

AGE SALO

The dual role of teachers:
school-based teacher educators'
beliefs about teaching and
understandings of supervising



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Institute of Education, Faculty of Social Sciences, University of Tartu, Estonia

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LIST OF ORIGINAL PUBLICATIONS

The thesis is based on the following original publications, which are referenced in the text by their Roman numbers:

- I Salo, A., Uibu, K., Ugaste, A., & Rasku-Puttonen, H. (2015). Student-Teachers' and School-Based Teacher Educators' Beliefs About Teaching Practices and Instructional Goals. *Procedia-Social and Behavioral Sciences*, 191, 2203–2212.
- II Uibu, K., Salo, A., Ugaste, A., & Rasku-Puttonen, H. (2017). Beliefs about teaching held by student teachers and school-based teacher educators. *Teaching and Teacher Education*, 63, 396–404.10.1016/j.tate.2017.01.016.
- III Salo, A., Uibu, K., Ugaste, A., & Rasku-Puttonen, H. (2019). The Challenge for School-based Teacher Educators: Establishing Teaching and Supervision Goals. *Teacher Development*. Accepted for publication.
- IV Salo, A., Uibu, K., Ugaste, A., & Rasku-Puttonen, H. Teaching practices at primary school from the perspective of school-based teacher educators. *Education 3–13*. Submitted for publication.

The author contributed to the publications as follows:

For Article I: working out the theoretical framework, formulating research questions, participating in the development of the methodology and an original questionnaire, collecting data in the research group, analysing and reporting the data, and writing the article in cooperation with supervisors.

For Article II: working out the theoretical framework, taking part in the development of the methodology and data collection, participating in the analysis and reporting of the data, and writing the article as a second author.

For Article III: composing the theoretical framework in cooperation with supervisors, formulating research questions, participating in the development of the research design and methodology, conducting the interviews with teachers and participating in their analysis, and writing the article as a first author in cooperation with supervisors.

For Article IV: participating in designing the study, formulating the research questions, participating in the development of the research design and methodology, constructing an observation checklist and questions for stimulated recall interviews, collecting data, participating in data analyses, and writing the article as a first author in cooperation with supervisors.

1. INTRODUCTION

1.1. Overview of the research context

A sociocultural context varies by culture, and changes in time influence the ways in which individuals learn and teach, providing them with the knowledge needed to cope in the same context (Lave & Wenger, 1991). Teachers might come across different situations in the teaching process that are caused by changes in society or in the concept of teaching (Ulvik & Smith, 2011). Accordingly, teachers' ideas about teaching are essentially built on the values and expectations of their sociocultural environment (Van Huizen, Van Oers, & Wubbels, 2005). The need to follow societal expectations and values shapes the beliefs that teachers rely on during the teaching process (Fives & Buehl, 2012).

Teachers' beliefs are defined as a complex construct (Fives & Buehl, 2012; Pajares, 1992; Valcke, Sang, Rots, & Hermans, 2010) that is influenced, for one, by contacts with pupils, the setup of the education system, national education policy and cultural norms (Woolfolk-Hoy, Davis, & Pape, 2006). In this research, the concept of *teachers' beliefs* is understood as a form of personal knowledge, one which can be viewed as an implicit perspective on learning, on the development of pupils, and on the subject matter being taught (Fives & Buehl, 2012). Studies on teachers' beliefs allow us to learn more about the ways in which teachers understand and interpret teaching. As such, special attention should be paid to the beliefs of teachers with long-term teaching experience who perform a dual role at school. These teachers both prepare pupils for their future lives and supervise student teachers during their teaching practice at school, thus making them responsible for preparing future teachers. The terminology used in the scientific literature to refer to such teachers varies. Terms such as *cooperating teacher* (Roofe & Cook, 2017; Rozelle & Wilson, 2012), *teacher educator* (Ben-Peretz, Kleeman, Reichenberg, & Shimoni, 2010; Lunenberg, 2010) and *mentor* (Ulvik & Smith, 2011) have been used. In this doctoral thesis, the concept of *school-based teacher educator (SBTE)* is used. An SBTE can be understood as a practitioner who is expected to be capable of connecting theoretical concepts with the practical training of student teachers (Clarke, Triggs, & Nielsen, 2014; Hökkä, 2012).

Teachers' beliefs about teaching are expressed through the teaching goals they set and the teaching practices they implement in order to enhance the cognitive and social development of their pupils (Ferguson, 2002; Kuzborska, 2011). Although teaching should aim to develop different intellectual, personal, social and affective skills that will allow pupils to participate as active citizens to change society in the future, teachers tend to focus mainly on pupils' cognitive and social development (James & Pollard, 2011). On the one hand, this can be explained by the fact that when pupils' achievement is measured, it is usually linked to their cognitive and social development. More precisely, studies conducted in Estonia have shown that teachers tend to prioritise the cognitive

development of pupils, which ensures the academic excellence necessary for passing tests (Uibu & Kikas, 2014; Uibu, Kikas, & Tropp, 2011). On the other hand, social skills are considered to be a key factor for coping with society (Buchanan, Gueldner, Tran, & Merrell, 2009; Saavedra & Opfer, 2012). Following the contemporary concept of learning, teachers must use more novel teaching practices (small-group work, pupils' discussions, and real-life applications) that enhance both the cognitive and social development of pupils; conversely, traditional teaching via lecturing and the rote learning of lessons should decrease (Bietenbeck, 2014).

Numerous studies have indicated a connection between teachers' beliefs about teaching and their teaching practices (Bakkens, Vermunt, & Wubbels, 2010; Berger, Girardet, Vaudroz, & Crahay, 2018; Buehl & Beck, 2015; Fives & Buehl, 2012; He & Levin, 2008; Speer, 2008; Tarman, 2012). For example, Kuzborska (2011) found that teachers rely on beliefs related to the subject when following certain teaching practices. In truth, however, there is not enough knowledge about how teachers give meaning to and implement certain teaching practices with respect to their beliefs (Mansour, 2009). Studies have indicated that teachers' beliefs about teaching may not concord with their actual behavior and choices in the classroom – in other words, there is a gap between what teachers do and what they believe they are doing (Beswick, 2005; Devine, Fahie, & McGillicuddy, 2013; Hong & Vargas, 2016; Kaymakamoglu, 2018).

Adjusting to changes and using novel teaching practices often appear to be complicated, unless they are supported by beliefs about teaching that have been formed and fixed by prolonged and extensive teaching experience (Avalos, 2011; Fives & Buehl, 2012; Pajares, 1992; Tarman, 2012; Tatto & Coupland, 2003). Beliefs about teaching have been found to be related to teaching experience; likewise, changes to student teachers' beliefs are related to real school practice (Ng, Nicholas, & Williams, 2010). Therefore, the teaching-related beliefs of teachers with different types of teaching experience as well as those of student teachers may be similar or dissimilar. Based on the results of previous studies, it can be argued that the beliefs of student teachers are more similar to those of novice teachers (Fleckenstein, Zimmermann, Köller, & Möller, 2015; Torff, 2005). At the same time, experienced teachers focus on their pupils' development (Koni & Krull, 2018; Okas, van der Schaaf, & Krull, 2013; Wolff, van den Bogert, Jarodzka, & Boshuizen, 2015). Experienced teachers choose those teaching goals and practices that best provide pupils with the opportunity to use their knowledge, e.g., by paying more attention to the development of their analytical skills (Shoval, Talmor, & Kayam, 2011). Like experienced teachers, student teachers can also focus on supporting the development of pupils if they are able to reflect on their own teaching experiences (Allas, Leijen, & Toom, 2017). Nevertheless, studies have indicated that although teachers with more teaching experience have a better comprehension of teaching, they do not always use their knowledge to support their teaching goals (Liu, Jones, & Sadera, 2010).

In addition to teaching pupils, SBTEs also have the responsibility of supervising students' pedagogical practice at school. In several countries, including Estonia (Pedaste, Pedaste, Lukk, Villem, & Allas, 2014), the responsibilities assigned to schools in order to prepare student teachers for their future work have increased over the last decade (Van Velzen, 2013). Teachers who supervise students have become an intermediary between schools and universities, and they are expected to set a good example of how to teach students and how to prepare them for their future work, as well as supporting educational reforms in schools (Lunenberg, 2010).

Universities set their goals around the school practice of students. However, SBTEs might not know about these goals nor about the universities' expectations of them as supervisors of student teachers (Uusimäki, 2013; Young & MacPhail, 2014). Thus, teachers may not understand exactly how they should support the development of student teachers during school practice (Van Velzen & Volman, 2009), and so instead they might rely on their own personal experience and/or teaching concepts when supervising student teachers (Cohen, Hoz, & Kaplan, 2013; Nilsson & Van Driel, 2010). Also, not all teachers are aware of the importance of their actions on the development of student teachers (Mason, 2013). SBTEs focus foremost on supporting the development of pupils and therefore spend too little time considering what they could teach to student teachers (Clarke et al., 2013). For SBTEs, it is difficult to perform the dual roles given to them: teaching pupils and supervising student teachers. At the same time, they are also expected to set a good example for student teachers (Ambrosetti, 2014; Korthagen, Loughran, & Lunenberg, 2005).

In Estonia, the education system is characterised by an ageing teaching staff (the average age of teachers is 48 years, and 16 percent of teachers are older than 60) (OECD, 2014), so it is important to keep in mind that a great number of SBTEs acquired their teacher education several decades ago. As beliefs about teaching tend to be quite stable (Pajares, 1992), the established beliefs of SBTEs may have an undesirable effect on their instructions to student teachers (Lunenberg, Korthagen, & Swennen, 2007). For this reason, teachers' beliefs about teaching, as well as their understandings on how to supervise student teachers, should be thoroughly examined.

1.2. Focus of the research

Efficiency in teaching and supervising students during their school practice is an important issue within the context of international surveys (e.g., PISA, TIMSS) as well as in national educational policy. The task of teachers is to support the cognitive and social development of pupils and to perform multiple tasks pertaining to their profession. For example, teachers working in Estonian schools must be ready to take responsibility, when necessary, for supervising student teachers' school practice and for setting a good example for future teachers; to do so, they often must rely on their own beliefs about teaching

goals and practices. The overall aim of this doctoral thesis is to determine SBTEs' beliefs about teaching, as well as their teaching goals, practices and understandings about how to supervise student teachers during school practice. The term *school-based teacher educators (SBTEs)* or, if the context requires, just *teacher educators* is used to refer to such teachers within this doctoral thesis.

This thesis established the following three objectives:

1. Ascertain the beliefs of SBTEs about teaching goals and practices at school (Article I and Article II).
2. Describe the goals set by SBTEs within the process of teaching pupils and supervising student teachers (Article III).
3. Ascertain the teaching practices that SBTEs implement within the teaching process as well as how they understand the ways in which teaching practices are used within the context of supervising student teachers (Article IV).

To achieve the established objectives, a total of five research questions were asked. Three of the research questions focused on the teaching activities of SBTEs: setting teaching goals that support the cognitive and social development of pupils and choosing the appropriate teaching practices needed to achieve them.

- RQ1. What are the beliefs of SBTEs and student teachers about teaching goals and practices in regard to the cognitive and social development of pupils? (Article I and Article II)
- RQ2. How is the teaching and supervising experience of SBTEs related to their beliefs about teaching goals and practices? (Article II)
- RQ3. What sorts of goals do SBTEs set to support the development of pupils, and what sorts of teaching practices do they implement to achieve them? (Article III and Article IV)

Two of the research questions focused on the conceptions and actions SBTEs use when supervising student teachers during their school practice.

- RQ4. How do SBTEs perceive university expectations of them as supervisors, and what sorts of goals do they set for supervising student teachers? (Article III)
- RQ5. What teaching practices do SBTEs consider to be important for setting a good example to student teachers? (Article IV)

Three studies were conducted to answer the above-mentioned research questions. *Study I* (Article I and Article II) sought answers to research questions 1 and 2 by examining SBTEs' beliefs about teaching goals and practices related to the cognitive and social development of pupils. In both articles, SBTEs' beliefs were compared to those of student teachers. *Study II* (Article III) answered research questions 3 and 4 by describing the teaching and supervision

goals of SBTEs and by identifying how they perceived university expectations of them as supervisors of student teachers. *Study III* (Article IV) focused on research questions 3 and 5. This study examined and interpreted the use of teaching practices by SBTEs for supporting the development of pupils and supervising student teachers.

2. THEORETICAL FRAMEWORK

2.1. Teachers' beliefs and how they changed across teaching experience

The beliefs of teachers have been studied for over half a century (Gill & Fives, 2015), but a common definition of the concept of *beliefs* has yet to be determined. Other terms, such as *practical knowledge* or *orientations*, have also been used when examining teachers' beliefs (Kagan, 1992). Although beliefs have not been precisely and unequivocally defined, they can be explained within the context of teaching through the methods and practices teachers use and how they conceive of the process of teaching (Voss, Kleickmann, Kunter, & Hachfeld, 2013). Commonly, beliefs become obvious through opinions, judgements and subjective explanations (Pajares, 1992).

In order to characterise the nature of teachers' beliefs, earlier studies have been analysed and systemised. Richardson (1996) pointed out that teacher's beliefs originate from three sources: personal experiences of the teacher in general and about teaching in particular; previous experience as a student; and knowledge about school courses. According to König (2012), studies have focused on two intertwined issues. First, beliefs about teaching and learning that appear mainly in the interaction between teachers and pupils; and second, beliefs about the professional development of teachers and why teachers mainly rely on their earlier teaching experience. In such studies, teachers' beliefs have been examined, and three main subjects have been distinguished, according to Skott (2015): beliefs related to the subject being taught; stable and changing beliefs; and the connection between beliefs and teaching practices. Besides, reflexive, subject-related, teaching practice-related and pupil-related beliefs have also been studied in the field of teachers' beliefs (Fives & Buehl, 2012). According to various approaches, teachers' beliefs could be determined as a composition of individual knowledge and ideas about pupils, learning and taught subjects that is based on teaching experience and influences both the teaching process and the professional development of a teacher.

While as to examine the relationships between teachers' beliefs and teaching practices, it is necessary to know whether and how these beliefs change. For example, according to Pajares (1992), the beliefs of experienced teachers are rather static and resistant to change. At the same time, teachers are expected to be ready to adjust to social developments and changing requirements, and as such their beliefs about teaching should be capable of changing over time as well – thanks to new experiences or knowledge (Levin, He, & Allen, 2013; Torff, 2005). However, changes in teachers' beliefs can be bidirectional: teachers can either accept changes or, conversely, rigidly maintain traditional teaching practices. As the number of longitudinal studies on teachers' beliefs is very small (Levin, 2015), it has proven difficult to determine how

much teachers' beliefs actually change, how temporary or permanent they really are, or whether they are only expressed in certain situations.

It is generally accepted that beliefs are formed on the basis of experience (Skott, 2015). Within the context of the pedagogical practical training of student teachers, it is important to remember that their teaching-related beliefs change substantially after their first teaching experience (Ng, Nicholas, & Williams, 2010). At the beginning of a school practice, student teachers rely on beliefs about teaching that they acquired during their own school experience as pupils (Richardson, 2003; Thomson, Turner, & Nietfeld, 2012; Ueda & Isozaki, 2016). These beliefs are rather idealistic and imprecisely formulated, but during their school practice and due to the knowledge they acquire as a result of their teacher education, their beliefs take a more definitive shape, which will in turn influence their teaching practices in the future (Pajares, 1992, Poom-Valickis & Löfström, 2014; Richardson, 2003; Tarman, 2012; Valcke et al., 2010). Even though students are supported during their school practice and in giving meaning to their teaching experience, changes in their perception of teaching will only be revealed later on (Allas et al., 2017).

Changes in student teachers' beliefs about teaching might, in the process of pedagogical practice, not always go in the expected direction. A study by Fletcher and Luft (2011) showed that alongside students whose approach was inclined towards reforms and changes, there were also student teachers who started, as a result of school practice, to favour traditional teaching. Accordingly, to understand possible changes in students' beliefs about teaching, it is necessary to know the ways in which students' and teachers' beliefs about teaching differ.

Thus, teachers' beliefs act as a system that organises information, determining what and how teachers teach (Mansour, 2009). Earlier studies (see Kagan, 1992; Pajares, 1992) as well as more recent research (e.g., Fives & Buehl, 2012) have focused on the role of beliefs in the professional development of teachers. Although in the latest research, increasing attention has been paid to connections between teachers' beliefs and their teaching practices (Guskey, 2002; Kunter et al., 2013; Schaaf, Stokking, & Verloop, 2008), it remains unclear how beliefs influence teaching (Fletcher & Luft, 2011).

2.2. Teaching goals established by teachers

The teaching process is goal-oriented. Teaching goals comprise the skills or knowledge that a learner should acquire while participating in a lesson or exercise (Ubi, 2014). Teaching goals proceed from both a curriculum and teachers' values and help to plan and carry out teaching (Teague, Anfara Jr., Wilson, Gaines, & Beavers, 2012). Teachers may establish different goals for their teaching practices; for example, some might focus on motivating pupils and developing their social skills (Mansfield & Beltman, 2014; Vaughn, 2014) or recognising a pupil's individuality and personal achievements (Deemer, 2004);

others might concentrate on national curriculum performance (Kuzborska, 2011). However, the best approach for promoting effective instruction is to find a balance between obtaining social and cognitive development goals (Hofman, Hofman, & Guldemond, 1999).

For setting teaching goals, Bloom's taxonomy of learning objectives (Bloom, 1956), which identifies three domains – cognitive (i.e., knowledge and intellectual skills), psychomotor (i.e., physical skills) and affective (i.e., feelings and attitudes) – has been widely implemented. The goals of cognitive domain are to a great extent related to cognitive processes, such as developing memory skills, enhancing comprehension, applying knowledge, and analysing and evaluating as well as generating new ideas (Krathwohl, 2002). Thus, cognitive development has been seen as the construction of thinking processes (e.g., problem solving, decision making) from childhood through adolescence to adulthood (Richland, Frausel, & Begolli, 2016). Supporting pupils' cognitive development does not mean that teachers must focus on learning isolated facts by heart. Instead, the main goal should be to enhance the ability to use knowledge in everyday life (Meyer, 2002) and develop critical thinking skills (Ford & Wargo, 2012). Moreover, remembering is related to the ability to retain and repeat knowledge in its initial form after some time has passed. Memory shapes the basis for meaningful learning and more complex problem solving (Clark, Kirschner, & Sweller, 2012). For instance, it was found that teachers whose aim is to make their pupils understand everything that is learnt provide examples and cover issues that are familiar to children (Perry et al., 2007). But if a teacher is not just a conveyor of knowledge, but also supports pupils' thinking processes, then the pupils will learn better, especially from tasks that require the use of knowledge (Olafson & Schraw 2006).

During the teaching process, a teacher should also support the social skills of pupils in order to prepare them for different situations they may encounter in their everyday lives (Steadly, Schwartz, Levin, & Luke, 2008). Social development includes the enhancement of knowledge and skills about one's own as well as others' emotions; it entails appropriate behavior, effective communication, stable relationships, cooperation with others and the capacity to resolve conflicts (Huitt & Dawson, 2011). Moreover, social development helps to form a positive attitude towards learning, as well as a tolerance for fellow students (Zwaans, van der Veen, Wolman, & ten Dam, 2008), the enhancement of cooperation skills (Muijs & Reynolds, 2010), and the capacity to make real and meaningful choices (Han & Kemple, 2006).

Teaching goals aimed at pupils' cognitive and social development are also established by curricula. However, teachers do not treat and interpret these goals in the same manner. First-grade teachers have pointed out the influence a curriculum has on teaching goals. They have claimed that curricula prioritise goals that focus on the academic development of pupils (Perry, Donohue, & Weinstein, 2007). Basic school teachers have also admitted that they rely on curricula when linking new knowledge with previously learnt material, applying knowledge in practice and taking into account the differences between pupils

during the teaching process (Devine et al., 2013; Teague et al., 2012). Apparently, teachers who focus on the full performance of a curriculum and on their pupils' academic results may neglect to improve the pupils' social skills (Mikami, Griggs, Reuland, & Gregory, 2012). It was found that when setting goals, more experienced teachers tend to rely on their own experience; in contrast, teachers with less experience tend to follow the curriculum (Erss et al., 2014).

Consequently, to teach effectively, teachers set different teaching goals during the instructional process. To achieve these goals, they implement various teaching practices that support pupils' cognitive and social development (Põhikooli riiklik õppekava, 2011/2014; Reddy, Fabiano, Dudek, & Hsu, 2013). If teachers follow appropriate teaching goals and use proper teaching practices for attaining these goals, then pupils' comprehensive, age-appropriate development will be guaranteed.

2.3. Teaching practices related to teaching goals

The decision about which teaching goals to establish in teaching is related to the teacher's knowledge about how to support pupils' development via different teaching practices (Daniels & Shumow, 2003). Teaching practices used by teachers in the classroom can be divided into two related groups: practices that support cognitive development, and practices that support social development (Perry et al., 2007). Teaching new knowledge and skills in a contemporary manner means that they are constructed in different social situations built on practice (Lave & Wenger, 1991; Van Huizen et al., 2005). From the socio-cultural perspective, teaching practices that support cognitive and social development form a whole set, one which includes different interpersonal as well as intrapersonal processes.

Interpersonal processes involve the exchange of different mental tools (e.g., language, texts, formulae) in communication with other people, while intrapersonal processes entail both the acquisition of mental tools and the ability to employ them independently, creating links between different types of knowledge (Bodrova & Leong 2007). According to Vygotsky (1978), pupils not only acquire knowledge from dialogue with teachers but also from interactions with peers. The use of teaching practices that support interpersonal processes that are mainly related to social development also fosters cognitive development through the exchange of knowledge (Salomon & Almog, 1998), cooperation between pupils (Palincsar, 2005) and feedback given by the teacher (Espasa & Meneses, 2010). Teaching practices that support intrapersonal processes influence the social development of pupils, as they are encouraged to express their thoughts and compare their solutions with peers.

Teaching practices focused on individual learning support the autonomy of the learner, which in turn helps pupils to resolve tasks in need of independent thinking (James & Pollard, 2011). Apparently, many teachers consider it

important to let pupils work independently in order to offer them the room to learn in their own way (Opdenakker & van Damme, 2006; Van der Schaaf et al., 2008). Several studies have focused on the suitability of certain teaching practices. These studies have revealed that the practices used by teachers of different subjects (mother tongue, maths) at different school stages (primary school, basic school) change according to the cognitive development of pupils (Kikas, Peets, Palu, & Afanasjev, 2009; Torff, 2005; Uibu et al., 2011). Teachers allow pupils to work independently on easier tasks, but if the tasks are more complicated, then they will intervene by giving pupils precise instructions (Blay & Ireson, 2009).

According to the contemporary concept of teaching, explanations by teachers should be reduced and the activeness of learners should be increased. Some studies have indicated that in order to transmit knowledge, teachers continue to rely on teaching practices that encourage mechanical learning, such as learning facts and formulae by heart and repeating them (Bietenbeck, 2014; Uibu & Kikas, 2014). However, teaching also conveys new information, and it is important to associate this new knowledge to pupils' previous knowledge and experiences by encouraging them to enter into a dialogue with the teacher: to argue, to express their opinions, and to ask questions (Hattie, 2009; Limbach & Waugh, 2010).

By focusing on the development of pupils' social skills through teaching practices, teachers are simultaneously supporting pupils' cognitive development and academic achievement (Jennings & DiPrete, 2010). However, to support the pupils' social development, teaching practices that encourage cooperation should be applied. Group work, for example, can help pupils to assess their knowledge and develop communication skills, to take into consideration their peers' opinions, and to take responsibility for their own actions (Gillies & Boyle, 2010; Muijs & Reynolds, 2010; Slavin, 2014). Some activities, such as role playing and board games, are also very suitable for developing social skills because they teach children to cope in everyday situations (Davies & Cooper, 2013; Haney & Bissonnette, 2011). However, not all teachers use teaching practices to encourage cooperation because they lack the necessary skills to do so (Forslund-Frykedal & Chiriac, 2014). In addition, the social development of pupils is fostered by interaction between a teacher and pupils. For this reason, teachers should be ready to answer pupils' questions and should encourage classroom discussions that support learning (Kuzborska, 2011; Sharan, 2015).

To conclude, teachers' classroom practices may differ from what they consider necessary or from what they claim to be doing (Ahonen, Pyhältö, Pietarinen, & Soini, 2014; Fraser, 2010; Olafson, & Schraw 2006; Teague et al., 2012). There are various reasons why teachers do not always teach in the manner they wish or plan to teach. A study carried out by Vaughn (2014) indicated that teachers do not always have sufficient subject-related knowledge or may feel over-obliged to follow the requirements established by the curriculum. Teachers also do not always use teaching practices that help to achieve

teaching goals because they lack sufficient knowledge about the compatibility of their teaching goals with available teaching practices (Liu et al., 2010).

2.4. University expectations of school-based teacher educators and teachers' supervision practices

There are a number of ways to prepare future teachers. Usually, the teacher education curriculum includes foundation courses, the aim of which is to provide students with requisite knowledge about pupils and learning from the perspective of educational psychology, as well as knowledge about the school culture and classroom and method courses that focus on practice (Grossman, Hammerness, & McDonald, 2009). Student teachers obtain most of their general pedagogical knowledge through different university courses and from their practical experience from school. The common pattern for school practice is that students first observe lessons and then use the same teaching practices in independent teaching. Therefore, teacher training is challenged by the problem of how to avoid, in classrooms, the disconnect between theoretical knowledge and teachers' practical work. On one hand, it is possible to change the location of the course in the curriculum in order to integrate theory and practice. On the other, teacher educators should support student teachers in obtaining a set of core practices for teaching, e.g., developing a classroom culture, learning about pupils, planning lessons, and leading classroom discussions (Grossmann et al., 2009). Since contemporary teacher education is paying increasing attention to core practices and how student teachers should use knowledge in action, university expectations of SBTEs have also changed (McDonald, Kazemi, & Kavanagh, 2013).

University expectations depend on how the practice is organised and how important the roles of SBTEs are in conducting the practice. A practice-based curriculum in teacher education focuses on core practices that are carried out at several levels during the whole study period, with the view towards addressing teaching as a complex task (Grossmann et al., 2009). The model of practice developed in Estonia includes a different type of practice at the university level and a variety of practices at the school level: pedagogical practice, continuous practice and basic practice (TÜ Pedagogicum, 2019). If the school practice of student teachers is carried out at the same time as their studies and during the whole period of their studies, then contacts with SBTEs are frequent and the responsibility of teacher educators in the process of shaping student teachers is rather substantial (Eisenschmidt, 2011; Eurydice, 2012).

Because of the necessity to connect theoretical knowledge and school practice, thereby training student teachers in the best possible manner and supporting teachers' supervision process, various cooperation models, such as the University Schools in Norway (Lund & Eriksen, 2016) and Teacher Training Schools in Finland (Darling-Hammond, 2017; Sahlberg, 2010) have been

implemented. In 2013, a novel network of school practice – innovation schools – was established in Estonia to involve SBTEs more directly in the development of education (Pedaste et al., 2014). The network was created following the example of school practice in Finland, where teacher education is both science-based and supportive of curiosity on the part of teachers (Darling-Hammond, 2017).

In order to achieve the goals of pedagogical practical training, the tasks of SBTEs must be clearly identified. Universities expect teacher educators to encourage student teachers to apply teaching practices that rely on both the theoretical basis of teaching and the development of pupils (Clarke et al., 2014; Jaspers et al., 2014). School practice should include the opportunity to observe model lessons that set a good example on which student teachers can rely when they start teaching pupils (Cheng, Cheng, & Tang, 2010; Clarke et al., 2014; Sayeski & Paulsen, 2012). Apparently, SBTEs employ varied teaching practices in their model lessons as much as possible (Simpson, Hastings, & Hill, 2007). However, carrying out a model lesson may entail tensions because teachers are expected to perform each lesson to perfection – to do so infallibly and to be capable of answering any questions pupils may ask (O’Dwyer & Atli, 2015). In addition to setting a good example of teaching, SBTEs are expected to help students prepare and carry out lessons (Butler & Cuenca, 2012). In this connection, it is important that SBTEs are able to share their experiences and practical knowledge about teaching (Van Velzen, 2013). School practice should provide student teachers with knowledge about their strengths and weaknesses as teachers, and therefore SBTEs are also expected to give feedback on lessons completed by the students (Ambrosetti, 2014; Lunenberg & Korthagen, 2009).

The general guide to pedagogical practice at the University of Tartu reveals that the university expects SBTEs to follow the general guide, to conduct model lessons, and to mentor student teachers, helping them to plan teaching practices and select those most relevant to their teaching goals, as well as providing them with feedback on their teaching (TÜ Pedagogicum, 2019). This concurs with Clarke et al.’s (2014) opinion that SBTEs can be involved in the supervision process at three levels: observing the activities of student teachers without direct intervention (classroom placeholder); supervising student teachers during the teaching process and observing their development (supervisor); or leading students to an awareness of their own actions by supervising and giving them feedback (teacher educator) (Clarke et al., 2014). To meet these expectations, teacher educators must establish good rapport with their students and consider their development needs and specific learning–teaching context (Ambrosetti, 2014).

SBTEs’ supervision practices form a set of actions that reflect their experience and comprehension of supervision (Cohen et al., 2013; Hall, Draper, Smith, & Bullough, 2008; Nilsson & van Driel, 2010) and aim to meet the goals established by universities and the expectations placed on them as teachers and supervisors (Jaspers, Meijer, Prins, & Wubbels, 2014). Despite the assumption that SBTEs have substantial teaching and supervising experience and expertise (O’Dwyer &

Atli, 2015), studies carried out in different countries have emphasised several problems which suggest that SBTEs are not sufficiently prepared to perform the role of a supervisor. For example, Dutch teacher educators tend to neglect the analysis of student teachers' development and instead focus more on their pupils (Jaspers et al., 2014). In Australia, some novice teachers feel that they are not adequately prepared to work as a teacher and lack the requisite teaching skills (Ingvarson, Reid, Buckley, Kleinhenz, Masters, & Rowley, 2014). Some Jamaican students believe that teacher educators are not aware of their role as supervisors (Roofe & Cook, 2017). Turkish students have complained that SBTEs are not competent enough to give feedback and do not supervise them sufficiently, essentially leaving students on their own (Ozdemir & Yildirim, 2012; Rakicioglu-Soylemez & Eroz-Tuga, 2014). In Estonia, SBTEs must pay more attention to the development of students' didactic skills and ability to cope with multiple professional role expectations in order to ensure their confidence in teaching (Anspal, Leijen, & L fstr m, 2018).

Although some studies have referred to certain problems related to supervision, most SBTEs themselves appreciate, for several reasons, the opportunity to be engaged with students. The majority of teacher educators feel that supervising supports their professional development because it allows them to observe their own teaching practices in a different light and to make changes where necessary (White et al., 2015). SBTEs believe the feedback given by student teachers on their model lessons, as well as the teaching practices applied by the students themselves, helps them to better understand what and how pupils learn (Jaspers et al., 2014). Many teacher educators argue that their experiences with student teachers make them more confident and help them become more aware of their supervision practices (Jaspers et al., 2014). In brief, school practice should offer student teachers a comprehensive understanding of teaching (Cohen et al., 2013) and, at the same time, support teachers in their teaching practices.

3. METHOD

3.1. Design of the research

The study described in this doctoral thesis was carried out for more than three years (2013–2016), and both quantitative and qualitative measures were implemented through a *sequential explanatory method approach* (Creswell & Plano Clark, 2011). This method allowed for perspectives on the topic from a variety of viewpoints, sources and methodologies, and through this, the ability to develop a better understanding of the phenomenon (Pluye & Hong, 2014). For that purpose, the initially gathered data were used as the basis for collecting subsequent data (Fetters, Curry, & Creswell, 2013), and quantitative results of the previous phase were followed by qualitative results. This allowed the broadening of the explanations and interpretations of the quantitative results and the integration of the evidence from both quantitative and qualitative studies.

In the present research, a comprehensive identification of the dual role of school-based teacher educators (SBTEs) was studied. In order to describe the teaching and supervision goals of SBTEs and determine how SBTEs apply teaching practices and interpret them in the context of supervising student teachers, mixed methods were used. In the first step of the *sequential explanatory design* (Study I), the beliefs of SBTEs about teaching and practices at schools were examined quantitatively, using questionnaires. Since the conclusions proceeding from the qualitative analysis helped to give thorough meaning to the results of quantitative analysis (Kelle, 2006), the results of Study I were later used for planning data collection for Studies II and III. Respectively, the sample from Study I was narrowed by selecting teachers well suited to the aims of Studies II and III in interviews and observations. Further information on the teaching and supervision methods of SBTEs was obtained from the conclusions reached as a result of qualitative analysis. Using the same teachers as respondents to questionnaires and interviewees gave the researcher a chance to analyse the subject more thoroughly. Long-term contacts with investigated persons created a trusting relationship which encouraged the examinees to express their opinions more openly and explain their thoughts more profoundly (Rosales, Kosnik, & Beck, 2015).

Study I was aimed at understanding teachers' beliefs about teaching. Using a questionnaire was considered, as such instruments have also been used for investigating beliefs in earlier studies. Questionnaires make it feasible to measure independent beliefs as multiple beliefs and to compare these constructs with statistical methods (Schraw & Olafson, 2015). As no questionnaire suitable for studying beliefs about goals that support the cognitive and social development of pupils and the teaching practices that help to achieve them was available, an original questionnaire was developed based on earlier studies and piloted within the framework of Study I.

Whereas Study I focused on various aspects of teaching, the next two studies looked more closely at the dual role of teachers as educators of pupils and supervisors of student teachers. Study II was designed and its participants selected on the basis of the results of Study I. Semi-structured interviews were then conducted. Interviews are considered a suitable research method in cases where the individuals belonging to a sample are well aware of the specific features of the subject (Rowley, 2014). Semi-structured interviews can provide a multitude of deep insights into the subject under consideration, as each respondent, while answering questions based on the research aims, is able to convey their personal understanding and thereby provide a new meaning about the topic (Galletta, 2013). The type of interviews used allowed the researcher to flexibly arrange questions on the basis of preceding answers, as well as to ask additional questions.

The aim of Study III was to analyse the real actions of teachers in the classroom. The data were collected by observations, video recordings and stimulated recall interviews. A quantitative approach was implemented to analyse the use of teaching practices by teachers on the basis of observations, and a qualitative approach was used to analyse stimulated recall interviews. This method allowed the teachers to relive a lesson stimulated by a video recording in order to evoke thoughts and explanations related to particular teaching practices or episodes of the lesson (Meijer, 2013; Rowe, 2009). In order to maintain focus on important details, the stimulated recall method was augmented with questions (Lyle, 2003; Rowe, 2009; Vesterinen, Toom, & Patrikainen, 2010). All interviews with the teachers were conducted on the day of recording, either immediately after the lesson or at the end of the school day, as stimulated recall interviews are considered more effective when the time between the recording and the recall is shorter (Lyle, 2003; Vesterinen et al., 2010). A detailed overview of all three studies is provided in table 1.

Table 1. Overview of the studies

Study	Research questions	Data collection timeline	Samples	Instruments	Data analyses	Articles
Study I	RQ1: What are the beliefs of SBTEs and student teachers about teaching goals and practices in regard to the cognitive and social development of pupils?	2013	<u>Sample 1</u> 92 teachers 95 student teachers	An original questionnaire for examining teachers' beliefs	<u>Quantitative analyses:</u> Analysis of variance (one-way ANOVA) Configural frequency analysis (CFA)	Article I
	RQ1: What are the beliefs of SBTEs and student teachers about teaching goals and practices in regard to the cognitive and social development of pupils? RQ2: How is the teaching and supervising experience of SBTEs related to their beliefs about teaching goals and practices?	2013–2014	<u>Sample 2</u> 73 teachers 112 student teachers	Revised original questionnaire	<u>Quantitative analyses:</u> Analysis of variance (one-way ANOVA) post hoc analysis with a Bonferroni correction	Article II
Study II	RQ3: What sorts of goals do SBTEs set to support the development of pupils, and what sorts of teaching practices do they implement to achieve them? RQ4: How do SBTEs perceive university expectations of them as supervisors, and what sort of goals do they set for supervising student teachers?	2015	<u>Sample 3</u> 16 school-based teacher educators (selected from Sample 2)	Semi-structured interview	<u>Qualitative analysis:</u> Thematic analysis	Article III
Study III	RQ3: What sort of goals do SBTEs set to support the development of pupils, and what sort of teaching practices do they implement to achieve them? RQ5: What teaching practices do SBTEs consider to be important for setting a good example to student teachers?	2016	<u>Sample 4</u> 11 school-based teacher educators (selected from Sample 3)	Observation and video recording of lessons	<u>Mixed method:</u> A. Quantitative analysis: Frequency analysis B. Qualitative analysis: Thematic analysis	Article IV

3.2. Participants

The participants involved in Studies I, II and III were teachers who had attended courses at universities that focused on supervising student teachers' school practice (see Table 1). Sample 1 of Study I consisted of 92 teachers of all school stages (primary school, secondary school, and gymnasium), and their average teaching experience was 17 years. Sample 2 comprised 73 teachers, 75.3% of whom had supervising experience, with an average teaching experience of 19.7 years; the 24.7% of teachers without supervising experience had an average teaching experience of 9.6 years. As the aim of the study was to compare teachers' beliefs with those of students, Sample 1 as well as Sample 2 also included first-year undergraduate student teachers who had graduated from bachelor's studies in their subjects in different university departments. These student teachers were questioned before their school practice.

For Study II (Sample 3), 16 teachers from Sample 2 were selected. All these teachers had supervising experience and taught different subjects at the primary school level (in grades 1 to 6). Sample 3 consisted of seven science teachers, five Estonian language teachers and four primary school teachers. The teaching experience of the participants ranged from 4 to 38 years. All of the teachers had supervision experience (min = 1; max = 30).

For Study III, Sample 4 comprised 11 teachers who had also been involved in Studies I and II. These teachers were selected according to the purposeful sampling principle (Cohen et al., 2011), following four main criteria. First, all teachers had to have supervising experience. Second, the teachers had to be working at the university innovation school. Third, they had to have passed pedagogical studies at the master's level. Fourth, all teachers had to have taught in grades 1 to 6. Teachers' teaching experience varied from 21 to 40 years and their mean supervision experience was 17 years (min = 1; max = 36).

3.3. Instruments

Study I

In Study I (comprising Samples 1 and 2), a questionnaire was implemented for the purposes of identifying SBTEs' beliefs about teaching goals and practices in comparison with student teachers. The questionnaire was designed according to the theories and practices of earlier studies (Krathwohl, 2002; Mayer, 2002; Uibu & Kikas, 2014; Uibu et al., 2011). In order to formulate items suitable for the Estonian context, the requirements of the National Curriculum for Basic Schools (Põhikooli riiklik õppekava, 2011/2014) were taken into account. The questionnaire was piloted to assess the appropriateness of every item in both the school-based teacher and student teacher groups. Then, an initial exploratory factor analysis with 187 teachers was carried out for Sample 1.

The two-part questionnaire, used in Articles I and II, included a total of 17 items beginning with the phrase, '*In the instructional process, I consider it important...*'. The respondents had to select the listed teaching goals that matched teaching practices related to pupils' cognitive or social development. The first part of the questionnaire included 10 descriptions of teaching practices followed by a multiple-choice list of teaching goals related to the cognitive development of pupils (10 items). The goals covered three domains of learning: mechanical acquisition (three goals, e.g., *to develop the ability to retain information*), implementation (three goals, e.g., *to develop thinking skills*) and generalisation (four goals, e.g., *to develop problem-solving skills*). The second part of the questionnaire included seven teaching practices followed by a list of goals related to the development of social skills (eight items). This list included three domains: independence (three goals, e.g., *to support pupils' initiative*), reflexive skills (three goals, e.g., *to support efficient learning*) and social competence (two goals, e.g., *to support the development of appropriate behavior patterns*). For Samples 1 and 2, the same domain structure was implemented regarding the teaching goals and practices. Examples of both parts of the questionnaire are provided in Appendix 1.

Next, the teaching practices associated with cognitive as well as social development goals were investigated for Sample 1. As for Sample 2, more data were collected, the internal consistency of statements for Sample 1 was ascertained (Cronbach's alpha ranged from .62 to .85) and changes were made in order to divide teaching practices related to cognitive as well as social development goals between the domains of enhancing pupils' intrapersonal and interpersonal processes. Practices related to cognitive development and supporting pupils' intra- as well as interpersonal processes were maintained for pupils' individual development, discussion and cooperation between pupils and teachers (10 items, e.g., *to encourage pupils to resolve problems independently*). Following this, teaching practices directed towards social development goals and the enhancement of pupils' intra- as well as interpersonal processes were aimed at pupils' self-evaluation, focusing on feasible tasks and behaviors and on cooperation with peers (seven items, e.g., *to encourage interaction between pupils; to promote communication between pupils*).

The answers were coded separately for each teaching goal and teaching practice according to whether or not they were selected. After that, the number of goals pertaining to pupils' cognitive and social development chosen by each respondent for each teaching practice was counted, and the number of all teaching practices used for each specific teaching goal was summarised. The maximum score for cognitive development goals was 10; for social development, the maximum score was eight. Internal consistencies (Cronbach's α) for the items in the aforementioned domains ranged from .75 and to .85.

Study II

According to the results of Study I, a semi-structured interview for Study II was developed to describe more thoroughly the goals set by SBTEs within the teaching process of teaching pupils and the supervision of student teachers during their school practice. The design was based on the second research objective, the questionnaire from Study I, requirements of the National Curriculum for Basic Schools (Põhikooli riiklik õppekava, 2011/2014) and previous empirical studies (Clarke et al., 2014; Jaspers et al., 2014; Salo, Uibu, Ugaste, & Rasku-Puttonen, 2015; Uibu, Salo, Ugaste, & Rasku-Puttonen, 2017). The pilot interviews with three teachers were carried out. The most appropriate 25 questions for revealing teachers' goals related to teaching pupils and supervising student teachers were identified based on the pilot interviews (Appendix 2).

Interview questions were divided into three parts according to the research questions. Questions in the first part of the interview were related to SBTEs' teaching goals and practices directed towards pupils' cognitive and social development (e.g., *What goals have you set in the age group of pupils whom you teach?*). The questions asked in the second part examined teachers' opinions on the university's expectations (e.g. *What do you think the university expects of you as a supervisor?*). The focus of the third part was on SBTEs' understandings about supervising goals (e.g. *Which goals do you keep in mind when supervising student teachers?*).

Before the interview, participants filled out a form with their background information (e.g., teaching experience; subject, taught by them; number of student-teachers supervised; experience of instructing student-teachers; in-service training courses taken to become skilled in instructing the students' pedagogical practice). At the beginning of each interview, respondents were asked to tell the story of how they became teachers. At the end of the interview, they had the opportunity to amend or add any final thoughts to their previous answers.

Study III

Based on the results of Studies I and II, Study III was developed with the aim of ascertaining teaching practices that SBTEs are implementing within the teaching process and how they interpret the use of these practices within the context of supervising student teachers. To integrate the evidence from both previous studies, observations were combined with stimulated recall interviews in Study III. The purpose of using observation was to determine what kind of teaching practices teachers use in lessons. The stimulated recall interviews were used to describe how teachers interpret the use of teaching practices, considering the supervision of student teachers. The data-collecting process was organised into three stages.

Stage I: Observation and video recording of lessons

The original observation checklist was drawn up to provide an insight into the implementation of teaching practices in lessons. In compiling the checklist, the author relied on the third research objective and observation sheets used in previous empirical studies (Danielson, 2013; Walpole, McKenna, Uribe-Zarain, & Lamitina, 2010). The checklist had been previously piloted in the lessons of two teachers who did not belong to the research sample. It contained descriptions of 19 teaching practices: 12 aimed at pupils' cognitive development and 7 at enhancing their social development (see Appendix 3). All teaching practices that teachers used during the introductory part of lessons, the body of lessons and at the end of lessons were noted in the observation checklist. The background information on the teacher (e.g., name, age, teaching and supervising experience) and data about the lesson were also provided (e.g., subject, class, number of students). During the videotaping of lessons, the author filled in the observation checklist about the activities of each participating teacher. Teachers were recorded in two consecutive lessons, trying not to disturb the pupils or the course of the lesson.

Stage II: Selection of recorded situations for the stimulated recall interviews

Based on the observation checklist, the researcher read the notes, watched the videos and selected two situations from each teacher's lessons and interviewed them using the stimulated recall interview. The situations were chosen in such a manner that one of them contained as many examples as possible of teaching practices that support pupils' cognitive development, and the other contained examples of social development. A situation could also contain a mixture of two types of practices. The guideline of the recorded situations should encourage the teacher to relive what happened at the lesson (Lyle, 2003). The length of selected situations varied from 5 to 20 minutes.

Stage III: Interview using the stimulated recall method

Stimulated recall interviews were based on the teachers' videotaped lessons and were aimed at stimulating the class situation as much as possible to help the researcher understand and interpret the lessons (Vesterinen et al., 2010). The author selected from the records those situations which were watched together with the researcher, during which the teachers explained the situation in the classroom and expressed their thoughts about their teaching practices. When the questions for the interview were drawn up, the goals of the study were followed and the meaningfulness of possible answers was provided (Appendix 4). The questions were piloted using the same teachers as those use for piloting the observation checklist. Ten of the questions covered topics related to the recorded situations, such as the description of teaching practices and explanations of practices used during the lessons (e.g. *Please explain why you decided to use this practice.*). Two additional questions asked the teachers to evaluate and

analyse their own activities with regard to the goals of supervising student teachers (*How could this practice be useful to him/her?*). Teachers were asked to view the first situation selected by the interviewer and think about how they would explain these practices. When a teacher was ready to make a comment, the interviewer stopped the video recording and began to ask the interview questions about this situation.

3.4. Data collection

In Study I, the data were gathered from teachers who had been involved in the SBTE training programme, organised by Estonian universities. They filled in the questionnaire about beliefs at the beginning of this programme. The same questionnaire was completed by student teachers before their enrolment in the pre-service teacher training programme at the university, as part of a project monitoring pre-service teachers. The questionnaire took approximately 20 minutes to complete and was organised by members of the university teacher training research team. The author of doctoral thesis participated in the data collection.

Teachers' answers to the questionnaire were analysed, and the teachers who appeared to have a different type of teaching and supervision experience were selected for Study II. Appointments for the interviews were agreed upon with teachers by the author of the doctoral thesis via either e-mail or phone. All interviews took place at a time suitable for the respondents, in a classroom with which they were familiar. The interviews lasted an average of 46 minutes (min = 32; max = 63).

In addition to the knowledge collected on supervision goals through Study II, the researcher observed the teaching practices used by SBTEs in the classroom. Thus, the data for Study III were collected by the author of the doctoral thesis by observation, video records and stimulated recall interviews carried out with the help of video recording. Appointments for recording the lessons and interviews were scheduled with each teacher during face-to-face meetings at the school. Altogether, 22 lessons were videotaped. Teachers were interviewed on two separate occasions. The average duration of an interview was 16 minutes per situation (min = 10; max = 26).

3.5. Data analysis

Quantitative as well as qualitative research methods were used to analyse the data gathered during the three studies of this doctoral thesis on SBTEs' beliefs about teaching, their teaching goals and practices, and the goals that teacher educators place on the supervision of students.

3.5.1. Quantitative analysis

Data were collected with the help of a questionnaire on teachers' beliefs. At first, the average scores and standard deviations of the whole research sample as well as the two separate groups of teachers and student teachers were found by their teaching goals and teaching practices (Study I). One-way ANOVA, using SPSS Statistics version 20.0, was implemented for Sample 1 in order to analyse the differences between the teachers' and students' beliefs about their teaching goals and practices (Article I). ANOVA was also used to compare differences between teachers' beliefs proceeding from their teaching and supervising experience (Article II). In order to identify the groups that differed from each other, a post hoc analysis with Bonferroni correction was carried out (Article II).

Besides ascertaining the differences at the group level, a two-sample discriminant configural frequency analysis (CFA) with the χ^2 test was used to analyse the data of Sample 1 with the SLEIPNER 2.1 programme (Bergman, Magnusson, & El-Khoury, 2003). This test allowed the evaluation and comparison of typical combinations of beliefs of teachers and student teachers related to different domains of cognitive and social development of the pupils. The comparison highlighted types that were characterised by a substantially larger observed frequency of teaching goals and practices than expected, and anti-types that were characterised by a substantially smaller frequency of the measured variable in the examined groups (Bergman & Wångby, 2014). The results were standardised and interpreted using a Z score, on the basis of which the respondents' answers were distributed between three groups: high (Z score was above or equal to 0.5); average (Z score was less than or equal to -0.5); low (Z score was between 0.5 and -0.5).

The relevant data table was drawn up for Study III based on the observation records and included data on the frequency of use of different teaching practices by each teacher. Next, the observed practices of all the teachers were summed. The results of the observation were shown in a radar chart that allowed the visual expression of the frequency of observation results.

3.5.2. Qualitative analysis

In Study II and Study III, thematic data analysis was used, which allowed a versatile and detailed examination of the teachers' answers (Braun & Clarke, 2006; Vaismoradi, Turunen, & Bondas, 2013). All semi-structured interviews (Study II) and stimulated recall interviews (Study III) were transcribed word for word. Recordings were listened to again in order to check the accuracy of the transcription. These transcriptions were re-read and the coding plan was drawn up. Finally, all meaningful segments (phrases or sentences) of the interviews were tagged and coded by the research questions.

Thereafter, the initial results of coding were discussed with two other co-authors, and the titles of the codes were specified. Two researchers independently

coded the longest interview once more, taking into account the three research questions in the study. After the assessment of the results and the discussion, the researchers coded all the interviews a second time. The coding was followed by another discussion to analyse the results of coding, after which the researchers reached consensus and drew up a data sheet on which the codes were grouped into research questions under themes and sub-themes (see Figure 1 from Article III).

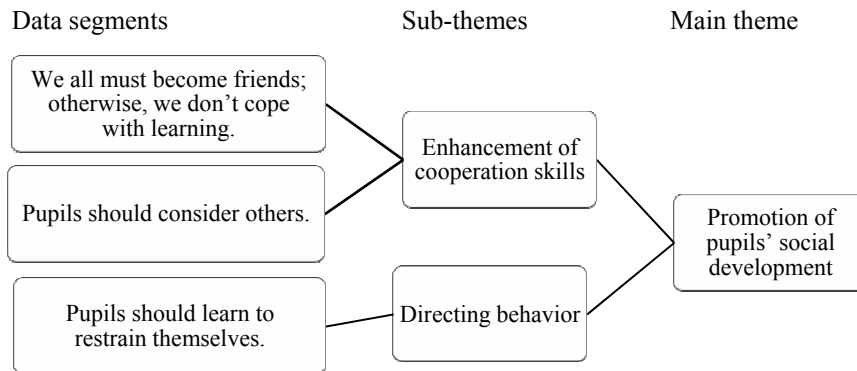


Figure 1. Example of the formation of the themes.

In order to increase the credibility of the results, two researchers independently coded all the interviews a third time. A so-called ‘code tree’ was drawn up to obtain a clearer overview of the results (see Table 1 in Article III).

In Study III, the data collected with the stimulated recall interviews were analysed by the research questions. Using the inductive research method, meaningful segments (phrases or sentences) within the transcriptions were tagged and grouped under the relevant themes and sub-themes in relation to the research questions. The authors consulted with each other at every stage of the data analysis, and any disagreements between them were discussed until a consensus was reached. Afterwards, a data table representing themes and sub-themes was drawn up.

3.6. Validity, reliability and trustworthiness

Three types of research instruments were used in this doctoral thesis: a questionnaire, interviews and an observational record. The concepts of validity, reliability and trustworthiness of the instruments used for the research are explained below.

An instrument that enables the correct and appropriate collection of data of the studied phenomenon is considered to be valid (Sullivan, 2011). Experts were involved in order to ensure the content validity of the questionnaire (Study I). The initial version of the questionnaire was discussed with a group of teacher

educators of the university and practitioner teachers at school who were asked to evaluate the intelligibility and suitability of items for respondents. In order to ensure the construct validity of the questionnaire, the subject-related theory was thoroughly worked out and the results of the previous empirical studies were taken into account to formulate the items. The appropriateness of items was piloted in both the school-based teacher and student teacher groups and an initial exploratory factor analysis was carried out for Sample 1. The amended questionnaire was used for data collection in Sample 2.

Reliability refers to stability, i.e., the possibility to repeat the results (Sullivan, 2011). To ascertain the internal consistency of questions distributed between different topics on the basis of previous studies, Cronbach's alpha coefficients were calculated on goals related to cognitive as well as social domains. In Sample 1, the internal consistencies of the domains of teaching goals ranged from .66 to .85 (Article I). The analysis of inconsistency was repeated in Sample II. Cronbach's alpha ranged from .76 to .85 in the domains of the cognitive development goals and .61 to .75 in the domains of the social development goals (Article II).

The main focus of Study II and Study III was on four components of trustworthiness: credibility, dependability, transferability and confirmability (Lincoln & Guba, 1985). Triangulation of data collection methods (e.g., observation and stimulated recall interviews in Study III), methods of analysis (e.g., variable- and person-oriented approaches to the data analysis in Study I) and researchers (e.g., double-coding in Study II) was used to ensure the credibility of the study (Patton, 2002). Different forms of interviews (semi-structured interviews and stimulated recall interviews) were used to collect data. Observation was used to produce especially rigorous results when combined with other methods (Adler & Adler, 1997). To ensure the credibility of the study, the teachers who had participated in the previous study, who had different levels of supervision experience of students, and who were suitable for the profound interviews because of their professional training and expertise were included in the sample. The transcriptions were read and compared with the recorded interviews in order to achieve the necessary credibility. Additionally, co-authors were consulted at every stage of data analysis, and the results were constantly discussed. Examples of interviews that characterised the results were selected very carefully to make sure they illustrated the results of the research as correctly as possible.

In order to provide dependability, pilot interviews were carried out before the data collection period, and their results were discussed with the co-authors. During the coding of the interview transcriptions, the author kept in mind that the reliability of the study would increase if another researcher codified the same data and if such coding yielded similar results (Bazeley, 2013). Thus, the transcriptions of the interviews carried out in Studies II and III were coded by several authors. Re-coding was also used: The same researcher re-coded interviews after two weeks in the case of Study II and after one month in the case of Study III. Regarding transferability, the articles that introduced the results of the

studies also provided the context in which the studies were carried out (Article III and Article IV). The whole study process was introduced to teachers, describing to them the sample and explaining how the data were collected and analysed. To ensure confirmability, the study was carefully planned by setting up a precise research schedule. During the data collection period, the author kept a researcher's book in order to record teachers' experiences and observations of the interviews. Any conclusions made during the study had to be supported by the research results.

3.7. Ethical benchmarks of the study

It is important to ensure that the participants in scientific research know how their data is presented and preserved (Eesti Teaduste Akadeemia, 2002; Hammersley & Traianou, 2012). Ethical research procedures require that participants are explicitly informed about the aim and content of the research as well as how their confidentiality will be ensured (Kline, 1995). In all studies carried out for this doctoral thesis, the aims, procedures and research content were thoroughly explained to the participants, and they were offered a chance to ask questions about the study. The study was introduced to the interviewed teachers (Studies II and III), and their consent to participate was given; prior to their interviews, the study was explained to them once more. Teachers' practices were observed during lessons in which pupils were not the subject of the research. Nevertheless, the study procedure was explained in writing to the parents of the pupils who participated in Study III, and their consent was received for lessons in which the actions of teachers were being observed and videotaped. The administration of the school gave the researchers its verbal agreement to carry out Study III.

Per information given to them during the introduction of the study, participants must have the liberty to decide whether or not to participate (Hammersley & Traianou, 2012). The sample in Study I did not include any students or teachers who refused to complete the questionnaire. All respondents participated voluntarily. All teachers who were contacted by the author also agreed to participate in Study II. In Study III, one teacher refused to participate after the research procedures had been explained to her.

The participants' wishes concerning the time and place for the interviews were taken into account in Studies II and III; and at the end of the interviews, teachers were given the opportunity to refine their answers and add comments to them. It was important that during Study III teachers did not feel discomfort when watching the video recordings. Towards this purpose, the method of stimulated recall interviews was carefully and repeatedly explained to teachers.

The material collected during the studies (questionnaires, recordings and transcriptions of interviews, video recording of lessons) is in the sole possession of the author of the doctoral thesis. In order to ensure the anonymity of the

participants, all analysed data were encoded and no personal data will be revealed when the results of the study are published.

3.8. Researcher's role in the research process

In qualitative research, the researcher is personally involved in the research process, as all decisions are made on rather personal grounds (Sutton & Austin, 2015; Fink, 2000). Therefore, a qualitative report should include information about the researcher, i.e., what sort of experience, training and perspective the researcher brings to the field of her/his research (Patton 2002, 566).

In my doctoral thesis, I focused on the teachers' dual role of teaching pupils at school and preparing students teachers for their future work. As a researcher, I am well acquainted with teacher education and the context of the study; as when I drafted the thesis, I performed different roles. These roles enabled me to learn about the versatility and ambiguity of teachers' work and to understand its importance in society. I have extensive experience working in schools as a teacher and SBTE. I have taught the Estonian language for more than 20 years at a general education school, and I have also supervised the pedagogical practice of student teachers during this time. Doing so has provided me with a profound understanding of the goals of the teachers' work and teaching practices. During my doctoral study, I worked at university preparing future teachers for careers in general education. On the one hand, this role taught me to better understand the connections between theory and practice and the importance of supervising student teachers during their school practice, as well as the need to strengthen cooperation between universities and schools. On the other hand, keeping a distance from the teacher's role and observing lessons during students' school practice have developed my skills as a university supervisor to assess teachers' teaching practices more objectively. Throughout the research process, I attended a number of seminars at the Department of Teacher Education at the University of Jyväskylä with my supervisors and developed as a researcher thanks to the feedback I received about my work during these seminars.

At every stage of the study, I, as a researcher, tried to minimise my own impact on those being studied. I developed a confident relationship with respondents, as I encountered them on several occasions while I was conducting the studies. I also received consent to participate in the studies by direct contact with the teachers. In order to avoid subjectivity while collecting and analysing the data, I followed the principles listed below. I understand clearly that whilst conducting the interviews I had to be supportive, but at the same time it was necessary to avoid directing respondents and to accept differences in responses and explanations (Fink, 2000). Second, I allowed teachers to take their time, to think if they needed to, and to talk without interrupting them. My previous teaching experience helped me to listen closely to the sequence of thoughts of the respondents and to formulate, if necessary, specific questions.

As it has been found that reflection supports researchers in defining their role in the research process (Sutton & Austin, 2015), I made notes after the interviews, assessing, among other things, my feelings and behavior when communicating with the interviewees. On behalf of objectivity, I included my fellow authors of the articles in the analysis and interpretation of the data. During the analysis process, I relied on the research questions established in the study and on the theoretical framework. It has been found that if a researcher follows the theoretical basis of the study when interpreting the data, the risk of interpreting the information obtained from the respondents from a personal perspective is reduced (Sutton & Austin, 2015). While having an experience similar to that of those being interviewed may have had some impact on the research process, my awareness of my researcher position, my monitoring of the credibility of the study (Sect. 3.6) and my compliance with ethical principles (Sect. 3.7) have all supported the authenticity of the results.

4. FINDINGS

The results of this doctoral thesis are presented below in two parts proceeding from the research focus. The first part includes the results that deal with school-based teacher educators' (SBTEs) teaching at school and gives answers to the first, second and third research questions. The second part focuses on SBTEs as supervisors of student teachers and includes the results according to the fourth and fifth research questions. The overview of the most important results based on the research questions is presented in Table 2.

Table 2. Overview of the main research results of the studies.

Research questions	Study	Data analyses	Main results
Part I: SBTE as a teacher of pupils			
RQ1: What are the beliefs of SBTEs and student teachers about teaching goals and practices in regard to the cognitive and social development of pupils? (Sect. 4.1.1.)	Study I	One-way ANOVA	<p>Beliefs of SBTEs:</p> <ol style="list-style-type: none"> 1) differ from those of student teachers as to the teaching goals focused on the domain of mechanical acquisition of knowledge; 2) differ to a certain extent from those of student teachers when it comes to teaching practices that are suitable to support pupils' cognitive development; 3) do not differ on the group level from those of student teachers when it comes to supporting the social development of pupils; however, they do differ on the individual level.
RQ2: How is the teaching and supervising experience of SBTEs related to their beliefs about teaching goals and practices? (Sect. 4.1.2.)	Study I	One-way ANOVA	<p>SBTEs value:</p> <ol style="list-style-type: none"> 1) less the teaching goals that focus on mechanical acquisition when their teaching experience increases; 2) more the teaching practices that support the social development of pupils when they have an experience of supervision; 3) teachers who have no experience of supervision and student teachers are similar about the teaching goals focusing on the mechanical acquisition of knowledge.
RQ3: What sorts of goals do SBTEs set to support the development of pupils, and what sorts of teaching practices do they implement to achieve them? (Sect. 4.1.3.)	Study II Study III	Thematic analysis Frequency analysis Thematic analysis	<p>While teaching SBTEs overrate:</p> <ol style="list-style-type: none"> 1) the importance of supporting the cognitive development of pupils; at the same time, the formulation of goals for enhancing pupils' social development was more vague; 2) teaching practices that focus on the application of knowledge, comprehension and discussion; 3) the enhancement of cooperation skills via collaborative teaching practices that support the social development of pupils.

Research questions	Study	Data analyses	Main results
Part II: SBTE as a supervisor of student teachers			
RQ4: How do SBTEs perceive university expectations of them as supervisors, and what sort of goals do they set for supervising student teachers? (Sect. 4.2.1.)	Study II	Thematic analysis	<p>University expectations of supervisors:</p> <ol style="list-style-type: none"> 1) are perceived more clearly by those teachers who have passed their training in supervision; 2) are perceived most of all as a skill that associated student teachers' theoretical knowledge with the practical experience of teaching. <p>SBTEs have the following supervision goals:</p> <ol style="list-style-type: none"> 1) establishing teaching models; 2) guidance of student teachers in the instructional process; 3) enhancing their own professional development.
RQ5: What teaching practices do SBTEs consider to be important for setting a good example to student teachers? (Sect. 4.2.2.)	Study III	Thematic analysis	<p>SBTEs are of the opinion that students should understand that:</p> <ol style="list-style-type: none"> 1) teaching practices must be planned in detail when preparing for a lesson; 2) teaching practices that support the cognitive development of pupils and that establish rules should be used by student teachers in lessons; 3) it is difficult for student teachers to cope with teaching practices that require collaborative action in a classroom.

A more detailed overview of important results by research question is presented in subsequent sections.

4.1. School-based teacher educators in the teaching process

4.1.1. School-based teacher educators' beliefs about supporting the cognitive and social development of pupils in comparison with student teachers

The author wanted to ascertain the beliefs of SBTEs on the teaching goals and practices that support the cognitive and social development of pupils compared to those of student teachers. For that purpose, the answers of SBTEs and student teachers to the questionnaires on the goals of the cognitive development of pupils in three domains (mechanical acquisition, implementation and generalisation) were analysed by one-way ANOVA. This revealed that there are differences in SBTEs' and student teachers' beliefs on the goals related to the mechanical acquisition of knowledge (Article II). Thus, student teachers rated goals focusing on the domain of mechanical acquisition of knowledge more highly than did SBTEs (Article I). However, no differences emerged between teachers' and students' beliefs about goals focusing on the social development of pupils (Article I and Article II).

One-way ANOVA analysis also revealed some differences in the beliefs of SBTEs and student teachers about teaching practices that help to achieve the pupil's cognitive development goals. Student teachers preferred, more so than teachers, different teaching practices that support the cognitive development of pupils (Article I). Likewise, student teachers mentioned, more so than teachers, checking the correctness of answers, repeating, memory training and checking of comprehension (Article I). However, SBTEs rated more highly than student teachers the teaching practices that take into account special abilities of pupils. The results of Study I showed that there were no significant differences in teachers' and students' beliefs about teaching practices focusing on goals related to the social development of pupils (Article I and Article II).

The two-sample discriminant CFA in addition to the group-level analyses did not reveal any combinations of beliefs, typical or atypical, within the groups of teachers or students regarding support of the cognitive development of pupils. However, differences were found when the CFA analysis was carried out on the teachers' and students' beliefs about supporting the social development of pupils. The comparison of the two groups (teachers and students) revealed that more teachers considered supporting pupils' social development important at the average level. At the same time, more students than teachers belonged to the group that rated the supporting of pupils' social development at the high level (Article I).

Next, in Study I, the differences between the beliefs of SBTEs and student teachers were analysed on the basis of using individual and cooperative teaching practices to achieve the goals of the cognitive and social development of pupils (Sample 1) and by teaching practices that support intrapersonal and interpersonal processes (Sample 2). The analyses showed that students preferred, more so than SBTEs, individual teaching practices to support the social as well as cognitive development of pupils. No differences were found in the beliefs of teachers and students regarding the application of cooperative teaching practices (Article I). In Sample 2, some differences were found in SBTEs' and student teachers' beliefs about teaching practices (such as independent work) supporting intrapersonal processes used to guide the cognitive development of pupils. Nevertheless, no differences were found in the beliefs of teachers and students about teaching practices enhancing intrapersonal and interpersonal processes related to pupils' social development (Article II).

To conclude, the assumption that beliefs about pupils' development goals differ between SBTEs and student teachers was confirmed in Study I for the cognitive development domain of mechanical acquisition, in favour of student teachers (see Table 2 above). They also preferred more teaching practices that enhance intrapersonal processes related to pupils' cognitive development. However, in regard to the beliefs about teaching practices used to guide pupils' social development, no significant differences between SBTEs and student teachers were indicated.

4.1.2. School-based teacher educators' beliefs about teaching goals and practices related to their experience

A questionnaire was used in Study I to determine what teachers with different teaching and supervising experience believed about teaching goals and practices. For that purpose, first, the students who had no teaching experience and the students who had some teaching experience were divided into two groups, and the teachers who had experience were divided into three groups according to their teaching experience (from 1 to 5, from 6 to 20 and 21 or more years). The differences in their beliefs were analysed by one-way ANOVA (Sample 2, Article II).

No differences were found in the beliefs of students who had no teaching experience and those who had some teaching experience about the goals of supporting the development of pupils. However, when the beliefs of student teachers and teachers who belonged to the three different groups based on their teaching experience about the goals of supporting the cognitive development of pupils were compared, some differences were found. The comparison showed that there were significant differences between the beliefs of teachers with teaching experience of 6 to 20 years and those of students without any teaching experience regarding teaching goals related to the mechanical acquisition of knowledge. Analogous differences were found between teachers of the same

teaching experience group and students who had teaching experience as well as between teachers whose teaching experience was more than 21 years and students with no teaching experience.

In addition to teaching experience, the differences in teachers' beliefs about teaching goals and practices were analysed with the help of one-way ANOVA in relation to teachers' supervision experience (Sample 2, Article II). The analysis of the beliefs of teachers who belonged to Sample 2 showed that the teachers who had supervised students valued more highly those teaching practices that supported the social development of pupils than did the teachers who had not experienced supervision. More precisely, teachers with supervision experience rated more highly than teachers without supervision experience goals that support the social development of pupils in the domains of *reflexive skills* and *social competence*. Thereby, teachers with supervision experience rated higher teaching practices that support intrapersonal processes related to the social development of pupils.

Thus, by comparing SBTEs and student teachers based on their teaching experience, it was revealed that the students preferred more the teaching goals in the domain of mechanical acquisition, in any terms. Still, teachers who supervise students implement more teaching practices that support pupils' social development.

4.1.3. School-based teacher educators' teaching goals and teaching practices to support the development of pupils

Another set of interviews was carried out with SBTEs in Study II in order to answer the third research question of the doctoral thesis: *What sorts of goals do SBTEs set to support the development of pupils, and what sorts of teaching practices do they implement to achieve them?* It appeared that teachers focus on supporting the cognitive development of pupils, while goals related to the social development of pupils are pushed into the background (Article III). Teachers relied mainly on the national curriculum to do this. When setting their teaching goals, teachers were primarily interested in the academic results of pupils and their readiness for national assessment, such as standard-determining tests and exams, and pupils' skills of applying knowledge in the study process was foregrounded. According to teachers, they try to explain to pupils the subject as comprehensively as possible in order to prepare them for exams and check their understanding by questioning or discussing the subject with them and giving them individual tasks to perform.

Among the goals of supporting pupils' social development, the need to improve their collaborative skills was foremost. Teachers were also concerned about the behavior of pupils, associating bad behavior with poor progress at school. As for the goals supporting the social development of pupils, such as their cooperation and listening skills, teachers tended, above all, to express their

own values and formulated their goals rather vaguely and generally, telling them that it was important to make sure they could cope with their future life.

In order to answer the third research question more profoundly, observations of lessons given by SBTEs were organised within Study III. Based on the observations, the teaching practices preferred by SBTEs were identified (Article IV). The analysis of observations revealed the differences in the use of teaching practices supporting individual and collaborative learning. To influence the cognitive as well as social development of pupils, teachers chose teaching practices that supported individual learning. Towards that end, teachers more intensively used those practices that allowed pupils to apply their knowledge and develop their analytical skills. Practices that supported recall, on the other hand, were pushed into the background. In order to support the social development of pupils, teachers preferred to use practices that required listening skills. The observation of lessons showed that when using collaborative teaching practices, cooperation was used for supporting the cognitive as well as social development of pupils. In the observed lessons, teachers started discussions that supported the cognitive development of pupils, asking questions that stimulated thinking and requiring pupils to complete each other's answers. Of all the collaborative practices that supported social development, teachers preferred group work that allowed pupils to explain to each other their views, share their knowledge and make joint decisions.

The explanations given by teachers in their stimulated recall interviews about their teaching practices showed that teachers try to use methods that are versatile and achievable for pupils in order to support their cognitive as well as social development (Article IV). Teachers considered it important that pupils can apply their knowledge while performing their tasks and rely on their experiences as well as communicate with each other. Practices that allow the assessment of the comprehension of learnt material (such as questioning pupils) were considered less important. Although some pupils found it difficult to communicate with their peers, teachers were still of the opinion that the use of group work was a suitable practice for the development of social skills because the results of group work depend on the attentiveness of pupils and their ability to reckon with each other.

Consequently, in line with SBTEs' self-reports in Study I, the teachers demonstrated in their interviews more clearly and in their activities more frequently their commitment to supporting pupils' cognitive development over their social development. However, the collaborative teaching practices (e.g., discussion and group work) were quite intensively used to support pupils' cooperation skills and thereby their cognitive and social development.

4.2. School-based teacher educator as a supervisor of students' school practice

4.2.1. The perception of university expectations and teachers' supervision goals during school practice

The two studies (Study II and Study III) of the doctoral thesis focused on the perceptions and practices of teachers who supervise students during their school practice. At first, semi-structured interviews were used to determine how SBTEs understand university expectations of them as supervisors of student teachers and what sort of goals they set for supervising student teachers. An overview of the main and sub-themes of the interviews according to the fourth research question is presented in Table 3 (a modified version from Article III).

Table 3. Perception of university expectations and supervision goals according to SBTEs.

University expectations			Supervision goals		
Main themes			Main themes		
Willingness to supervise	Associating theory with practice	Giving feedback to student teachers	Establishing teaching models	Guidance in the instructional process	Professional development of SBTEs
Sub-themes			Sub-themes		
*Uncertainty in formulating expectations	*Providing teaching examples	*Supporting students' self-reflection skills	*Implementation of teaching activities	*Establishing teaching goals	*Knowledge about new methods
*Complexity of teacher-training system	*Coping with problems in the teaching process	*Giving feedback	*Communication with pupils	*Utilisation of subject knowledge	*Opportunity to receive feedback
	*Becoming familiar with the school organisation	*Lack of opportunities for feedback		*Supporting of the cooperation readiness of students	

SBTEs who participated in Study II found it difficult to answer the question about university expectations of them as supervisors of student teachers. It appears that many SBTEs had started supervising students accidentally and without prior training. Therefore, SBTEs did not perceive clearly university expectations of them as supervisors; and in their supervision practices, they relied on their personal experience rather than on a clear understanding of the supervision goals of student teachers during their school practice. According to the teachers, they try to determine university expectations of them when they familiarise themselves with the tasks of practical training offered to students.

The teachers who had passed the university training programme on supervising were more aware of university expectations. They were also able to name supervision goals, such as sharing positive school experiences with students, helping students to analyse their lessons and guiding them in the instructional process. Respondents frequently pointed out that universities expect them to help students to associate their theoretical knowledge with practice. They were of the opinion that model lessons that students can observe, as well as the lessons conducted independently by students, offer a good opportunity for such an association. However, teachers were not able to explain what sort of teaching practices they were expected to use and answered in a general way that students should see ‘something interesting’ in the model lessons.

In addition to model lessons, SBTEs pointed out that universities expect teacher educators to give feedback to student teachers. Teachers claimed that their experience as supervisors was discordant with university expectations: While universities expect rather supportive and positive feedback, teachers are convinced that students also have to be told about serious problems, such as student teachers’ poor knowledge of a subject, disciplinary problems during a lesson and the lack of contact with pupils. SBTEs are of the opinion that universities expect them to be patient and benevolent about mistakes made by students, but they still feel that straightforward and even negative feedback helps students to better acknowledge gaps in their knowledge or teaching skills. Some teachers compared their feedback skills with those of the supervisors who work at universities and claimed that they were not able to assess the actions of student teachers as ‘scientifically’ or to explain to students why certain teaching practices are good to use.

When talking about the supervision goals of student teachers, SBTEs were much more confident answering the questions about university expectations. Although teachers were not totally sure which teaching practices should be demonstrated to students in model lessons, they emphasised that setting a good pattern of teaching was the main goal of supervising. Teachers prioritised the development of pupils in their model lessons, and they expected the same from student teachers. Despite SBTEs thinking it was important to use versatile teaching practices in lessons, they abstained from doing so themselves, and they warned their students about swapping practices too rapidly or choosing practices that did not coincide with established teaching goals. In addition to demonstrating the use of teaching practices, SBTEs wanted to set a good pattern of communication with pupils because they were convinced that before students face the class, they should know how to establish themselves, how to manage with pupils and how to maintain discipline. However, SBTEs did not assume that students would imitate them when they started to conduct lessons independently.

Besides that, SBTEs also explained their established goals for lessons that students were expected to carry out. The students’ lesson-planning skills, i.e., their ability to establish teaching goals and choose the appropriate teaching practices, appeared to be the most important issue. Teachers claimed that laying

thorough groundwork before a lesson helped students to avoid many problems, such as meagre use of time in lessons, gaps in their knowledge and the selection of tasks that are beyond the pupils' capability. Teachers were convinced that cooperation with student teachers while preparing for lessons, as well as during lessons, supports, on the one hand, the development of students; but on the other hand, cooperation also ensures the quality of teaching. Some teachers pointed out that supervision gives them an opportunity to keep up with the modern scientific concepts of teaching. They valued highly the opportunity to observe lessons carried out by students, as they often witnessed the use of teaching practices that were new to them. Exclusively, one of the SBTEs revealed in Study II that she appreciated the opportunity given by supervision to learn something new and develop professionally.

To summarise, teachers' perceptions about university expectations of them as supervisors were clearer if SBTEs had passed the training programme in supervision. Teachers perceived that their goal was to help student teachers associate theoretical knowledge with the practical experience of teaching to support their independent teaching practice and establish teaching models.

4.2.2. Teaching practices used to set a good example for students

In addition to exploring the supervision goals of SBTEs, stimulated recall interviews were used to determine which teaching practices are applied by teachers in order to establish a good example to student teachers (Article IV). According to SBTEs, their teaching practices should make students think about the planning of lessons as well as support them in applying those practices. Teachers expect that students thoroughly analyse their SBTEs' practices in model lessons and analyse why certain practices are used and how these activities are prepared.

The thematic analysis of stimulated recall interviews revealed that teachers would recommend their students to use the same teaching practices that they apply themselves. However, the teachers assumed that students reasoned beforehand, very thoroughly, in which way the planned teaching practices would support the development of pupils. The teachers said that the planning of lessons is a time-consuming activity for student teachers. On the one hand, students need to think about which activities can be carried out with the help of textbooks and worksheets and which activities require additional material to be prepared. On the other hand, students should be able to assess which knowledge and skills they need to apply the teaching practices they want to use in their lessons.

Among the teaching practices used in observed lessons, teachers highlighted those practices that supported the cognitive development of pupils as a good example for students. Teachers were of the opinion that in order to develop pupils' reasoning skills, students should question them, start discussions and let pupils express their opinions. Focusing on teaching practices related to the acquisition of knowledge meant that teachers paid less attention to supporting

the social development of pupils. However, teachers mentioned that it was necessary to encourage student teachers to use pair work in lessons so that pupils would acquire reconciliation skills and become accustomed to following rules. Besides, teachers often found that explanations given by peers were more intelligible to pupils than those given by teachers.

SBTEs believed it was easier for students to carry out teaching practices that require individual work, such as written exercises and reading tasks that reinforce existing knowledge. They considered collaborative teaching practices, such as group work, necessary but difficult to organise by student teachers with little teaching experience. Teachers were of the opinion that group work may trigger unexpected situations in lessons which cannot always be handled by students. Therefore, teachers emphasised the importance of establishing discipline and rules for the student teachers and explaining them to pupils, which in turn makes the application of different practices easier. Teachers also thought that competitive teaching practices, such as quizzes and riddles, are difficult for students to handle. With these games, it is impossible to foresee how pupils will react to their outcomes, especially if they lose. SBTEs recommend that students use teaching practices that will ensure that the mood in the classrooms supports learning.

Thereby, SBTEs were of the opinion that in setting a good example to student teachers, they have to plan their lessons in detail, to introduce them to such teaching practices that will enhance the cognitive development of pupils as well as to establish rules and maintain discipline in class.

5. DISCUSSION

The school-based teacher educators (SBTEs) perform a dual role at schools: They teach their pupils, and they enhance the student teachers' skills to help them cope with their future work as teachers. This doctoral thesis is based on these two roles of SBTEs at school, and as such the discussion, comprising three parts, is built around them. The first part of the discussion focuses on SBTEs as teachers who aim to set teaching goals and select the teaching practices that are suitable for achieving these goals. The beliefs of SBTEs about supporting the cognitive and social development of pupils are compared with those of student teachers. The second part of the discussion covers the role of SBTEs as supervisors of student teachers within the context of university expectations. In the third part, the limitations and strengths of the doctoral thesis are highlighted.

5.1. School-based teacher educators as teachers of pupils

5.1.1. School-based teacher educators' beliefs about supporting the cognitive and social development of pupils

Study I of the doctoral thesis compared SBTEs' and student teachers' beliefs about teaching goals and practices that support the cognitive and social development of pupils (Article I and Article II). SBTEs put less value than student teachers on the teaching goals that focus on the mechanical acquisition of knowledge to support pupils' cognitive development. This result differed from those of previous studies (Bietenbeck, 2014; Uibu & Kikas, 2014) in that many teachers prioritise the mechanical acquisition of knowledge when teaching. One of the reasons why teachers tend to prefer teaching goals that support the cognitive development of pupils at a lower level might be that they believe pupils with poor learning abilities achieve better results by learning the work by heart and repeating it (Voss et al., 2013). Teachers may also appreciate the mechanical acquisition of knowledge, relying on their own school experiences as pupils or imitating colleagues who they look up to (Ueda & Isozaki, 2016). However, there are many reasons why some teachers are not too keen on the mechanical acquisition of knowledge. If teachers consider it important to prepare pupils for future life (Devine et al., 2013), and if they are involved in continuous professional development (De Vries, Jansen, & van de Grift, 2013), then they do not relate support of pupils' cognitive development strictly to the mechanical acquisition of knowledge. Such teachers observe the overall development of pupils rather than concentrate on their results (Voss et al., 2013). They are of the opinion that in order to improve pupils' comprehension of subjects, it is more important to develop their analytical and problem-solving skills than to make them acquire knowledge mechanically (Speer, 2008).

As for teaching practices, differences appeared between the beliefs of SBTEs and student teachers regarding the individual and collaborative teaching practices that support the cognitive development of pupils and with respect to intrapersonal processes related to the acquisition and linking of knowledge. Compared with SBTEs, student teachers consider more teaching practices appropriate to supporting the cognitive development of pupils. The reason why teachers' choice of teaching practices to enhance pupils' cognitive development is narrower may be the link between their teaching experience and beliefs about teaching. It has been revealed that teachers prefer teaching practices they have themselves used before and discard those practices that they know only in theory (Hattie, 2009). Teachers may also avoid novel teaching practices because of preconceptions (Bakkens et al., 2010). Some teachers do not trust novel practices (e.g., group work, active learning) because they lack the necessary skills (Devine et al., 2013; Kuzborska, 2011). Favouring independent work for enhancing pupils' intrapersonal processes by student teachers was expected. This is because student teachers who feel insecure value individual teaching practices that make pupils learn quietly. Student teachers are afraid to lose control over the class (Ng et al., 2010). According to He and Levin (2008), student teachers are not able to foresee the possible problems that might occur during the teaching process. Still, in the present study, the student teachers preferred independent work in order to prevent problems in the classroom.

No substantial differences were found between the beliefs of SBTEs and student teachers about the goals supporting the social development of pupils (Article I and Article II). However, differences did appear in beliefs about teaching practices applied to achieve these goals. For example, SBTEs over-rated the cooperative teaching practices that support interpersonal processes requiring shared knowledge, which teachers associated with the social development of pupils. From the study by He and Levin (2008) it emerged that teachers appreciate cooperative teaching practices because they require creativity from teachers and offer opportunities to experiment. Teachers have mentioned that if pupils perform tasks together they will get better acquainted with each other, learn to follow rules and manage time better (Gillies & Boyle, 2010). Collaborative teaching practices offer diversity to teachers but are quite challenging for them.

In Study I, SBTEs' beliefs about teaching were also analysed on the basis of their teaching experience (Article II). Older, experienced teachers did not appreciate the teaching goals which targeted the mechanical acquisition of knowledge. This result confirms the conclusions of the international survey, TALIS (OECD, 2014), which pointed out that less experienced teachers tend to focus on the mechanical acquisition of knowledge. According to the earlier research, novice teachers believe that remembering facts and rules is important if there are any shortcomings in their own knowledge of the subject and if they cannot use some other teaching practices (Beswick, 2005). Experienced teachers are characterised by a profound knowledge of the subject gained over a long teaching career; they have good teaching skills and extensive knowledge of the

material they teach (Kunter et al., 2013). Therefore, they are able to establish more versatile teaching goals. In addition, compared to less experienced teachers, they have more understanding of the pupils' development needs and vary their teaching practices accordingly (Fleckenstein et al., 2015; Hong & Vargas, 2015). Teachers' beliefs about teaching goals change when they experience that the established goals influence the pupils' progress (Ueda & Isozaki, 2016). Thus, as expected, the teaching experience creates differences in teachers' beliefs about supporting the development of pupils.

When teachers' beliefs about teaching were compared on the basis of supervising experience, several differences appeared (Article II). First, the SBTEs who had supervision experience were more appreciative of the teaching practices that supported the social development of pupils than were the teachers who had no supervision experience. SBTEs with supervision experience were aware of the importance of the teaching practices that support interpersonal processes and facilitate interaction between pupils. Second, the beliefs of teachers without supervision experience and those of student teachers were similar as to the goals targeting the mechanical acquisition of knowledge by pupils. This is consistent with the results of previous research, which showed that with increased experience, teachers valued individual teaching practices less (Bakkens et al., 2010). Also, teachers who supervise student teachers are expected to set the pattern by using certain teaching practices (Sayeski & Paulsen, 2012). Therefore, SBTEs have to think through how to influence the development of pupils and how to support pupils' social development during lessons. The readiness to learn in the course of work and to contribute to one's professional development is an important factor that creates differences in teachers' beliefs (De Vries et al., 2013).

5.1.2. Teaching goals and practices to support the development of pupils

In Study II, the explanations given by SBTEs about their teaching goals showed that teachers focus on the comprehensive support of the cognitive development of pupils while ensuring that the social development of pupils is pushed to the background (Article III). Previous studies carried out in Estonia referred to the tendency of teachers to focus on goals related to the cognitive development of pupils (Uibu & Kikas, 2014; Uibu et al., 2011). In one way, such results in Study II were expected, because it was found that the national teaching standards prioritise the development of pupils' cognitive skills, such as analytical and critical thinking skills (Bietenbeck, 2014). Alternatively, the study carried out by Zwaans and his colleagues in 2008 showed that teachers consider the goals of pupils' social development important in order to support their collaborative and self-regulation skills.

Study II of this doctoral thesis showed that the teachers' inability to give meaning and exemplify the support they give to the social development of

pupils is the reason why the goals that support the cognitive development of pupils are overwhelmingly evident in teaching. These results confirm previous findings that teachers might not use their theoretical knowledge of teaching when setting goals that further the development of their pupils (Fraser, 2010). This problem might derive from the teachers' insufficient knowledge of the comprehensive support they should give to the development of their pupils due to the lack of training required to teach at this level. Refresher training does not always give the necessary skills to teachers, and some teachers never participate in in-service courses (Teague et al., 2012). Also, it is possible that the goals supporting the social development of pupils are ignored because teachers interpret goals that have been established by a curriculum as being based on their beliefs and built from their teaching experience. Although for several decades the Estonian education system has valued highly pupils' good results in national exams and international surveys in which the focus is on assessing the cognitive skills of pupils, the Estonian Lifelong Learning Strategy 2020 has called for a change in the school culture and in the approach to learning nationwide, highlighting the cooperation of teachers and pupils, the development of pupils' self-regulation skills and the willingness to work independently (Ministry of Education and Research et al., 2017). Some teachers have ignored that call, as teachers' beliefs about teaching are drawn from previous sociocultural norms. Even though, in Study II, SBTEs quoted the national curriculum when talking about their teaching goals, their explanations about teaching goals included similar features to the beliefs of experienced teachers who had participated in Study I. Both studies showed that SBTEs focused on goals supporting the cognitive development of pupils.

Throughout the three studies included in this doctoral thesis, it appeared that the SBTEs' beliefs about teaching and their teaching goals actually differed from the teaching practices they applied. Also, other researchers found that teacher's beliefs and notions about teaching do not always tally with the teaching practices they follow in their lessons (Ahonen et al., 2014; Berger et al., 2018; Kaymakamoglu, 2018; Mansour, 2009). For example, the study by Teague et al. (2012) showed that teachers consider the development of pupils' reasoning skills to be important, but the observation of lessons has shown that they do not apply teaching practices that encourage pupils to analyse. Whilst previous studies have shown that teachers claim to limit the use of certain teaching practices, this study's results reveal that teachers used different teaching practices much more than they reported. The analyses of lesson observations (Article IV) indicated that the individual and collaborative teaching practices used by SBTEs were versatile and supportive of pupils' cognitive and social development. Such results confirm that teachers take the development needs of their pupils into account when choosing their teaching practices. Previous empirical studies have emphasised that teachers believe that interchanging various teaching practices during a lesson is effective because pupils with different abilities and skills can be supported (Devine et al., 2013; Perry et al., 2007). Alternatively, the versatile use of teaching practices highlights the professional skills of

teachers. The more knowledge teachers have about teaching practices, the better they are able to choose the practices most suitable to supporting the development of their pupils (Liu et al., 2010).

The examination of teaching practices also revealed that in their lessons, SBTEs use collaborative teaching practices that facilitate interaction between pupils, such as pair work and group work (Article IV). Study III confirmed that teachers are prone to using group work. According to Teague et al. (2012), the use of group work has become less important, and individual teaching practices, such as filling in worksheets or annotating teachers' presentations, are preferred. The study by Forslund-Frykedal and Chiriac (2014) showed that teachers who have had previous positive experiences using collaborative teaching practices feel confident to use group work in the classroom. Teachers who apply collaborative teaching practices in a classroom shape the communication skills of pupils and create an environment that supports learning, which, in turn, builds the basis for good academic results (Perry et al., 2007). The preference for collaborative teaching practices by SBTEs is partly due to the supervision of student teachers, which helps teachers to understand better the social nature of learning and teaching (Jaspers et al., 2014). The use of several collaborative teaching practices by the SBTEs who participated in this study demonstrated that teachers contribute during their lessons to the cognitive as well as social development of pupils.

5.2. Teachers as supervisors of student teachers

5.2.1. Perception of university expectations and teachers' supervising goals

The teachers who participated in Study II found it important that universities clearly inform SBTEs about their expectations related to supervision. However, the teachers did not know exactly what universities expect from them as supervisors of student teachers (Article III). According to the teachers, one reason why they were unsure about university expectations might be limited cooperation with university supervisors. In consonance with previous studies (Hodgson, 2014; Van Velzen et al., 2012), the teachers of the present study referred to a lack of time as a factor that hinders cooperation between schools and universities. The second reason might be a lack of clearly formulated requirements for supervisors. Although universities use general guides for pedagogical practice (e.g., TŪ Pedagogicum, 2019), which describe, *inter alia*, the tasks of SBTEs – and, during their mentor debates, students have to share information with SBTEs about the practice – it is not very clear what information students forward to their supervisors. Researchers have pointed out that the one other reason why teachers do not clearly understand university expectations of them as supervisors might be that universities pay too little attention to identifying the training needs of those teachers who supervise students during their school

practice (Ambrosetti, 2014; Young & MacPhail, 2014). It should be noted that teachers who supervise the school practice of student teachers have many responsibilities; for example, guiding student teachers in planning and carrying out lessons, setting the pattern of teaching in model lessons and giving feedback on the students' performance (Clarke et al., 2014; Cohen et al., 2013). In their study, O'Dwyer and Atli (2015) highlighted that teachers need more support than just passing a training programme, because many questions emerge during the process of supervision. The studies that examined Finnish teachers (Darling-Hammond, 2017; Sahlberg, 2010) showed that teachers perceive university expectations better, and feel more confident when supervising students, if universities have involved them in the research and development of teacher education.

Although SBTEs were unsure about university expectations, they figured, on the basis of their previous supervision experience, that universities expect them to help student teachers to connect their theoretical knowledge with the practical experience of teaching (Article III). Accordingly, the SBTEs who participated in Study II acknowledged that in order to support student teachers, they needed to treat evidence-based teaching and follow the theoretical benchmarks of teaching. They also expressed their readiness for closer cooperation with universities in order to live up to this expectation. This result was foreseeable *if* the teachers who supervised student teachers focused on in-service training and professional development. Studies have shown that, if the opportunity was offered, teachers were willing to cooperate with universities (Ambrosetti, 2014; Mason, 2013). If teachers appreciate the opportunity to supervise students and cooperate with universities, and if they see it as a chance to be informed about new trends in teaching concepts, they will try to create more links between the practices at school and the theoretical knowledge of students (Uusimaki, 2013). The results of Study II verified an ongoing problem: that there is a gulf between teachers and universities because teachers value most of all practical skills of teaching and feel unsure about their theoretical knowledge.

When trying to explain university expectations, the teachers said that their task was to offer the pattern of teaching in model lessons that student teachers observe. It was assumed that student teachers can get acquainted with the best teaching practices in model lessons given by SBTEs who have good teaching skills. The study by Clarke et al. (2014) revealed that setting the pattern for student teachers is recommended by universities, but it is not always deemed to be the primary task of SBTEs as student teachers might start to imitate these teaching patterns of SBTEs. However, according to previous studies, SBTEs have pointed out that they rate highly their personal school practice experience as student teachers and the patterns set by the teachers who supervised them, and therefore they consider the setting of the pattern to be important (Jaspers et al., 2014). The difference that emerged in Study II between the teachers' perceptions and the universities' expectations regarding model lessons appears in previous studies (Hall et al., 2008; Jaspers et al., 2014), supporting the notion

by SBTEs and universities that the tasks and the responsibility of teachers who supervise student teachers do not always coincide.

As for the supervision goals, SBTEs considered most important the setting of the pattern of carrying out lessons by using teaching practices and communicating with pupils (Article III). SBTEs thought it important to support students during teaching as, according to them, students should have the chance to show during the school practice that they are able to make teaching-related decisions and take responsibility. Teachers aimed to observe how students coped with planning and carrying out the teaching process and giving advice to student teachers. However, feedback and evaluation of student teachers' actions were somewhat put aside because teachers felt uncertain in these areas. For example, teachers thought that giving negative feedback was necessary, but they were afraid that their criticism would influence the students' future teaching practices. The goals that SBTEs set on supervision depend on several factors. First, as indicated by Uusimaki (2013), the goals might arise partly from the teachers' understanding of what universities might expect from them as supervisors. Second, SBTEs did not grasp all the aspects of support (Hall et al., 2008). If SBTEs have not been adequately trained and supported, they determine supervision goals according to their conceptions and skills, and this may lead to results that do not satisfy student teachers (Butler & Cuenca, 2012). SBTEs may restrict their supervision by setting only a few goals if they feel that supervision is a responsibility imposed on them and they do not want to spend too much time on it (Young & MacPhail, 2014).

When setting goals for their supervision, SBTEs wanted to ensure that student teachers learned how and what to teach during their school practice. The results of the study showed that in Estonia, similar to other countries (Jenset et al., 2018), one of the problems with supervising future teachers is that SBTEs do not explain to students how pupils learn and how they should analyse pupils' development. Due to the fact that teachers think that it is their responsibility to monitor the professional development of students (Ambrosetti, 2014), they focus on how the students perform in lessons (Hall et al., 2008). Student teachers are interested in the application of different teaching practices which will improve their teaching skills (Cohen et al., 2013). SBTEs, however, focus on practical advice when giving feedback to student teachers because they are not in command of the theoretical educational terminology (Van Velzen, 2013). Also, SBTEs fail to explain to student teachers how pupils should develop during the learning process.

Concerning the supervision goals, SBTEs underlined the opportunity to progress in their own professional development. The analysis of lessons carried out together with student teachers helped them to give meaning to their actions. White and her colleagues (2015) have referred to the same tendency: Through reflection related to supervision, teachers have concluded that their traditional teaching methods, acquired over many years, should change. In addition to reflection, the SBTEs who participated in the present study valued the opportunity to get new ideas from student teachers to apply different teaching practices.

SBTEs admitted that supervising student teachers is a bidirectional process which, in addition to the development of students, also improves the teachers' knowledge about teaching (Nilsson & Van Driel, 2010).

5.2.2. School-based teacher educators' teaching practices that set the example for student teachers

When SBTEs assessed their teaching practices, they were of the opinion that their practices suited student teachers who start to teach independently, and that they set the example for student teachers in supporting the development of pupils (Article IV). SBTEs who choose teaching practices for model lessons prioritise the goals supporting the cognitive development of pupils. Previous studies have shown that it is important to teachers that student teachers learn to appreciate practices that activate pupils' thinking processes (Cheng et al., 2010). Also, teachers might prioritise the cognitive development of pupils because they mainly concentrate on supporting the development of pupils, not students (Clarke et al., 2013).

Although the aim of school practice is to help student teachers to form a comprehensive understanding about teaching (Cohen et al., 2013), the explanations given by teachers in Study III for the teaching practices used in model lessons showed that during the supervision process, attention is not drawn to the need to support pupils' social development. One of the reasons why support for pupils' social development recedes into the background is the opinion of SBTEs that emerged in this study showing that it was difficult for student teachers to organise collaborative teaching practices in a classroom. Teachers have experienced that preparing collaborative teaching practices is time-consuming and often does not succeed if pupils cannot listen or do not understand the rules (Gillies & Boyle, 2010). Therefore, interviewed teachers tried to prevent possible problems and advised student teachers to use 'safer' teaching methods, such as independent resolution of tasks, completion of worksheets, etc. The teachers involved in this study understood students' teaching activities in contrast to Grossmann's (2009) idea of core practices, according to which students' first teaching practices should be linked to the real and often complex situations that arise, for example, within the context of developing pupils' cooperation skills and conducting group discussions. However, the study by Kuzborska (2011) revealed that teachers do not always rely on their theoretical knowledge of learning and teaching when carrying out lessons. This may also be a reason why the SBTEs of Study III preferred to use more conventional teaching practices, and the enhancement of pupils' social development skills was pushed into the background.

According to SBTEs, the aim of model lessons is not only to introduce the best teaching practices but also to make student teachers understand that teaching practices must be planned in detail. Our study showed that similar to the results of Van Velzen (2013), SBTEs are of the opinion that student teachers should

learn how to plan different teaching practices. As for planning lessons, SBTEs recommended that student teachers think more about coping in the classroom and managing time than supporting the development of pupils. SBTEs concentrate on the planning of lessons because they are worried that student teachers do not have the teaching experience to rely on, as they do. When student teachers start to teach independently, it is difficult for them to plan the lesson in a manner that the teaching practices they have chosen are age-appropriate to their pupils (Buitnik, 2009). Students might also be held back by their meagre subject-related knowledge (Poom-Valickis & Löfström, 2014). If student teachers understand on the basis of SBTEs' model lessons how important the prior reasoning of their actions are, they will be more serious about planning lessons and will thus prevent possible teaching problems.

5.3. Limitations and strengths of the research design

The research described in this doctoral thesis encountered some limitations that were related to the study sample and the methodology used. First, the sample was restricted because it involved only teachers of the innovation and practice schools of universities. However, some of the student teachers practice at schools that do not belong to this network. Therefore, in order to obtain a more consistent overview of teaching and the practices of teachers supervising student teachers during their school practice, teachers from other schools should be involved. Second, the doctoral thesis gave an overview of the beliefs of SBTEs about teaching goals and practices compared to those of student teachers; however, the study did not involve the university's supervisors. Cooperation between SBTEs and university supervisors is very important for supporting student teachers during the whole period of their school practice. The attitude of university supervisors towards supervising student teachers and their cooperation with teachers at schools still need to be studied. Third, although students were involved in Study I, they were not examined further. The overview of student teachers' beliefs about teaching was obtained by using a questionnaire. In order to identify the difference between teacher educators' and student teachers' teaching goals and practices, it is also necessary to interview student teachers and observe their performance when they teach independently.

The second limitation to the research design of this doctoral thesis is the fact that the beliefs of teachers involved in teacher education were only studied at the beginning of the practice by supervisors' training, organised by the university. In order to ascertain the influence of the training, i.e., how the training changes teachers' beliefs about teaching, they should also be interviewed after the training. Another limitation of the study was that in Study III, the researcher selected, for the interviews, a series of lessons that coincided with the aims of the study from the video recordings. In order to support the professional development of teachers, they should be offered the opportunity to choose which lessons should be analysed. Following on from the previous point, in Studies II and III,

the researcher might have become too close to the teachers because she interviewed the same teacher twice. Therefore, the researcher became a participant in the research process and had to be careful to avoid subjectivity whilst carrying out interviews and analysing the collected data.

Despite these limitations, this doctoral thesis has numerous strengths that can be of help when planning studies in similar areas, such as teacher education and the school practice of student teachers. Each stage of the doctoral thesis evolved out of the previous study, enriching and broadening the knowledge obtained from it. The sequential explanatory design study was used for this doctoral thesis, which meant that in order to specify and elaborate the results initially ascertained by quantitative analysis, the qualitative research method was used. Different data collection methods (questionnaire, observation, different types of interviews) were combined during the study. The study of one subject through different methods conveyed nuances and details that added depth to the study and created a reliable basis for conclusions.

During the formation of a sample for the research, the criteria (e.g., participation of SBTEs in the student teachers' supervisor training, different teaching and supervising experience of SBTEs) were carefully considered to ensure that the sample was as representative and versatile as possible and supported all stages of the research. The purposely composed sample included some teachers who were examined longitudinally throughout all the studies of the doctoral thesis. Benchmarking was used in Study I to compare the beliefs of SBTEs and student teachers during their school practice. The use of benchmarking at the beginning of the study gave additional information, explaining the phenomenon that was the focal point of this study and, in turn, helping the researcher to set more precise goals for further research.

6. CONCLUSIONS AND IMPLICATIONS

6.1. Conclusions

Preparing student teachers for their future work at schools requires, *inter alia*, a profound knowledge about the teaching-related beliefs of teachers who supervise student teachers during their school practice. It is also important to know how they teach and understand their role as supervisors of student teachers. Because of the dual nature of their role, SBTEs have to simultaneously cope with different tasks: supporting the development of pupils through their teaching practices and instructing students during their school practice. Previous studies have shown that this might be difficult for teachers (Ambrosetti, 2014; Korthagen et al., 2005). To obtain more knowledge to effectively support SBTEs in performing different roles and making the supervision of student teachers more efficient, this doctoral thesis analysed the beliefs of SBTEs about teaching, teaching goals and practices and how teachers perceive university expectations of them as supervisors and their actions when supervising student teachers.

The analysis carried out within Study I on the beliefs of SBTEs related to the goals of cognitive and social development of pupils and the teaching practices applied to achieve them included the comparison of these beliefs with those of student teachers. The comparison revealed that SBTEs value less than student teachers the teaching goals targeting the mechanical acquisition of knowledge and value more consciously teaching practices that are more suitable for supporting the cognitive development of pupils. No substantial differences were found in the beliefs of SBTEs and student teachers about the support of the social development of pupils. With the increase in supervision experience, SBTEs focus less on the teaching goals supporting the mechanical acquisition of knowledge and value more highly the teaching practices that enhance the social development of pupils.

In Study II, the explanations of SBTEs about the goals of teaching and supervising student teachers revealed that the main goals of SBTEs during the supervision are setting an example and supporting students' independent teaching, as well as their own professional development through supervising students. In addition, SBTEs perceive that universities expect them to help student teachers to associate their theoretical knowledge with the practical experience of teaching. It also appeared that SBTEs who attended courses at the universities that focused on supervising student teachers perceived more clearly university expectations of them as supervisors.

In Study III, the analysis of the teaching practices of SBTEs showed that they used different teaching practices in lessons that supported the cognitive and social development of pupils. Social development appeared to be mainly enhanced by collaborative teaching practices. According to SBTEs, model lessons should make student teachers understand how important it is to properly plan the teaching practices to be used in lessons. It is more convenient for

students to use the teaching practices that support the cognitive development of pupils in order to create the environment that supports learning. Besides, it is more difficult to manage the class by using collaborative teaching.

To sum up, the results of this doctoral thesis emphasise the need for teachers who supervise student teachers during their school practice to be aware of their dual role of teaching pupils and supervising students. It is essential that teachers integrate these two roles in a manner that ensures the development of pupils and prepares students for independent teaching challenges. Therefore, it is important that teachers know what universities expect from them as supervisors of student teachers. Teachers can rely on their experiences that are related to beliefs, teaching and supervising goals and teaching practices when integrating these two roles. The research of this doctoral thesis showed that teachers' beliefs about supporting the development of pupils were more profound and more systemic than their knowledge about supervising of students. It appears that teachers lack a comprehensive understanding of supervision; and when supervising students, they do not clearly perceive the expectations universities have of them.

The results of the study highlight shortcomings in teacher education that need to be addressed: for example, the readiness of future teachers to support the social development of pupils and the use of teaching practices that facilitate the formation of intrapersonal and interpersonal processes. The training courses for SBTEs should, in the future, apply a systemic approach to teaching and supervising in order to ensure that teachers are able to integrate their different roles and offer student teachers the support that meets the expectations of universities.

6.2. Implications and recommendations

On the basis of this study, some recommendations can be made that could be useful to researchers from the teacher education field, as well as to developers of educational policy and those responsible for teacher education in universities. The implications and recommendations proceeding from this study could also be valuable to university lecturers who cooperate with SBTEs and teachers who supervise student teachers at schools.

On the theoretical and methodological level, the following recommendations, drawn from the results, are offered:

1. The study showed that teachers who supervise student teachers during their school practice simultaneously perform two roles: as teachers, they secure the development of their pupils; as supervisors, they support their students. The teachers who participated in the study perceived their goals and actions as teachers clearly and could explain systematically what teaching goals they set in alignment with their beliefs about teaching to support the development of their pupils. However, the teachers did not fully acknowledge the goals of

supervising students, and their actions may not be in line with the university's expectations of them as supervisors. Consequently, since teachers act as supervisors of student teachers at schools, their beliefs and responsibilities should be addressed from the two perspectives simultaneously, and they both should be studied comprehensively.

2. Qualitative research methods are considered more appropriate for studying teachers' beliefs (Schraw & Olafson, 2015). In this doctoral study, among other methods, a questionnaire was used to study the beliefs of SBTEs and compare them to students' beliefs, which allowed the data to be analysed with quantitative methods (Study I). The knowledge obtained was used to plan the subsequent stages of the study by means of a sequential explanatory design. For that purpose, several stages of the qualitative study followed the quantitative stage. Thus, in order to investigate teachers' beliefs more thoroughly, it is appropriate to combine different research methods that together allow for the generalisation of trends based on bigger samples, as well as to look more intensively into different aspects of the phenomenon under study using qualitative research methods.
3. The study showed that SBTEs' beliefs about teaching were related to their supervising experience. For example, teachers with longer supervision experience placed more value on the teaching practices that supported the social development of pupils, while teachers who did not have any supervision experience shared the same beliefs with students about the mechanical acquisition of knowledge by pupils (Study I). Longitudinal studies that involve samples of SBTEs as well as student teachers are needed to determine what influence supervisors' experience has on students' beliefs about teaching as well as their formation.
4. The SBTEs who participated in this study associated individual teaching practices with the enhancement of pupils' cognitive development and collaborative teaching practices with the fostering of social development. However, the teachers' view on supporting pupils' social development was quite narrow, as they associated social development mainly with communication skills (Study II). In order to expand teachers' understanding about the purposefulness of different teaching practices, it is necessary to carry out follow-up studies that also involve teachers who are *not* engaged in the supervision of student teachers.
5. This doctoral study has shown that teachers' beliefs about teaching may be different from their real actions in the classroom. To determine the level of inconsistency between teachers' beliefs and actual practice, the observation of lessons and the questioning of teachers about their practices had to be carried out (Study III). Thus, implementing observations with semi-structured interviewing is recommended as an appropriate method to investigate more profoundly the phenomenon of teachers' work.

On the practical level, several recommendations for teacher educators and university programme developers can be made to improve the quality of teacher education:

1. The studies showed that SBTEs used more teaching practices to enhance pupils' cognitive than they did practices aimed at social development (Study I, III). However, teachers responsible for setting an example for student teachers during the school practice should pay more attention to those teaching practices that support the comprehensive development of the knowledge and skills of pupils. They should also advise student teachers on how to implement teaching practices that activate the thinking process of pupils and support the development of higher-level cognitive skills as well as social competence.
2. SBTEs considered collaborative teaching practices, such as group work and discussion, to be necessary but difficult to organise when student teachers had less teaching experience. Sometimes, group work may evoke disciplinary problems in lessons, which cannot always be handled by students. SBTEs in this doctoral study recommended that student teachers use teaching practices that make control over pupils' behavior easier (Study III). However, universities should provide teachers with the theoretical starting points (i.e., core practices) of pedagogical practice, so that teachers are better able to direct students to use more sophisticated teaching practices and enhance their own teaching skills.
3. It appeared that teachers in this study did not have the proficiency to integrate theoretical knowledge with practice, and they lacked certainty when supervising student teachers (Study II). Therefore, teachers should first improve their knowledge about the contemporary concept of learning and then update their knowledge about evidence-based teaching. Only then should they be allowed to begin supervising student teachers.
4. SBTEs in this study were of the opinion that universities expect them to be tolerant of the mistakes made by students, but the SBTEs nonetheless believed that straightforward feedback would better help students to acknowledge the gaps in their knowledge and teaching skills (Study II). Universities should explain to teachers their expectations related to feedback given to students and, if necessary, advise them on how to provide constructive feedback that focuses on students' strengths as well as weaknesses.
5. The study revealed that some teachers do not clearly understand the expectations placed on them by universities as supervisors of school practice. However, the teachers expected more support from the universities during the whole period of practice that students spend at schools (Study II). Universities should clearly express their expectations of SBTEs and provide teachers with back-up material to facilitate the supervision of student teachers. Thereby, the role of teachers working in university innovation schools and practice schools should also be more clearly identified, and teachers should be more involved in the planning and research of teacher education.

6. For some teachers, supervision of student teachers often starts quite incidentally. Creating a continuing training programme and preparing a module for supervising student teachers should be required. The teachers who wish to supervise student teachers' school practice should pass supervisors' training at a university or a supervisor's test to demonstrate their suitability to be supervisors. Only those teachers in possession of a certificate of supervision should supervise student teachers.

Knowledge about the beliefs of teachers who perform the dual role of teaching pupils and supervising student teachers, as well as their teaching and supervision goals and the teaching practices they use to enhance pupils' development, is important for the continuous and efficient development of school practice. Systemic, continuous training of supervisors in charge of student teachers and the availability of competent SBTEs will serve to guarantee the successful application of the contemporary concept of education at schools.

APPENDICES

Appendix 1. Examples of items on the questionnaire according to students' cognitive and social development (Study I) (see Appendix from Article 2)

Instructions: Please select the listed statements you consider essential when teaching. If a statement does not describe your teaching, leave it unmarked. You are welcome to add comments, if necessary.

I. An example of the first part: Cognitive development

In teaching, I consider it important ... **to promote discussions related to topics in order to**

- 1.1 *develop the ability to retain information*
- 1.2 *make connections between pieces of knowledge*
- 1.3 *obtain correct answers*
- 1.4 *develop thinking skills*
- 1.5 *systematize knowledge*
- 1.6 *apply knowledge*
- 1.7 *develop analytical skills*
- 1.8 *develop memory skills*
- 1.9 *develop problem-solving skills*
- 1.10 *enhance comprehension of the topic*

Comment:

II. An example of the second part: Social development

In the instructional process, I consider it important ... **to promote communication between students in order to**

- 1.1 *encourage independence*
- 1.2 *support efficient learning*
- 1.3 *develop social skills*
- 1.4 *support students' initiative*
- 1.5 *encourage students to express their opinions*
- 1.6 *support the development of appropriate behavior patterns*
- 1.7 *support individual development*
- 1.8 *develop learning skills*

Comment:

Note. **The description of teaching practice** is in bold; *the list of teaching goals* is in italics.

Appendix 2. Questions of the semi-structured interview (Study II)

Warm-up question: Please tell me how you became a teacher.

PART I: SBTEs' teaching goals and teaching practices

RQ 1: What are the goals set by school-based teacher educators to promote pupils' development?

A. SBTEs' teaching goals

1. Please explain what you consider important to a pupil's development.
2. What knowledge do you want to pass on to your pupils in your classes? Please justify!
3. What skills do you want to pass on to your pupils in your classes? Please justify!
4. If you compare some of the recent lessons that were successful with those that were not so well-managed, what were the differences in their teaching goals?
5. What goals have you set in the age group of pupils whom you teach?
6. What are the cognitive development goals of pupils that you keep in mind during the teaching process?
7. What goals are important to set in order to support the social development of the pupils?
8. How does the national curriculum impact your teaching goals?
9. Have there been any changes in your teaching goals in the last five years? Please describe.
10. What are the reasons for these changes?
11. Have in-service trainings for teachers changed your understanding of teaching goals? Please give examples.

B. Practices directed towards pupils' cognitive and social development

12. Please describe the teaching practices that you use in order to achieve the goals that you mentioned.
13. Please describe what you do to support a child's cognitive development.
14. Please describe what you do to support a child's social development.
15. Please explain which teaching practices support the individual development of the pupils.
16. Please describe how you support the pupils' skills to cooperate.
17. What changes have there been in your teaching practices in the last five years? Please explain the reasons for changes in teaching practices.

PART II: SBTEs' perceptions about university expectations

RQ 2: How do school-based teacher educators perceive university expectations of them as supervisors of student teachers?

18. Please describe how you became a supervisor of student teachers.
19. What do you think the university expects of you as a supervisor?

PART III: SBTEs' understandings about goals of supervising student teachers

RQ 3: What kinds of goals do school-based teacher educators establish for supervising student teachers during in-school training?

20. Why are you supervising student teachers?
21. What do you consider important when supervising student teachers?
22. Which goals do you keep in mind when supervising student teachers?
23. What should the student teachers know about teaching goals?
24. Please give examples of the practices you have advised student teachers to use for achieving their goals.
25. In what way has supervising student teachers changed your teaching goals?

Closing question: What would you like to say in conclusion?

Appendix 3. Observation items according to the cognitive and social development of pupils (Study III).

	Scores by frequency of use (2 – used several times, 1 – used only once, 0 – not used at all)			Total score
	0–15 min	16–30 min	31–45 min	
Teaching practices				
I. For cognitive development				
1. Let pupils repeat previously learnt material				
2. Encourage pupils to ask questions				
3. Carry out discussions				
4. Enhance comprehension of the topic				
5. Make pupils learn facts by heart				
6. Encourage pupils to implement knowledge				
7. Ask pupils to explain their answers				
8. Create associations with everyday life and previously learnt material				
9. Develop analytical skills				
10. Encourage the search for different solutions				
11. Resolve tasks in cooperation with pupils				
12. Carry out routine exercises				
II. For social development				
1. Use exercises requiring independent work from pupils				
2. Encourage pupils to ask for help from peers				
3. Carry out group work				
4. Remind pupils about manners				
5. Encourage pupils to listen to each other				
6. Develop pupils' performance skills				
7. Support different opinions				

Appendix 4. Questions of stimulated recall interview (Study III)

1. Please describe what you did in this episode.
2. When did you decide to use this practice (whether during the planning or in the course of a lesson)?
3. Have you used similar practices in the past (or was it the first time)?
4. Please explain why you decided to use this practice.
5. What did you build on, or what did you take into account in planning this practice?
6. What did the pupils learn due to this practice?
7. Please explain how this practice develops pupils' thinking skills.
8. Which social skills of the children did you support through this practice?
9. How could this practice give more support to the development of pupils?
10. What, in your opinion, can a student observing your class learn from this practice?
11. Do you think it is important that a student you are supervising accepts this practice as an example to follow? How could this practice be useful to him/her?
12. In your opinion, was your practice successful? What would you do differently next time? (If "Yes" then "What"? If "No" then "Why"?)

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SUMMARY IN ESTONIAN

Õpetaja kaksikrollis: üliõpilaste pedagoogilist praktikat juhendavate õpetajate õpetamisalased uskumused ja juhendamisalased arusaamad

Üliõpilaste pedagoogilist praktikat juhendavad õpetajad on oma igapäevatoös kaksikrollis: nad peavad õpilasi õpetama ja samal ajal üliõpilasi õpetajatööks ette valmistama. Õpetajatelt eeldatakse, et nad oskavad oma uskumuste, teadmiste ja kogemuste toel siduda teooriat praktikaga, tagades seeläbi õpilaste igakülgse arengu ning pakkudes tulevastele õpetajatele eeskujut. Kui õpetamisel saavad õpetajad toetuda riiklikule õppekavale, ainekavadele ja õppematerjalidele, siis juhendajatena on nad keerulisemas olukorras, sest nad peavad olema kursis ka sellega, mida ülikool neilt kui praktikajuhendajatelt ootab.

Kuidas õpetajad õpetavad ja õpetamist ette kujutavad, oleneb nende õpetamisalastest uskumustest, mida mõjutavad nii õpetamiskogemus, riiklik hariduspoliitika kui ka sotsiokultuuriline keskkond (Woolfolk Hoy, Davis, & Pape, 2006). Õpetamisalased uskumused väljenduvad eesmärkides, mida õpetajad seavad õpilaste kognitiivse ja sotsiaalse arengu toetamiseks, ning õpetamistegevustes, mille kaudu püüavad nad seatud eesmärgid tunnis täita. Kognitiivsete protsessidega on seotud sellised õpetamise eesmärgid nagu meelespidamise arendamine, arusaamise kujundamine, teadmiste rakendamine, analüüsimine (Krathwohl, 2002). Seevastu sotsiaalse arengu toetamise eesmärgid lähtuvad vajadusest arendada näiteks õpilaste koostööoskust ja valmisolekut tulla toime eri suhtlusolukordades (Põhikooli riiklik õppekava, 2011/2014). Neid õpetamise eesmärgid arvestades rakendavad õpetajad klassis õpetamistegevusi, mis hõlmavad interpersonaalseid protsesse (kaaslastega suheldes mentaalsete vahendite kasutamine ja jagamine) ning intrapersonaalseid protsesse (mentaalsete vahendite individuaalne omandamine ja kasutamine). Seejuures on varasematest uuringutest ilmnenu, et õpetajate uskumused õpetamise kohta ja nende seatud õpetamise eesmärgid võivad tegelikest õpetamistegevustest erineda: see, mida õpetajad väidavad end tegevat ja tegelikult teevad, pole omavahel kooskõlas (Devine, Fahie, & McGillicuddy, 2013; Kaymakamoglu, 2018). Seega aitab õpetajate uskumuste, õpetamise eesmärkide ja õpetamistegevuste kompleksne uurimine täita teadmistes lünka selle kohta, kuidas õpetajad õpilasi õpetavad. Niisamuti tuleb tähelepanu pöörata sellele, et õpetajate eesmärgid ja tegevused üliõpilaste pedagoogilise praktika juhendamisel oleksid kooskõlas.

Et saavutada kooskõla juhendamise eesmärkide ja tegevuste vahel, peavad õpetajad teadma, mida ootab ülikool neilt kui juhendajatelt. Õpetajate ülesanne on olla üliõpilastele õpetamisel eeskujuks, juhendada tunni ettevalmistamist ja läbiviimist, anda tagasisidet ning pakkuda tuge õpetajarolliga kohanemisel (Butler & Cuenca, 2012). Õpetajad ei pruugi aga olla teadlikud ülikooli ootustest neile kui praktikajuhendajatele, kui neid ei ole juhendamiseks piisavalt hästi ette valmistatud (Uusimaki, 2013). Ka uuringud on näidanud, et õpetajatel on

juhendajarolliga keeruline toime tulla, kui neil pole üliõpilaste suunamiseks küllalt oskusi ega teadmisi (Bullough, 2005; Jaspers, Meijer, Prins, & Wubbels, 2014). Kui õpetajad tunnevad end puuduliku ettevalmistuse tõttu juhendajarollis ebakindlalt ega taju vastutust tulevaste õpetajate ettevalmistamise eest, keskenduvad nad rohkem õpilaste õpetamisele, mistõttu võivad üliõpilaste juhendamise eesmärgid jääda täitmata.

Eeltoodut arvesse võttes on seatud doktoritöö eesmärgiks analüüsida üliõpilaste pedagoogilist praktikat juhendavate õpetajate uskumusi õpetamise kohta, õpetamise eesmärke, õpetamistegevusi ja arusaamu üliõpilaste juhendamisest, arvestades ülikooli ootusi. Eesmärgi saavutamiseks sõnastati viis uurimisküsimust, millest kolm on pühendatud õpetajate uskumustele õpetamise kohta ja põhitegevustele õpetamisel ning kaks õpetajate arusaamadele üliõpilaste pedagoogilise praktika juhendamisest. Uurimisküsimuste vastused on koondatud kolme uurimusse.

Esimese uurimuse eesmärk oli välja selgitada õpetajate uskumused õpilaste kognitiivse ja sotsiaalse arengu toetamise kohta. Uurimuse tarbeks välja töötatud küsimustiku usaldusväärsust kontrolliti prooviuuringuga, milles osales 92 õpetajat (artikkel I). Põhiuuringu valimisse kuulus 73 õpetajat (artikkel II). Nii proovi- kui ka põhiuuringusse kaasati õpetajakoolituse üliõpilased, kelle uskumusi võrreldi õpetajate omadega. Andmeid analüüsiti ühesuunalise ANOVA ja konfiguratsioonilise sagedusanalüüsi abil. Selgus, et õpilaste kognitiivse arengu eesmärkidest pidasid õpetajad võrreldes üliõpilastega vähem tähtsaks teadmiste mehaanilist omandamist. Suurimad erinevused uskumustes õpilaste kognitiivse arengu toetamise eesmärkide kohta ilmnasid 6–20-aastase õpetamisstaažiga õpetajate ja üliõpilaste vahel. Erinevusi ei ilmnenu aga õpetajate ja üliõpilaste uskumustes selliste õpetamistegevuste kohta, mis toetavad õpilaste sotsiaalset arengut inter- ja intrapersonaalsete protsesside kaudu. Lisaks võrreldi uurimuses pikema ja lühema õpetamis- ning juhendamisstaažiga õpetajate uskumusi õpetamise eesmärkide ja õpetamistegevuste kohta. Uurimistulemustest ilmnas, et alla 6-aastase õpetamisstaažiga õpetajad keskendusid enam õpilaste teadmiste mehaanilisele omandamisele kui staažikamad õpetajad. Samuti võrreldi omavahel õpetajaid, kes olid või ei olnud üliõpilasi juhendanud. Selgus, et üliõpilasi juhendanud õpetajad tähtsustasid õpilaste sotsiaalset arengut toetavaid õpetamistegevusi enam kui need õpetajad, kes ei olnud üliõpilasi juhendanud.

Teise uurimuse eesmärk oli välja selgitada üliõpilaste pedagoogilist praktikat juhendavate õpetajate eesmärgid õpilaste arengu toetamisel ja üliõpilaste juhendamisel. Samuti uuriti, kuidas tajuvad õpetajad ülikooli ootusi neile kui juhendajatele (artikkel III). Esimese uuringu valimisse kuulunud 16 õpetajaga tehti poolstruktureeritud intervjuud. Intervjuude temaatiline analüüs õpetamise eesmärkide kohta näitas, et esiplaanile seati õpilaste kognitiivse arengu mitmekülgne toetamine, seevastu õpilaste sotsiaalsete oskuste kujundamine jäi tagaplaanile. Õpetajatel oli keerukam nimetada eesmärke, mis toetavad õpilaste sotsiaalset arengut, ning sageli piirduti eesmärkide üldsõnalise kirjeldusega (nt „et õpilasest kasvaks hea inimene“). Ka ülikooli ootusi õpetajatele kui praktika-juhendajatele selgitasid intervjuueeritavad ebamääraselt. Arvati, et ülikool ootab

õpetajatelt eelkõige näidistundide läbiviimist ja tagasisidet üliõpilaste antud tundide kohta. Õpetajad tundsid end kindlamalt, kui rääkisid üliõpilaste juhendamise eesmärkidest. Tähtsaks peeti näidistundides eeskuju pakkumist ja üliõpilaste suunamist tunde põhjalikult planeerima. Õpetajad ei eeldanud seejuures, et üliõpilased hakkaksid iseseisvalt tunde andes praktikajuhendajaid jäljendama, vaid valiksid pigem endale jõukohased ja õpilastele eakohased õpetamistegevused. Lisaks väärtustasid õpetajad üliõpilaste juhendamist kui võimalust õppida midagi uut ning ennast seeläbi professionaalselt arendada.

Kolmandas uurimuses keskenduti sellele, mis õpetamistegevusi õpetajad õpetamise eesmärkide saavutamiseks rakendavad või peavad oluliseks, et anda eeskuju õpetajakoolituse üliõpilastele (artikkel IV). Uuringu valimisse kuulunud 11 õpetajat osalesid ka doktoritöö raames tehtud esimeses ja teises uuringus. Õpetajate õpetamistegevuste väljaselgitamiseks rakendati nii vaatlust kui ka stimuleeritud meenutuse meetodil põhinevat intervjuud. Intervjuude temaatilisest analüüsist selgus, et õpetajad pöörasid õpetamistegevusi valides tähelepanu nii õpilaste kognitiivsele kui ka sotsiaalsele arengule. Seejuures eelistati neid õpetamistegevusi, mis võimaldavad õpilasel koostöös kaaslastega rakendada oma teadmisi ja arendada analüüsioskust. Vaatlusprotokollide analüüsist ilmnes, et õpetajad kasutasid õpetamistegevusi rohkem, kui nad intervjuudes nimetasid. Õpetajate arvates võiksid üliõpilastele eeskujuks olla pigem sellised õpetamistegevused, mis toetavad õpilaste kognitiivset arengut (nt kirjalikud harjutused, iseseisva lugemise ülesanded), sest üliõpilastel, kes pole varem õpetanud, on niisuguseid tegevusi lihtsam teha. Koostööstest õpetamistegevustest pidasid õpetajad oluliseks julgustada üliõpilasi kasutama tunnis paaristööd, et nad õpiksid kaaslastega arvestama ja reegleid järgima.

Siinne doktoritöö pakub väärtuslikke teadmisi üliõpilaste pedagoogilist praktikat juhendavate õpetajate uskumuste ja arusaamade kohta. Töö tugevaks küljeks võib pidada järjestikust seletavat uuringukorraldust (ingl *sequential explanatory design study*), mille puhul on iga järgmise etapi uuring kasvanud välja eelmistest, rikastades ja laiendades saadud teadmisi. Võib eeldada, et uuring toetas pedagoogilise praktika juhendajate professionaalset arengut, kuna esitatud küsimuste abil analüüsisid ja hindasid õpetajad iseenda toimetulekut kahes rollis: õpilaste õpetamisel ning üliõpilaste juhendamisel. Peale tugevate külgede tuleb nimetada ka mõningaid uuringutega seotud piiranguid. Peamine piirang puudutab uuringutesse kaasatud õpetajate valikut: kõik uuritud õpetajad töötasid innovatsiooni- ja praktikakoolides, kuid kuna osa üliõpilastest sooritab oma praktika koolides, mis ei kuulu sellesse võrgustikku, siis väärksid ka need koolid uurimist. Samuti võib pidada piiranguks ülikoolipoolsete praktikajuhendajate väljajätmist uuringust, kuigi nende koostöö õpetajatega on tegelikult väga oluline ja vajaks seetõttu eritähelepanu.

Doktoritöö tulemused kinnitavad, et õpetajad, kes peale õpetamise ka juhendavad üliõpilasi, vajavad oma kaksikrollis toimetulekuks enam teadmisi selle kohta, kuidas toetada õpilaste sotsiaalset arengut ja mida ootab ülikool juhendajatelt. Et pakkuda õpetajatele vajalikku tuge, tuleks edaspidiste uuringutega välja selgitada põhjused, miks õpetajate õpetamise eesmärgid pole kooskõlas

tundides kasutatavate õpetamistegevustega. Samuti tuleks õpetajatel võimaldada täiendada koolituste kaudu oma teadmisi nüüdisaegsest õpikäsitusest ja õpetamise teaduslikest alustest. Toimetulekuks kahes rollis – õpetaja ja juhendaja omas – tuleb õpetajatel oma tegevust üksikasjalikult mõtestada. Ülikoolid peaksid aga õpetajatele rohkem selgitama nende ülesandeid õpetajakoolituse üliõpilaste ettevalmistamisel tulevaseks tööks ning kaasama õpetajaid õpetaja-hariduse kavandamisse ja uurimisse.

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