn to work with and from one another. An example of such an activity is “rotating different roles” (Chapter 3). The four types of group are phased within the program, as can be seen in Figure 4.1.

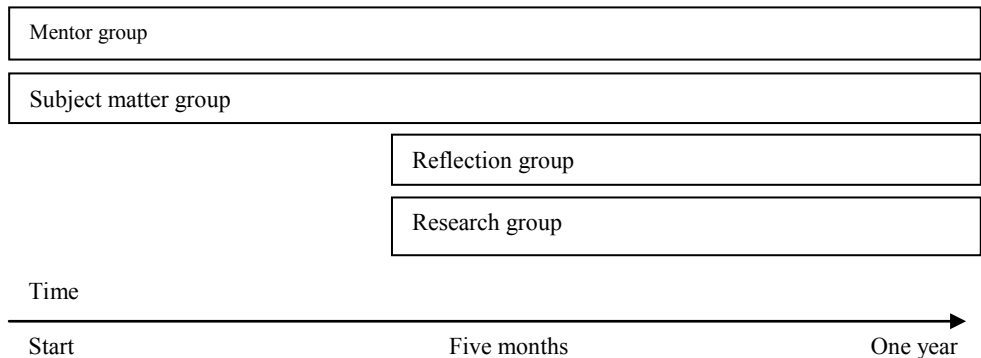


Figure 4.1 Phasing of the four types of group within the teacher education program.

4.3 Regulation of collaboration

The attention which has so far been devoted to regulation has mostly focused on individual learning processes, which are often referred to as “self-regulation” or “self-regulated learning” (e.g., Pintrich, 1999; Van Eekelen, Boshuizen, & Vermunt, 2005; Vermunt & Endedijk, 2010). In this context, regulation entails controlling and steering one’s own individual learning process. More recently, there has been an interest in regulation in the context of collaborative learning. In this context, regulation entails directing the collaborative process (Volet, Summers, & Thurman, 2009; Volet, Vauras, & Salonen, 2009; Damşa, Kirschner, Andriessen, Erkens, & Sins, 2010). In literature on teacher communities, the regulation of interaction is described as contributing to a shared interactional repertoire of community members (Admiraal, Lockhorst, & Van der Pol, in press). When working independently in groups during the teacher education program, but also later in their professional life, it is assumed that student teachers will be able to regulate collaborative processes. Ideally, student teachers should be gradually prepared for this regulative task during the teacher education program.

The way in which collaboration should be regulated has not been defined in a straightforward manner. On the one hand, one finds literature on collaboration in the field of education that emphasizes co-regulation. The term ‘co’-regulation emphasizes the idea that group participants should make an equal contribution to the regulation of collaboration (Volet, Summers, & Thurman, 2009; Volet, Vauras, & Salonen, 2009). In contrast, one finds a tremendous body of literature on collaboration in educational as well as various professional contexts indicating the importance of leadership in groups. In descriptions of leadership in the context of collaboration, there is usually a single person who is responsible for regulative actions (e.g., see Boal & Hooijberg, 2000; and the review by Hannah, Avolio, Luthans, & Harms, 2008). The effectiveness of either regulation by all group members or regulation by one person might be dependent on the nature of the collaborative work.

Regardless of who regulates (all group members or a single person), one basic idea underlying collaboration is that it is a dialogic process. Based on the works of Mikhael Bakhtin, Wegerif (2008) and Akkerman, Admiraal, Simons, and Niessen (2006) have described that dialogicality denotes not only how people react but also how they anticipate one another in a dialogue. As such, Wegerif states that “The boundary between subjects is not, therefore, a demarcation line, or an external link between self and other, but an inclusive ‘space’ of dialogue within which self and other mutually construct and reconstruct each other” (p. 353). Following on from the idea of dialogicality, the question arises of how people anticipate and react to one other. Actions are not viewed as entities in themselves, but should always be seen, and interpreted, as part of a specific ongoing social interaction.

In order to understand regulative activity it is therefore important to consider the ways in which people attune to and take up each other's actions.

In the present study, we want to focus on the following research question: *How do student teachers regulate collaboration in different types of group during a teacher education program?* This question will be investigated by looking at both the way in which the regulation of collaboration is distributed among different group members (including teacher educators), as well as at the way in which regulative actions fit into the dialogical process.

4.4 Method

4.4.1 Participants

We investigated one of the largest postgraduate teacher education institutes in the Netherlands. Student teachers enroll at this institute after having completed a Master's course in a school subject, such as economics or science. This institution is very much concerned with bridging the gap between theory and practice. Student teachers follow an intensive full-time program for one year, during which they spend half of each week at school doing an internship or job, and the other half of the week on teacher education institute-related activities. The activities at the institute mainly consist of attending meetings of the different types of group. At home, the student teachers also contribute to these groups by taking part in discussions in an electronic learning environment. We investigated one of each type of group. An overview of the number of meetings observed and the participants in each type of group is given in Table 4.2. From some meetings that were not observed, we have information from the teacher educators regarding the descriptors which apply to that meeting.

Table 4.2

Number of observed meetings and participants in different types of group

	Mentor group	Subject matter group	Reflection group	Research group
	N student teachers= 13	N student teachers= 50	N student teachers= 4	N student teachers= 3
	N teacher educators= 2	N teacher educators= 3	N teacher educators= 0	N teacher educators= 0
Number of observed meetings	6	6	4	6
Number of meetings for which we have descriptive data	7	6	4	8

4.4.2 Data gathering

We ensured that no student teachers were part of more than one of the investigated groups. We asked for permission from both the teacher educators and the student teachers to videotape the meetings. Subsequently, we made video observations of these meetings over a period of about six months. The researcher observed the activities without intruding, therefore taking on the role of a distant observer (Creswell, 1998). Most of the meetings of each group were observed.

4.4.3 Data analysis

We first conducted a quantitative analysis of the descriptive data. We distinguished between several regulatory situations: plenary interactions led by the teacher educator; plenary interactions led by student teachers; smaller group work by student teachers as part of plenary meetings and smaller group work by student teachers outside plenary meetings. For each meeting we recorded which of these four regulatory situations occurred.

Second, we conducted discourse analysis of all of our observations, with a focus on interaction (Taylor, 2001). We watched all of the videotapes of the meetings of each group and marked all regulative actions in an observational scheme. Regulative actions are defined as actions that steer the interaction in a new direction, such as introducing a new topic or suggesting that the group shifts to a different activity.

For each type of group we summarized the regulative actions found using discourse analysis over the course of the year. In addition, for each group, we indicated the meeting in which the control over the regulation shifted from the teacher educator to student teacher(s) for the first time, which we defined as the key meeting. The interaction in this meeting was transcribed and analyzed, taking into account regulative actions and the ways in which they were attuned to previous utterances and taken up in consequent ones.

In order to validate the data collection, analysis and synthesis of this study, we conducted an audit procedure (Akkerman, Admiraal, Brekelmans, & Oost, 2008). During this audit, it was checked whether or not the results and conclusions in this article were grounded in the data. Each analytical step was audited by an independent researcher, who was familiar with the observational scheme. Although the auditor detected some minor ambiguities, these did not have consequences for the results as described in this chapter. The auditor therefore concluded that the quality of the research and analysis process was visible, comprehensible and acceptable (i.e., reliable and valid).

4.5 Results

We will first present the results which concern the amount of regulation which was required during the teacher education program. After that, we will describe the development of each of the groups, focusing especially on one key meeting in which the regulation of collaboration shifted from the teacher educator to the student teachers.

4.5.1 Regulation of collaboration in the teacher education program as a whole

In this section, we will describe the ways in which the various types of regulation emerged during the meetings of the four groups. We distinguished four types of regulation, as mentioned in the first column of Table 4.3. In Table 4.3, we have indicated which types of regulation are took place in each meeting of each group using an 'X'. This table shows that these types of group mostly usually underwent different phases within a single meeting. This is especially true for the mentor and subject matter groups, in which the plenary educator-led parts of the meetings frequently alternated with parts in which the group of student teachers was divided into smaller groups. Table 4.3 also shows that during the program, there was a visible shift from the regulation of collaboration by the teacher educator (plenary, educator-led), towards regulation by student teachers, especially in terms of student teachers leading parts of the plenary meetings (second row) and small groups of student teachers collaborating outside of the meetings (fourth row). In Table 4.3, this shift is indicated with an 'X'. Viewing the phasing of different types of regulation in the program as a whole, we can conclude that student teachers are given the opportunity to gradually begin to engage in regulative actions themselves.

4.5.2 Closer investigation of regulation in groups

We will now focus on how student teachers regulate collaboration within the different types of group based on our in-depth discourse analysis. For each of the groups, we will first give a broad outline of the development of the regulation of collaboration within the group and then we will describe the key meetings in greater detail, using parts of the transcripts of these meetings to portray the regulative actions described.

Table 4.3

Types of regulation within different types of group in a teacher education program

Meeting	Mentor group							Subject matter group						Reflection group				Research Group							
	1	2	3	4	5	6	7	1	2	3	4	5	6	1	2	3	4	1	2	3	4	5	6	7	8
Plenary, educator-led	X	X	X	X	X	X	X	X	X		X			X				X	X			X			
Plenary, student-led				<u>X</u>	X	X	X																		X
Smaller group, within meeting	X	X	X		X	X	X	X	X		X			X	X			X	X			X			
Smaller group, outside meeting										<u>X</u>		X	X			<u>X</u>	X			<u>X</u>	X		X	X	

‘X’ indicates that this type of regulation was applied in this meeting

‘X’ indicates that this type of regulation had not been used before, and thus implies a shift. The meetings in which these shifts took place are defined as key meetings.

4.5.2.1 *Mentor group*

The mentor group consisted of 13 student teachers who taught different subjects and a teacher educator. In this group, the student teachers learn about general educational topics and apply them to their experiences at school. From our observations of the mentor group, we found that, at the beginning, the teacher educators regulated the collaboration most of the time by setting the agenda and steering the interaction. When the student teachers were working on assignments in small groups, their tasks were generally quite strict. There were three ways in which the student teachers were given some control over their interactions. First, the teacher educators gave the student teachers the opportunity to ask questions or to share their experiences with the rest of the group. The student teachers differed in terms of the degree to which they responded to these opportunities. Second, there was room for the student teachers to influence the regulation process by indicating the themes which they wanted to discuss. Third, within the mentor group, there was a great deal of room for them to reflect on the regulation process. For example, the teacher educators administered a questionnaire to the student teachers about their experiences in this group, in which they were also asked about the structure of the meetings. Some of the student teachers indicated that they felt that the meetings would benefit from being more structured and following a stricter schedule. The teacher educators discussed this with the whole group, and also gave the group members the responsibility of addressing these issues themselves. From the fourth meeting onwards, time was set aside for presentations made by the student teachers (see Table 4.3). The student teachers who were giving the presentations regulated these meetings themselves, and also encouraged their fellow group members to ask questions.

We will now turn to a more thorough analysis of the first of these meetings (meeting 4 in Table 4.3), in order to understand the shift from teacher educator to student teacher regulation. In this meeting, three student teachers presented the results of their exploration of the eating habits of pupils. The goal of this presentation was for the presenting student teachers to demonstrate their expertise in their subject to the rest of the group. The presentation was scheduled for the last 45 minutes of the meeting. The teacher educator explicitly handed over regulation to the presenting student teachers, by saying: "Good, [...] I'll take a step back". At this point, the meeting became somewhat disorganized, as one of the presenting student teachers experienced some problems in starting up their PowerPoint presentation. When he was ready, he started by welcoming the audience to his group's presentation and by introducing the topic which they were addressing. He explained what was going to happen during their presentation (a game in which the whole audience was supposed to engage). After this, he gave the floor to his fellow-presenters, who he introduced as the "quiz masters". During the quiz, the presenters regulated the collaboration, by posing questions to the audience. After the audience gave

their response, the “quiz masters” gave the right answer. On a few occasions, some questions arose from the audience as can be seen in the following transcript.

Transcript 1:

- 1 Michelle: Is it that then only boys consider themselves to be thin and girls consider
- 2 themselves to be fat, or er..
- 3 Linda (presenter): not only. Boys do fill in more often that they find themselves too thin.
- 4 John: muscles!
- 5 Marco (presenter): among other things.
- 6 Simone: {inaudible, laughter by the group 22:39}
- 7 Teacher educator: it is, given the physical development also very logical. Girls get hips, and
- 8 soon think: I am getting bumps. In places where they don't belong [laughs]. I don't want
- 9 that. And boys they then get, er..
- 10 Marco: but the guys also become more insecure.
- 11 Teacher educator: Yes, all pupils of that age become insecure about their appearance. But
- 12 for girls there is another point, because girls get more shape and curves, and boys don't.

This excerpt shows how the presenting student teachers were in charge of the plenary interaction. The group directed their questions to them and they, in the role of experts on this topic, elaborated and provided answers. In this excerpt, the teacher educator interrupts only once, in lines 7-9, where she directs the discussion back to the topic after people have been laughing. After the quiz, the presenters indicated that there was time for discussion. Several student teachers from the audience asked questions, which the presenters answered. At a certain point during this discussion, the teacher educator started to go into a very detailed explanation, leaving little room for the presenters. This is shown in the following transcript.

Transcript 2:

- 1 Teacher educator: there was a peak, with anorexia and bulimia like cases. That recently
- 2 disappeared. But now the estimate is that 10-15% of the girls and 4-5% of the boys in
- 3 puberty are starting to show this kind of symptoms.
- 4 ?: that is a lot.
- 5 TE: it is a lot. It means that in every class, 10% that's 2 or 3 children per class.
- 6 ?: yes.
- 7 TE: and that is because, there has been a lot of publicity about the ideal figure, that that
- 8 should stop. But in the end, that turns out apparently to have the opposite effect.
- 9 Astrid: too much attention.
- 10 TE: and exactly because there is so much attention for healthy food, and many people are

11 overweight, and many children are overweight, in a period of self-doubt and great
 12 insecurity about your appearance, can this lead to perfectionism, and ultimately anorexia.
 13 But anorexia is a story in itself, okay. You have children who exaggerate a bit when they
 14 diet. I mean, dieting before you're fully grown [shakes her head], you shouldn't do that and
 15 you shouldn't want that. I always talk to girls who only manage on crackers and water all
 16 day. Then I think: "start eating healthily, this isn't healthy, a whole meal sandwich is of
 17 much more use. It also takes much longer to digest, etcetera". But, eh, anorexia and bulimia
 18 are of course real eating disorders, are real physical disorders. And there is much more to
 19 that than just wanting to be slim. A lot more. It is absolutely something to keep your eyes
 20 open for.

As a consequence of the teacher educators extensive input, the group of student teachers started to direct their questions to her rather than the presenting student teachers, which shows that the role of expert had shifted from the presenting student teachers towards the teacher educator. She continued for some time, after which one of the presenters reclaimed the control of regulation, as well as the role of expert, by starting to talk about an outcome of their research project. These two different excerpts point to how the active participation of the teacher educator can influence the degree of regulation by the student teachers. Whereas in the first instance, the input of the teacher educator was minor, and helped to focus the discussion on the subject at hand, in the second case, the teacher educator took over the regulation from the presenters, thereby leaving no room for input by either the presenters or the audience. In subsequent meetings of the mentor group, the teacher educators took more of a background role during student teacher presentations.

4.5.2.2 Subject matter group

The subject matter group consisted of 50 student teachers who taught modern languages and three teacher educators. In this group, student teachers learn about subject-specific didactics. Our data show that the teacher educators mostly regulated the collaboration. With the exception of some space which was left for questions and suggestions from the student teachers (e.g., a student teacher suggested that the activities could be done in a different order), the teacher educators determined what the student teachers were supposed to do during the plenary parts of the meetings and when they should work in smaller groups. When the student teachers were asked to collaborate in small groups, the teacher educators partly determined the course of the group interaction by giving them a strict task. Sometimes they also determined the form of collaboration, for example by appointing roles to group members. Explicit forms of student regulation were not found until two months after the start of the program, when smaller meetings were organized outside of the large

plenary meetings. During these work meetings, the groups get received assignments from the teacher educators. The teacher educators usually came in at the beginning and the end of the meetings. In between, the student teachers collaborated on some sort of assignment, such as the development of a lesson plan.

We will now look in more detail at the first of these work meetings (meeting 3 in Table 4.3), as in this meeting the student teachers were required to work independently from the teacher educator. During the first meeting, six student teachers made preparations for a planned visit to a school. The teacher educators were present at the beginning in order to explain how the day would be planned and what the student teachers would be expected to do during the meeting in preparation for the school visit. They asked the student teachers to first discuss their knowledge of speaking- and conversation skills. Afterwards, the student teachers were asked to talk about the challenges and problems which they perceived as being related to working with these skills in the classroom. Finally, they were required to each choose some subjects that they would like to work on further as a preparation for the school visit, such as the preconditions related to conversation skills. As such, the teacher educators still gave explicit directions for this meeting. When the teacher educators went away, there was a great deal of chatter in subgroups. At one point, one of the student teachers addressed a question to the whole group which was focused on the first assignment given by the teacher educators, leading to a group discussion.

Transcript 3:

- 1 Romi: Guys, what is the difference between conversation skills and speaking skills, that is
- 2 one big question mark for me.
- 3 ?: I think that you, with speaking skills...
- 4 Irene: with speaking skills you can...
- 5 Robert: conversation skills...
- 6 Irene: I think that your conversation skill is that you should be able to react to someone
- 7 else.
- 8 Romi: so that asks for more, then you have more activities...
- 9 Several others: yes.
- 10 {Robert points to his eyes}
- 11 Sandra: yes, that is much more related to communication.
- 12 Robert: with conversation skills...
- 13 Romi: so for English I think that it is more relevant, but for Spanish speaking skills.
- 14 Sandra: maybe not, because for Spanish, they do a lot of practical stuff.

The question which Romi posed in line 1-2 elicited a significant reaction from the rest of the group. Some of the student teachers started to talk at the same time, but they also tried to build on each other's comments in order to make a clear distinction between the two concepts (lines 10 and 12-13). Following on from this discussion, they started to exchange problems which they had encountered with pupils in the classroom, which was part of the second assignment set by the teacher educators. During this conversation, the student teachers showed recognition for each others problems. After focusing mainly on these problems, the discussion shifted to "good practices", another part of the second assignment, which the student teachers shared and discussed in some detail. Subsequently, one of the group members (Sandra) tried to shift the conversation back to problems, by suggesting that everyone said something about what they saw as being a problem:

Transcript 4:

- 1 Sandra: Maybe we could all just say what kind of problems you see, what have you already
- 2 met yourself, or what do you expect to come across related to speaking skills. What do you
- 3 reckon is the biggest, the biggest obstacle you come across in speaking, conversation or
- 4 speaking skills in pupils? What do you see yourself mostly?
- 5 Romi: yes, that they thus do not bring any of their own input.
- 6 Sandra: in terms of motivation, or...
- 7 Patricia: Yes, that you really have to work on it.

What followed was a discussion of such problems, which once again soon changed into a discussion of good practices. It was once again Sandra who tried to focus the discussion onto another topic, namely the conditions which are necessary within the classroom when practicing conversation skills. This topic was related to the third assignment set by the teacher educators. This initiative was taken up by Romi, but after a while Sandra herself once again started to talk about an example of good practice from her own classroom experience. Romi later focused attention back to preconditions:

Transcript 5:

- 1 Romi: Alright, we have discussed this conversation skill, and speaking skill, eh, reasonably,
- 2 haven't we?
- 3 ? : yes, discussed.
- 4 Romi: discussed.
- 5 Irene: what should we then, think of preconditions uhm...
- 6 Romi: yes. Preconditions. {several group members write}.

It is noteworthy that Romi used the same words as one of the teacher educators used in the beginning (“discussing”, which in Dutch is “lospraten”). In addition, in other regulative actions by both Romi and Sandra, they directed attention to the assignments given by the teacher educators. This shows how the assignment given by the teacher educators functioned as a tool for regulating collaboration. What is striking in these excerpts is that the group was so easily distracted from the topic they were talking about. Many times, either Sandra or Romi directed the group’s attention back to the original subject. As such, control of regulation lay mostly in their hands, and it appeared as if the rest of the group was not as capable of regulation. The assignment set by the teacher educators thus gave some direction to the regulation of collaboration, but not enough for the whole group to stay focused.

4.5.2.3 Reflection group

The reflection group consisted of four student teachers who taught different subjects. This type of group was formed within a larger group in which the student teachers first received some information from a teacher educator about what they were supposed to do and the procedure they were supposed to follow. Under the guidance of the teacher educator small groups of student teachers tried out the procedure for reflection, which consisted of several steps: the group members all shared critical experiences for one or two minutes and then, as a group, chose an experience of one group member to focus on. This group member elaborated on her or his experience, after which all of the group members asked informative questions. They ended with an analysis of the problem and by giving advice. We observed that the small groups neatly followed the procedural directions set down by the teacher educator. After two such meetings, the small reflection groups started to work independently outside the larger group. We observed one such reflection group, and could see that a much looser procedure was used; phases were applied in a less structured way, and the group shifted between the phases much more frequently. It was also visible that all of the student teachers in turns acted as regulators, both by sharing an experience, and by asking questions and stimulating others to contribute.

We will now continue to describe the first meeting of the reflection group which was observed. In this meeting, the student teachers started by discussing who would share first.

Transcript 6:

- 1 Lydia: Good, who wants to go first?
- 2 Brenda: does anyone have...
- 3 Sophie: No, Personally, I don't want to go at all.
- 4 Lauren: Brenda, in alphabetical order.
- 5 Lydia: Good, Brenda, you, what do you want to share?
- 6 Sophie: The B, B from Brenda.
- 7 Brenda: Well, off course I learn a huge amount, but what I sometimes find hard, is so to say
- 8 really, ehm, the involvement with pupils, that I am just over-involved.

By stating in line 1 “who wants to go first?”, Lydia made it clear that everyone had to “go” at some point in the discussion, an idea which was rejected by Sophie in line 3, as she did not want to share. The others did not take up this rejection, and Lauren instead proposes going in alphabetical order (line 4), an idea which was immediately taken up by the other group members. In discussing Brenda’s experience, all of the other group members engaged in responding and questioning. They gave Brenda advice about dealing with a difficult situation involving a pupil, and in doing so addressed her main concern, which was becoming involved at too personal a level. When the group had extensively discussed Brenda’s experiences and feelings, they ended this part of the conversation and shifted to the experiences of another group member. This process was repeated until all of the group members had been granted a time to speak.

Transcript 7:

- 1 Lauren: And then, at least, it appears to me that you would get some more rest because of
- 2 that, for yourself.
- 3 Brenda: Yes. That’s quite good [nods]. Well, thank you. This really helps me.
- 4 Lauren: you’re welcome.
- 5 Brenda: well, who’s next? {silence}
- 6 Sophie: Well, in alphabetical order, Lauren
- 7 Brenda: Lauren
- 8 Lauren: O yes. Well, I recognize exactly what you also have.

Within this group, we can see how all of the group members collaboratively regulated their conversation, as they all alternately engaged in regulative actions. In this excerpt, we can also see how Sophie, who initially said that she did not want to contribute herself, changed her mind by following Lauren’s suggestion to go in alphabetical order. What is striking here is that the group outside of the larger meeting did not use the same strict, subscribed format for discussing experiences which is provided by the institute.

Instead, they used a format which resembled a normal conversation, with no strict order for asking questions, giving advice or explaining. However, they did stick with the subject and addressed each other's concerns. As such, the goal of this type of group (collaboratively reflecting on experiences) was achieved, although not by using the intended format.

4.5.2.4 Research group

The research group consisted of three student teachers who collaborated on a small-scale educational research project. The research groups began with three workshops in a larger group of about 20 student teachers, during which researchers provided information on educational research methods and the small groups started working on their research plans. In the research group which we observed, which consisted of three group members, one of the student teachers primarily regulated the collaborative process. When she was absent in one meeting, we saw how the other two group members took over her role. Her absence required each of them to regulate more than they had done in previous meetings. The last meeting was the presentation of the results of their research at a conference. For this meeting, all three group members agreed to take on a specific task, each focusing on their own subject.

We will now turn to the first meeting of this research group outside of the workshops. During this meeting, we can see how the group moved through three phases in their dialogue (initiation, renegotiation and elaboration of an idea), through which they created a process of informed decision making. An analysis of the beginning of these phases shows how the group members took it in turns to take the lead.

The initiation phase was instated by one of the participants (Ina) who introduced a new idea for their research project at the beginning of the meeting. As one can see in the following transcript, she had a great deal of influence over the direction of the collaborative research project.

Transcript 8:

- 1 Ina: I have a new idea by the way. Because I thought it would be nice to look at something
- 2 else, as this has already been implemented, something that is newer, because everybody
- 3 already knows this. I thought, maybe we could look at, ehm, do both of you have a
- 4 supervisor at school? {looks at Rosanne}
- 5 Rosanne: Yes
- 6 Wilfred: Yes.
- 7 Ina: To look at how you are being supervized according to the VIL {a questionnaire that
- 8 they have discussed previously}. That is one-to-one.
- 9 Rosanne: Yes, that is possible.

- 10 Ina: Then there are about... And then you look at all people at your school. We now have
 11 about 9 new teachers, or 12 new teachers at school. And that they all complete it
 12 themselves and so does their supervisor. Then we have 20 questionnaires or so.
 13 Wilfred: That is a very different subject.
 14 Rosanne: Yes, it is really different, yes.
 15 Ina: But we can use the same literature that we have already read. And with the VIL.
 16 Wilfred: Yes, but, what could this mean? You could only do that after 2 months, because
 17 you can't do it now.
 18 Ina: and it is very simple to complete it.
 19 Rosanne: Yes, but, the normal VIL can also be administered only after 2 months. So if we
 20 used that, we would have to wait for 2 months anyway.
 21 Ina: Let's think about it.
 22 Wilfred: I am not entirely...
 23 Ina: enthusiastic.
 24 Wilfred: very enthusiastic. But maybe that will come later.
 25 Rosanne: I am enthusiastic, because it neatly fits in with what they have these days at our
 26 school with those BIO development conversations.

In the initiation phase, Ina indicated in line 1 that she had a new idea, and explained it in part. She further elaborated on this idea in lines 7-8 and 10-12. It had already become clear that Wilfred was not immediately convinced by this idea (lines 13, 16-17 and 22-24). Rosanne had already proven to be a proponent of the idea, countering Wilfred's objections in lines 19-20 and 25-26. This led to a second phase of renegotiation, in which Ina tried to convince Wilfred, who had shown himself to be skeptic. During this phase of renegotiation, Ina's regulative actions were directed towards convincing Wilfred. Wilfred's regulative actions on the other hand were directed towards finding difficulties in Ina's new idea. This phase came to an end at the point when Ina posed another new idea.

Transcript 9:

- 1 Wilfred: But in itself I don't think that it is very hard to talk about a new subject, what this
 2 is, I think, there is also more written about it.
 3 Ina: {nods} and I thought, I had, I am just thinking about another subject, but then you have
 4 to start reading all sorts of other things. I would think it would be fun to, to look at, ehm,
 5 what is the best way to start the first lesson after the summer holiday? But then you have to
 6 take action very quickly.
 7 Wilfred: that is really..
 8 Rosanne: just stop Ina, because that is really unrealistic {they all laugh}.
 9 Ina: another time.

- 10 Wilfred: was a nice crooked thought.
11 Ina: next year.
12 Rosanne: yes.
13 Wilfred: No, the first one is better.

In this transcript, we saw Ina proposing a new idea in lines 4-6. The other group members reacted to this new idea with a joke and in this way rejected it as being unrealistic. Remarkably, it was at this moment that Wilfred stated that he believed the first idea to be a good one (line 13). Moreover, as the following transcript shows, Wilfred took over the lead from Ina and instigated a phase of elaboration.

Transcript 10:

- 1 Wilfred: But if we just, eh, continued thinking about the, eh, the idea that you just had. I'm
2 starting to get a bit more enthusiastic, so {they all laugh}, and Rosanne already was
3 enthusiastic, right?
4 Ina: Because how, do you know how many new teachers there are at your school?
5 Wilfred: Yes, twelve.
6 Ina: Yes, me too, twelve. And you?

In this elaboration phase the first idea was further explored by all three group members. In considering the practicalities of the idea, they suggested that the first idea should be pursued as a shared idea, instead of owned by Ina. This group demonstrated a flexible use of regulation, with the phases of decision making initiated by different people (first Ina and later Wilfred), and a final phase of co-regulation by all group members.

4.6 Conclusions and discussion

This study aimed to explore the ways in which student teachers regulate collaboration in different types of group during a teacher education program. In the results section we have presented the findings for each group. When comparing the findings for the different groups, what conclusions can we draw? Based on the descriptive data of the types of regulation in the meetings, we can conclude that in all of the groups, the student teachers were expected to regulate collaboration in one way or another. Within the mentor and subject matter groups, which were both relatively large groups in which teacher educators were present, the required regulation was initially limited to small group work with strict assignments set by the teacher educators. During the course of the meetings, these groups gradually called for more regulation by student teachers. They were required to regulate

collaboration when leading parts of the plenary meetings as well as when doing group work outside of the large meetings. During the moments when the student teachers had to regulate with the teacher educator being present, it became visible how influential the position of the teacher educator can be. In contrast to the influence of teacher educators in these groups, in the research and reflection groups we found that the student teachers had a few introductory meetings at the beginning, after which they spent most of their time without a teacher educator, during which they were responsible for the regulation of their own collaboration.

We will now describe the differences between the types of group in terms of who regulated collaboration. In the *mentor group* most of the time there was only one regulator, namely the teacher educator. During the first meeting in which student teachers had to lead a plenary session (“key meeting”), we saw how regulation was conducted collaboratively by the three presenting student teachers. However, we also observed how the teacher educator took over at some points and how influential teacher educators can be, not only in terms of directing the interaction but also in terms of who assumes the role of expert. Within the *subject matter group*, the teacher educators were also usually the regulators of collaboration. During the first meeting in which the student teachers were regulators (“key meeting”) we found that two group members took the lead. They did so by using the instructions for the assignment set by the teacher educators as tools for asking questions to the group. We found many instances of co-regulation within the *reflection group*, in which all of the group members took turns to regulate. In contrast, the *research group* shifted in terms of who took the lead during different phases of decision making, and it was only after a decision had been made that the group began collaboratively exploring and co-regulating. The differences between having one leader and co-regulation might be caused by the fact that in the research group, there was a focus on making decisions and creating a shared product, while in the reflection group, the process of collaboration was more important. As such, the group members in the reflection group might not have felt that they had to get a firm grip on the collaborative process.

We can conclude that within this teacher education program, there is neither an exclusive focus on co-regulation (as suggested by Volet, Summers, & Thurman, 2009; and Volet, Vauras, & Salonen, 2009) nor on mere reliance on one regulator (as suggested by most leadership literature, e.g., Hannah, Avolio, Luthans, & Harms, 2008; and Boal & Hooijberg, 2000). Instead, according to the specific activities and goals of a certain type of group at a certain moment, several forms of regulation could be found.

Now we will turn to the ways in which regulative actions relate to previous as well as subsequent actions. We found that regulative actions can have several different functions. The first is to keep the group focused on the topic at hand. Examples can be seen within the subject matter group, in which two group members repeatedly raised their voice

in order to proceed with a plenary discussion which had shifted to another topic. Another example of this was seen within the mentor group, when the teacher educator focused the group's attention away from a joke and back to the topic. The second function of regulative actions is to shift from one phase in the collaboration to another. An example of this can be identified in the subject matter group, in which the student teachers first discussed speaking and conversation skills, after which they started to talk about conditions within the classroom. The research group shifted from the initiation of an idea to renegotiation and eventually elaboration. The third function of regulative actions is to create space for a new speaker, of which an example was seen in the reflection group, when one group member explicitly thanked the rest of the group in order to finish the conversation about her experience and to shift the focus to someone else.

In this study, we took a dialogical perspective, following Wegerif (2008) and Akkerman, Admiraal, Simons, and Niessen (2006), which means that we focused on how people mutually define each other's roles in dialogue by reacting to and anticipating subsequent turns. Considering the dialogicality of regulative actions, we found that such actions are mostly accepted by group members and as such have a significant influence on the subsequent interactions and therefore on the collaborative process. Generally, we found that the direction that was proposed by someone was accepted by other group members and that, as such, the group as a whole proceeded in that direction. An explicit example of this is the new idea proposed by a student teacher in the research group that determined the direction of their research project. In the few cases when group members did not take up a proposed direction, this was dealt with cautiously, for example with a joke. This can be seen in the research group, when the same group member came up with a second alternative idea which the others rejected in a joking manner, so that the initiative was prudently turned down.

This study was a preliminary exploration of student teachers' regulation of collaboration during teacher education and was limited to only four groups within one teacher education institute, which means that one should be cautious in generalizing our results to other institutes. Meanwhile, we do want to stress that it is necessary to devote explicit attention to collaboration and the role of regulation within teacher education programs, as they are also important elements when working in a teacher community at a school (Admiraal, Lockhorst, & Van der Pol, in press). We propose to carefully consider the specific aims and nature of a group when structuring regulation. In our study, the group that worked on a mutual research project was involved with informed decision making, while the reflection group used a form of regulation which structured the discussion of and reflection on experiences. Another implication of our study for teacher education is that explicit attention should be devoted to preparing student teachers to reflect on their own role within the regulation of collaboration. For student teachers, paying attention to

conscious regulation is both a way to create room for ownership and control of collaboration during the teacher education program, and a way to prepare them for active participation in social practices in schools.