DISSERTATIONES
PEDAGOGICAE
UNIVERSITATIS
TARTUENSIS
48

PILLE NELIS

A model for implementing inclusive education in early childhood education

DISSERTATIONES PEDAGOGICAE UNIVERSITATIS TARTUENSIS
48

DISSERTATIONES PEDAGOGICAE UNIVERSITATIS TARTUENSIS
48

PILLE NELIS

A model for implementing inclusive education in early childhood education

UNIVERSITY OF TARTU
Press
1632

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

This thesis has been accepted for the commencement of the Degree of Doctor of Philosophy in Education on August 28, 2025, by the joint Doctoral Committee of the Institute of Education and Institute of Ecology and Earth Sciences, responsible for awarding doctoral degrees in education at the University of Tartu.

Supervisor: Professor Margus Pedaste, PhD
Institute of Education, University of Tartu, Estonia

Reviewers: Professor Evelyn Kiive, PhD
Institute of Education, University of Tartu, Estonia

Associate Professor Maire Tuul, PhD
School of Educational Sciences, Tallinn University, Estonia

Opponent: Professor Hildegunn Fandrem, PhD
University of Stavanger, Norway

Commencement: The Senate Hall of University of Tartu, Ülikooli 18, Tartu, on October 10th, 2025, at 9.00 a.m.

This study has been supported by the EEA Financial Mechanism 2014–2021, the Baltic Research Programme for Higher Education, Project contract No 36.1-3.4/289, the European Social Fund (DoRa and Doctoral School) and the European Regional Development Fund.

ISSN 1406-1317 (print)
ISBN 978-9916-27-997-7 (print)
ISSN 2806-2434 (pdf)
ISBN 978-9916-27-998-4 (pdf)

University of Tartu Press
www.tyk.ee

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

CP – credit points
EACEA – European Education and Culture Executive Agency
ECTS – European Credit Transfer System
OECD – Organization for Economic Cooperation and Development
UNESCO – United Nations Educational, Scientific and Cultural Organization

LIST OF ORIGINAL PUBLICATIONS

The dissertation is based on the following original publications, which are referred to in the text using Roman numerals.

I Nelis, P., & Pedaste, M. (2020). Kaasava hariduse mudel alushariduse kontekstis: süstemaatiline kirjandusülevaade. [A Model of Inclusive Education in the Context of Estonian Preschool Education: a systematic literature review]. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education], 8*(2) 138–163. https://doi.org/10.12697/eha.2020.8.2.06

II Nelis, P., Pedaste, M., & Šuman, C. (2023). Applicability of the Model of Inclusive Education in Early Childhood Education: a Case Study. *Frontiers in Psychology, 14*. https://doi.org/10.3389/fpsyg.2023.1120735

III Nelis, P., Pedaste, M., & Leijen, Ä. (2025). Supporting Kindergarten Staff's Agency in Inclusion through Long-Term In-Service Training. *Journal of Early Childhood Teacher Education, 46*(1), 103–122. https://doi.org/10.1080/10901027.2024.2410401

Author contributions:

Article I: composing the theoretical framework, formulating the research questions, conducting the study, conducting the data analysis and writing the article as the main author in cooperation with the co-author.

Article II: composing the theoretical framework, formulating the research questions, developing the instruments, collecting the data, conducting the data analysis and writing the article as the main author in cooperation with co-authors.

Article III: composing the theoretical framework, formulating the research questions, developing the instrument, collecting the data, conducting the data analysis and writing the article as the main author in cooperation with co-authors.

1. INTRODUCTION

Inclusive education has emerged as a significant area of global interest within the field of early childhood education. Despite this growing attention, the practical implementation of inclusive education continues to present challenges in contemporary educational contexts. In response to these challenges, the aim of this doctoral study is to design a model for implementing inclusive education in early childhood settings. The quality and effectiveness of the proposed model are evaluated through a case study conducted in an Estonian kindergarten, as well as through an intervention study that examines changes in the agency of early childhood professionals in implementing inclusive education practices.

1.1. Research problem

Education systems around the world are struggling to find more effective ways to reach out to all children in the community. Inclusive education with increasing participation and decreasing exclusion for everyone offers a unified approach to the possibility of achieving good educational outcomes for everyone (Ainscow, 2020; Florian & Pantić, 2017). Implementation of inclusive education is already essential at the early childhood education level. High-quality early childhood education plays an important role in children's development because low quality can have long-lasting harmful effects on child development (European Commission, 2014; OECD, 2018; Soukakou et al., 2018) while high-quality kindergarten attendance supports children's developmental possibilities and enhances school readiness (Næsby, 2018; Vlachau & Fyssa, 2016).

Participating in an inclusive classroom has a positive effect on both children with special needs and without special needs. Several authors (Kwon et al., 2017; Noggle, 2018; Odom et al., 2004) indicate that inclusion affects positively the development of children with special needs. They also highlight the positive effect on children without special needs and point out that typically developing children, enrolled in inclusive settings, have a positive attitude towards children with special needs (Kwon et al., 2017) and they have a better understanding of special needs, greater knowledge of the implications of special needs and greater acceptance of people with special needs (Noggle, 2018). Odom and others (2004) add that they have greater sensitivity to individual differences and they learn to interact and build relationships with different people. Therefore, it is important to explore how to support the implementation of inclusive education in early childhood education, which is the focus of this doctoral study.

Thus, inclusion has a positive effect on children's academic skills and social development (Odom et al., 2011; Vlachou & Fyssa, 2016) and inclusive education increases recognition and appreciation of diversity (Block et al., 2015). In recent decades, inclusive education has been a major area of interest globally within the field of early childhood education (Odom et al., 2004; Vlachou & Fyssa, 2016)

and the basic idea in most international policy documents (Schleicher, 2019; UNESCO, 2009). Inclusive education is continuously the focus of research (Love & Horn, 2021; Symeonidou & Loizou, 2023; Syrjämäki et al., 2023) and has been updated in recent international (European Agency for …, 2021; UNESCO, 2020) and local policy documents (Alusharidusseadus, 2025).

Still, the implementation of inclusive education remains a challenge in contemporary education systems, including in Estonia. Recent studies on the implementation of inclusive education highlighted several bottlenecks in the Estonian education system, including early childhood education. The main challenges are: 1) the meaning and perceptions of inclusive education have been differently understood by stakeholders and are not sufficiently clear and unambiguously documented (Nelis et al., 2023; Silm et al., 2024); 2) insufficient resources, including funding, additional professionals, number of learners in a group in the kindergartens (Nelis et al., 2023; Silm et al., 2024); 3) the system of categorisation of learners with special needs and the special groups created to support learners could not support inclusion (Silm et al., 2024); 4) politics and documentation, including the curricula and the principles of inclusive education should consider more evidence-based results (Nelis et al., 2023; Silm et al., 2024); and 5) initial and in-service training of teachers should provide enough professionals with the necessary competences for implementing inclusive education, and there is a lack of support specialists (Nelis et al., 2023; Silm et al., 2024). Thus, to overcome these challenges an evidence-based model for implementing inclusive education is needed, which is the aim of this doctoral study. In this study three aspects are discussed that could help overcome the challenges in implementing inclusive education: 1) a more universal definition of inclusive education; 2) the operationalisation of the main features required for the implementation of inclusive education; and 3) kindergarten professionals as key agents in implementing inclusive education. In the context of this thesis, kindergarten professionals include heads and vice-heads of kindergartens, teachers and support specialists (special education teachers and speech therapists).

This doctoral study is conducted in the Estonian context, but the results should be applicable internationally. Therefore, we should also focus on the diverse conceptualisations of inclusion. The conceptualisation of inclusion can differ both between countries and within countries, depending on the cultural, political, social and economic contexts (Hu et al., 2011; Næsby, 2018; Sukumaran et al., 2015) and the interpretations of the concept of inclusion itself (Sukumaran et al., 2015). In Estonia, the interpretations of the concept of inclusion also differ between communities as the studies conducted in Estonia have shown that the meaning of inclusive education is interpreted differently among heads of kindergartens and schools, teachers and support specialists, both in early childhood education and in general education at the school level. (Häidkind & Oras, 2016; Kivirand et al., 2020; Silm et al., 2024).

In addition, several researchers over the last two decades in different studies have emphasised different foci in their definitions (Ainscow et al., 2006; Love, 2018; Vlachou & Fyssa, 2016). The meaning of inclusion is often related to

discussions about the continuum of inclusion and exclusion. Qvortrup and Qvortrup (2018) argue that definitions of inclusive education inherently involve a paradox: any act of inclusion may simultaneously imply exclusion. This critique highlights the limitations of a narrow definition of inclusive education and indicates another discussion point related to the meaning of inclusive education: its narrow and broad meaning (Haug, 2017). This poses a research problem, because researchers in the field of inclusive education cannot refer to a similar and more universal meaning of inclusive education. The definition and the way this definition is interpreted by all stakeholders related to the education system is essential in the implementation of inclusive education (Florian et al., 2017; Sukumaran et al., 2015).

In the context of this doctoral study, children, teachers, teaching assistants (a person who supports a teacher's activities, who does not need to have a pedagogical education and who is guided in his or her activities by the kindergarten teacher's advice) and support specialists at the classroom level; parents and heads and vice heads of kindergartens and schools at the institutional level; researchers at the university level; and policymakers at the local government and state levels are referred to as stakeholders. The formulation of a more universally-recognised definition could help promote a more homogeneous understanding of inclusion. Furthermore, it could help to resolve some challenges related to Estonian early childhood education highlighted above and support the implementation of inclusive education. Therefore, in this doctoral study we also start by formulating a new definition of inclusive education that would take into account international practices and local context.

In addition to defining inclusive education, I also focus on challenges in implementing inclusive education in practice. In this case, it is important to mention that inclusive education is a multi-dimensional challenge and there is a lack of clarity about its implementation (Haug, 2017; Prater, 2010). The implementation of inclusive education is successful only if stakeholders at all levels of the education system support it, and coherence between different levels is better achieved when the features of inclusive education at each level have been described (Haug, 2017). It involves legislation and the language we use to talk about inclusive education (Slee, 2005), conditions provided by the heads of kindergartens that positively influence the implementation of inclusive education (Ainscow, 2020), activities used in the classroom by teachers and support specialists helping children who need additional support, and teachers' preparation and readiness to teach in inclusive classroom (Andrews et al., 2021). The operationalisation of features through different levels could support inclusion and reduce exclusion and also promote clarity about the implementation of inclusive education. It could refer to each level's responsibility to provide the quality of and access to features in a particular level. The operationalisation of key features could also help to find solutions for the challenges named above and therefore support the implementation of inclusive education in Estonian early childhood education.

As the idea of inclusive education has been highlighted in educational policies and should be the goal of early childhood education, kindergarten professionals' readiness for implementing inclusive education is essential. They should translate the goals of policies into practice, and they therefore play a key role in implementing inclusive education (Van Mieghem et al., 2020). The success of teaching and how a teacher copes with teaching in an inclusive environment depends on the teacher's knowledge and attitudes (Park et al., 2018). Still, kindergarten teachers might have low self-efficacy in applying inclusive education (Barned et al., 2011; Peck & Neeper, 2022). This might reflect their insufficient professional competence, which is one of the dimensions of teacher agency (Leijen et al., 2020). Teacher agency has been seen as an important contributor to implementing inclusive education by several researchers (see the scoping review by Miller et al., 2020). An earlier study (Leijen et al., 2022) has shown that a collaborative inquiry-based in-service training course can support of participants' agency. Therefore, it is essential to devise a clear concept of inclusive education and operationalise features of inclusive education and then design an in-service training course considering these results. Increasing the kindergarten professionals' agency could provide them with necessary competences but also purposes and capabilities in practice for implementing inclusive education that is one of the challenges mentioned above.

In summary, in the context of this doctoral study for designing a model for implementing inclusive education in early childhood education, it is essential to consider various aspects related to inclusive education. Firstly, a more universally-recognised definition of inclusive education must be established. Secondly, inclusive education is a complex and multi-dimensional phenomenon, so the developed model requires consideration of multiple features at different levels of the education system. Thirdly, key agents in the implementation of inclusive education in early childhood education are kindergarten professionals, so their agency related to operationalised features should be supported to ensure successful implementation of inclusive education. A well-structured model is necessary to address these aspects.

For the practical application of such a model, its quality is crucial. This can be indicated by various criteria. The model should describe main features relevant to the implementation of inclusive education in early childhood education and align with policy and practice in this field, ensuring its applicability. The quality of the model can be determined using decision-making approaches frequently employed in validating simulation models (Sargent, 2013). There are two fundamental decision-making approaches for assessing the quality of a model, both of which involve different decision-makers. These approaches could be adapted to evaluate the quality of any model. One common approach is for the model development team to assess the quality of the model (Sargent, 2013). In the context of this doctoral study, this means that the model could be created based on the theoretical framework and using appropriate research methods. Therefore, this doctoral study starts with a systematic literature review but also involves a case study with the kindergarten professionals and an intervention study to

understand the effect of a training course based on the model for improving professionals' agency. Involving the end-users of the model (kindergarten professionals) is considered to be a very effective approach to assess the quality of models (Sargent, 2013). In this study, this implies that kindergarten professionals participate in evaluating the model's applicability. Involving kindergarten professionals in the decision-making process can enhance the model's applicability and help to see whether the structure of the model is in accordance with the practices of the kindergarten. Consistency and decisions of kindergarten professionals can be determined through observations and interviews, which have also been used previously to assess the quality of different models (see, for example, Soukakou, 2012). Furthermore, the quality of the model can be seen through the effect of an intervention on kindergarten professionals' agency in implementing inclusive education.

1.2. Focus of the research

The aim of this doctoral study is to develop a model for implementing inclusive education in early childhood education. The quality of the model will be evaluated through the model's applicability, which can be seen under two circumstances:

– whether the structure of the model is in accordance with the practices under consideration (what does and does not support inclusion in the kindergarten practices);
– whether the in-service training based on the model has a positive effect on the agency of kindergarten professionals in inclusive education.

Based on the aim of this study, the research questions and their sub-questions are the following:

RQ 1: How can we operationalise the definition and main features of inclusive education in the context of a model for implementing inclusive education?

1.1. How can we define inclusive education based on the important aspects specified in the definitions used in the literature?

1.2. Which main features are related to implementing inclusive education in the context of early childhood education?

RQ 2: To what extent is the model for implementing inclusive education in accordance with kindergarten practices?

RQ3: How does an in-service training programme based on the model for implementing inclusive education support participants' agency for implementing inclusive education?

The research questions are addressed in three empirical studies and three original publications. The first research question is addressed in Study 1, which was focused on formulating a definition of inclusive education and creating a model for implementing inclusive education. The results of this study are published in Article I. The second research question is addressed in Study 2, which investigated the model's applicability by using a case study. The results of Study 2 are addressed in Article II. The third research question is addressed in Study 3, which investigated the model's applicability through an in-service training programme for kindergarten professionals based on the model for implementing inclusive education. This study explored the improvement of participants' agency during the in-service training programme and assessed changes in the different dimensions of agency related to implementing inclusive education. The results of Study III are reported in Article III.

2. THEORETICAL FRAMEWORK

This section provides a theoretical overview of the concept of inclusive education and how the concept of inclusive education has been developed over the past two decades. It also includes conceptual issues of inclusive education in early childhood education. It then presents an overview of the features required for implementing inclusive education and the how these features are operationalised. More specifically, the diversity of features related to early childhood education is examined. Finally, kindergarten professionals are key agents in the implementation of inclusive education, and their agency is seen as an important contributor to the implementation of inclusive education. Therefore, teacher agency and how to support the agency is also addressed.

2.1. The concept of inclusive education

Since the Salamanca Statement (UNESCO, 1994), concluded in the 1994 World Conference on Special Needs Education held in Salamanca, an international consensus has existed about the need to provide equal educational rights to all learners regardless of their special educational needs or disabilities. The statement called upon governments and the international community to support and prioritise inclusive education policies and practices as this approach is most effective in fighting against discriminatory attitudes, building an inclusive society and providing access to education for all (UNESCO, 1994).

The Salamanca statement drew the world's attention to how learners with special educational needs have historically, and in some places legally, been excluded from the mainstream education system. For example, the Estonian education system has been historically rather segregated, where learners with special needs were educated separately from their peers without special needs in special kindergartens and special schools. The Salamanca statement questioned whether the idea that different types of learners need different forms of education to ensure access to education for all. The Salamanca Statement recognises that all children should be educated within an inclusive education system (Florian, 2019). Still, there are some discussion points related to the concept of inclusive education and these discussion points are relevant in general education at the school level as well in early childhood education.

Despite the contested nature of inclusive education, the idea and meaning of inclusive education has broadened over the past 25 years. The idea of an inclusive education, where all learners are welcome and no one is left out, has expanded over time. The idea of inclusive education was seen to include all learners, those who may be excluded from or have limited access to the general education system (UNESCO, 2009). Thus, the most frequent discussion points related to the concept or definition of inclusive education are its narrow and broad definition (Haug, 2017). The narrow definition includes only children with special needs and is

concerned with placing children with special needs into mainstream settings, making them full members of regular educational institutions and providing them with personalised support (Ainscow, 2020; Haug, 2017). The broad definition includes all marginalised groups, meaning that all children who might otherwise be excluded because of their diversity (special needs, gender, ethnicity, culture, social background, etc.) should be focused on and included in the mainstream settings (Haug, 2017; UNESCO, 2009). In Estonia, the focus is rather on a narrow definition of inclusive education. This may be influenced by the previous segregated education system. The transition to inclusive education and the placement of children with special needs in mainstream educational settings has created an emphasis on the inclusion of children with special needs.

At the same time, it has been argued that inclusive education should not focus only on placement but rather on meaningful participation and personalised support to allow each child to realise their full potential (Love & Horn, 2021). Thus, the second discussion point related to the concept of inclusive education seems to be the quality of inclusive education. Over time, inclusive education has been defined in many different ways. Göransson and Nilholm (2014) have created four categories of interpretations of inclusive education definitions based on the literature:

1) placement definition – inclusion as placement of learners with disabilities in need of special support in general education classrooms;
2) specified individualised definition – inclusion as meeting the social and/or academic needs of learners with disabilities;
3) general individualised definition – inclusion as meeting the social and/or academic needs of all learners;
4) community definition – inclusion as the creation of communities with specific characteristics.

The categories of definitions can be viewed as hierarchical levels, as each subsequent definition extends and thus includes the previous definition. This categorisation is created at the school level, but the same categories are relevant in early childhood education. At the first and lowest level, inclusive education can only be thought of as dealing with placement, meaning that simply placing a child with special needs in a mainstream classroom automatically makes the child included. The second level definition means that when a child is placed in a group, he or she also receives the necessary support to be able to learn and work in the classroom and interact with other children. However, this level of inclusion is focused on children with special needs. The definition of the third level includes all children, not just children with special needs. At the fourth level, the definition of inclusion also means building communities in the kindergarten and valuing diversity (Görasson & Nilholm, 2014). It can be seen from these expanding definitions that the concept of inclusive education has undergone a qualitative leap, shifting from simply placing a child with special needs in regular education

to a definition that includes all learners and the wider context in the form of a community.

The main idea of inclusive education is to support inclusion and reduce exclusion (UNESCO, 2009). Discussions about the continuum of inclusion and exclusion are the third main topic related to the conceptualisation of inclusive education. Hilt (2016) explains the limits to inclusion at a policy level by establishing exclusion as an inevitable part of inclusion processes. In order to support inclusion and reduce exclusion, various aspects should be noted (Booth & Ainscow, 2002; Slee, 2005), starting with knowing the specifics of all marginalised groups, for example, which makes the literature and practice in this field both rich and difficult. Legislation and the language we use to talk about inclusive education could lead to exclusion rather than inclusion. Some critics have argued that because people with disabilities are automatically included in universal human rights instruments, no separate initiatives are necessary and that specific campaigns may in fact have an opposite effect (Slee, 2005). Although the language of special educational needs can be a barrier to the development of inclusive practices, it remains part of the culture and policy framework and influences a variety of practices (Booth & Ainscow, 2002; Hilt, 2016). Different authors (Ainscow, 2020; Ballard, 2013; Slee, 2005) have, over time, focused on the discourse on special needs as one of the obstacles to implementing inclusive education. As long as teachers keep to the concepts of mainstream and special needs learners, the implementation of the concept of inclusive education is not supported (Slee, 2005).

Andrews and colleagues (2021) also suggest that the labelling of children with special needs leads to exclusion because it emphasises the need for professionals and may be the reason why teachers claim that they are not adequately prepared to teach children. In addition, the need for professionals refers to the expectation that those children require individual activities carried out separately from other children and individualisation applied in this way results in excessively distinguishing and separating children with special needs (Andrews et al., 2021). In this context, individualisation becomes synonymous with exclusion. Ballard (2013) suggests that to reduce exclusion and create more inclusive ways of living, we need to think differently and consider alternative ideas that would support the development of fairer and more democratic practices. Therefore, new ways of thinking must be justified and understood in terms of philosophy, evidence and values.

Consequently, the concept of inclusive education has changed from a pragmatic perspective towards a more socio-cultural approach. The pragmatic perspective focuses mainly on the placement of learners with special needs in mainstream settings. It is related to human rights and ethics, meaning that all learners with special needs should have access to school in a democratic society (Qvortrup & Qvortrup, 2018). The socio-cultural approach focuses on the interaction and participatory processes that occur between and among people in social and physical contexts, where a person's thinking and actions are mediated by the cultural symbol systems and artefacts that surround them or to which they have

access (Arcidiacono & Baucal, 2020). The contemporary meaning of inclusive education reflects a socio-cultural approach as it aims at the inclusion of all learners at risk of exclusion, and the quality of inclusion takes into account different factors and wider contexts, such as community and social integration opportunities.

Overall, the concept of inclusive education has evolved over time into a broader approach that goes beyond merely placing children with special needs in mainstream educational settings. The contemporary understanding of inclusive education encompasses all learners who are at risk of being excluded from education. These learners are provided with personalised support both within the education system and in the wider community, with the aim of reducing exclusion. Furthermore, the concept of inclusive education is multidimensional and dynamic, varying not only between countries but also within them (Haug, 2017; Van Mieghem et al., 2018). Therefore, the following subsection will elaborate on the specific meaning of inclusive education in the context of early childhood education.

2.1.1. The meaning of inclusive education in early childhood education

Inclusive education in early childhood education is also part of a broad human rights agenda that emphasises the value of educating all children in mainstream education (Lundquist et al., 2015). The concept of inclusive education in early childhood education is a matter of instructional practice and institutional processes, rather than physical placement (Love, 2018). The concept of inclusive education in early childhood education is not addressed only in terms of placement but points to the importance of context and how to support high quality inclusive education.

Lundquist and colleagues (2015) point out that inclusive education is a broad concept that can be related both to philosophical and practical aspects. In a philosophical sense, it refers to human rights, social togetherness and an appreciation of diversity (Lundquist et al., 2015). Thus, the philosophical sense means the values, beliefs and approach to inclusion that are expressed in a culture, the decisions and choices made at all levels of the education system. In a practical sense, it refers to the participation of children with and without special educational needs in the same educational activities, routines and play and to their provision of support (Soukakou, 2012). Thus, the practical sense means activities and practical applications that promote inclusion.

Access to mainstream education settings is one of the main aspects in the definitions of inclusive education. It means education that promotes access to educational opportunities for all children (Fyssa et al., 2014) and embodies appropriate values and policies (Noggle, 2018). Access is related to human rights, meaning that children with special needs are accepted and appreciated in every kindergarten and by every kindergarten teacher (Lundqvist et al., 2015; Noggle,

2018). More specifically, every child, regardless of any special needs, and their family have the right and the opportunity to choose a suitable educational institution where they can learn and develop with their peers and participate in the daily activities of the community.

In addition to access, participation in mainstream settings is another aspect in the definitions of inclusive education in early childhood education. Participation means placement of all children in the mainstream kindergartens (Sukumaran et al., 2015). It means that kindergartens are ready to welcome all children with and without special needs by providing appropriate learning conditions and support (Soukakou, 2012). For example, sufficient learning materials and tools, possibilities to move around for a child with visual impairment or in a wheelchair, etc. Support refers to the adaptation of the activities and instruction in ways that encourage access and active participation in the group (Frankel et al., 2010) and offering different types of support to different children (Soukakou, 2012). Inclusive practice and institutional processes should support the sense of belonging and membership of every child, which means that all children feel that they are members of the society and the kindergarten group (Vlachou & Fyssa, 2016). It means that through their explicit values and attitudes, teachers and other adults support the processes so that all children feel like equal members of the group, institution and community. Social inclusion should also be supported, which means opportunities to socialise with peers and the community in general (Lundqvist et al., 2015). In practice, it means that teachers and parents value positive social interactions, friendships with peers, and positive relationships in the community. Their positive attitude supports friendly communication and the formation of friendships. Finally, the development of every child should be understood, meaning that each child reaches their full potential (Zhang, 2011). It means that teachers have thought about how to assess and analyse children's development and how to use the results of the analysis in the teaching and learning process.

Overall, there are different aspects related to conceptualising the definition of inclusive education in early childhood education. Despite differences in the definitions of inclusive education, it is still important to build a shared understanding of inclusion for supporting the implementation of the principles of inclusive education (Florian et al., 2017; Sukumaran et al., 2015). This is why the objective of the first sub-question of RQ 1 of this doctoral study is to define inclusive education based on the most important aspects specified in the definitions used in the literature. In addition, there is a lack of evidence and evidence-based practices concerning the inclusion of children with special needs in the mainstream classroom (Amor et al., 2018; Schalock et al., 2017). Therefore, the next section addresses the features required for implementing inclusive education.

2.2. Features required for implementing inclusive education

Inclusive education is a multi-dimensional and dynamic concept and the challenge in practical inclusive education is how to overcome the difficulties involved in implementing it (Haug, 2017). According to the scientific literature, the implementation of inclusive education depends on several features and their interaction (Kivirand et al., 2020; Love, 2018; Næsby, 2018). When creating favourable conditions for implementing inclusive education, one should consider both the holistic context and the main features that occur in this context (Ainscow, 2020). Some researchers (e.g. Göransson & Nilholm, 2014) point out differences in the perspectives of stakeholders in the education system regarding what educational institutions can and should do for inclusive education to succeed, and which features should be considered to achieve this (Edström, 2022). Therefore, a clear understanding of the features required for the successful implementation of inclusive education is essential.

Some international and Estonian authors (Ainscow, 2020; Kivirand et al., 2022) refer to the whole-school approach to increase capacities within schools through school-level self-development and learning activities that promote the implementation of inclusive education. According to this approach, the development of an appropriate school culture is crucial because it is important that it reflects the values and artefacts we use in the context of inclusive education (Kivirand, et al., 2022). The appropriate school culture implies a shared responsibility among all school team members and a shared vision with explicit goals towards inclusive education (Van Mieghem et al., 2018). The same approach is relevant also in early childhood education as self-development is crucial in every educational institution, and developing learning activities that promote implementation of inclusive education is one of the main aims in contemporary learning approach. An appropriate organisational culture should be the basis of activities in every organisation. Therefore, these aspects were examined in **Study 2** of this doctoral study.

In addition to the school culture, structural characteristics affect the implementation of inclusive education according to this approach (Kivirand et al., 2022; Schuelka, 2018). In early childhood education, structural characteristics are related to the reconstruction of the kindergarten system in order to arrange services (Hu et al., 2011) and support systems for both learners and teachers (Purcell et al., 2007). To provide an inclusive environment, adequate resources and facilities are essential. Both adequate human recourses and financial recourses should be provided, but these seem to be one of the main challenges in implementing inclusive education around the world as well as in Estonia at both the early childhood education and in general education level (Schuelka, 2018; Silm et al., 2024). For example, in the Estonian context, Silm and others (2024) point out that financial support by the state should increase because it is directly related to hiring additional professionals in kindergartens such as speech therapists and teaching assistants. This would allow for more need-based support for children and provide

a classroom environment supporting learning for every learner regardless of their needs (Silm et al., 2024). All these aforementioned features will be considered in school-level self-development if a school has a well-designed implementation strategy (Ainscow, 2020; Schuelka, 2018) that includes a clear plan with activities to support the inclusion of all learners. The strategy also includes flexibility of the curriculum and well-defined curriculum content (Mitchell, 2015; Salisbury, 1990). All these structural characteristics are also crucial in early childhood education to support the implementation of inclusive education in kindergartens. Therefore, structural characteristics were part of **Study 2** of this doctoral study.

Schuelka and Engsig (2022) point out that the implementation of inclusive education is a complex and multi-layered socio-cultural process that includes the entire context of the educational institution and the entire educational system. It is therefore important how educational policies and legislation support the implementation of inclusive education, although some studies (Haug, 2020; Magnússon et al., 2019) highlight the state-level challenges of implementing inclusive education where the main concern is related to policy and the general understanding of inclusion.

In Estonia, the principles of inclusive education have been presented in school-level legislation since 2010, and several changes were made in the legislation in 2018. However, although the implementation of inclusive education has remained the main idea in educational legislation, the implementation of its principles in educational organisations has become blurred. Although the current policy and legislation emphasize the right of all learners to high-quality and ability-appropriate education, the educational framework enables learning in a special class in a regular school to be considered inclusive education. Also, in terms of the law, a learner with special needs is treated in a very narrow sense, being defined as one who, by the official decision of the out-of-school multidisciplinary team, needs enhanced or special support (Basic Schools and Upper Secondary Schools Act, 2018). At the same time, the legislation in early childhood education remained unchanged for quite a long time, but despite this it allowed supporting the development of every child, which is in line with the principle of inclusive education. However, the legislation provided an opportunity to teach a child with special needs separately in a special group, which is not in line with the idea of inclusive education.

In conclusion, the implementation of inclusive education is a complex and multi-layered phenomenon. Several authors (Ainscow, 2020; Haug, 2020) point out that the implementation of inclusive education can also differ between different levels of education. Therefore, the next section focuses on the operationalisation of main features required for the implementation of inclusive education in early childhood education.

2.2.1. Operationalisation of the features of inclusive education in early childhood education

The diversity of features of inclusive education defined in different studies in the context of early childhood education point to the need to provide a better understanding of how these features could be operationalised and how inclusive education could be implemented in different ways across multiple early childhood contexts while maintaining the quality of its features (Love & Horn, 2021).

A widely used model for describing the features of inclusive education is the bioecological model (Bronfenbrenner & Morris, 1998). Bronfenbrenner described children's development through a series of systems surrounding the child where each of these systems is part of larger settings of the system. The bioecological model has provided the framework for the adapted ecological model of inclusive early childhood education (Bartolo et al., 2019). This model has been developed in the European context and combines two theoretical frameworks: 1) the structure-process-outcome framework, which is the concept of the quality of early childhood education and care (European Commission, 2014) and 2) the bioecological model developed by Bronfenbrenner and Morris (1998). These two models are similar in describing the environments around the child. The advantage of the former over the latter is that at the centre of the model are the outcomes related to the child, which are achieved by the interaction of different environments. However, there are 25 sub-themes in this model that are not sufficiently operationalised. Besides, neither of the models provide a definition of inclusive education, yet conceptual clarity and a shared understanding of inclusion supports the implementation of the principles of inclusive education. (Florian et al., 2017; Sukumaran et al., 2015).

In addition, a two-dimensional model (organisational context of the classroom and activities to support individual needs) describing the variation in inclusive programmes has been introduced by Odom et al. (1999). To describe the quality of inclusive education, several authors (European Agency for…, 2017; Fyssa et al., 2014; Pelatti et al., 2016) have distinguished between structural features (e.g. teacher education, specialised training, professional development, class size, teacher–child ratios, funding) and process features (e.g. emotional support, social interaction, classroom organisation, instructional support). However, these two frameworks seem to rather focus on features implemented only at the classroom level. At the same time, the expectation is that all levels of the educational system – from national policy to teachers' teaching and children's experiences and learning support – promote the intentions and practices of inclusive education (Haug, 2017). This would mean that the different levels would support each other and improve the chances of implementation of successful inclusive education. It is therefore crucial to operationalise all the features of the different levels of the education system in early childhood education, which is why RQ 1.2 is: what main features are related to implementing inclusive education in the context of early childhood education? An evidence-based and well-structured model that includes all the main features of inclusive education in the context of early

childhood education should be developed. Such a model could help kindergartens and teachers implement inclusive education because it would help specify the roles and responsibilities of the professionals at the kindergarten. Therefore, the focus of this doctoral study is to create a model for implementing inclusive education in early childhood education. In addition, such a model could be useful for designing curricula for improving early childhood teachers' skills in implementing inclusive education. The following sub-section of this study focuses on the role of kindergarten professionals and their professional development by increasing their agency in implementing inclusive education.

2.2.2. Kindergarten professionals as key to implementing inclusive education

Kindergarten professionals are key agents in implementing inclusive education considering the above-mentioned features. Thus, kindergarten professionals have a great responsibility to find their own solutions in implementing inclusive education, and they experience challenges in doing so (Peck & Neeper, 2022).

Teacher agency is seen by several researchers as an important contributor to implementing inclusive education (see the scoping review by Miller et al., 2020). This can be explained by studies on teacher professionalism and teacher education (Pantić & Florian, 2015; Priestly et al., 2012), which point out that at the core of teacher professionalism is agency. At the same time professionalism, and thereby agency, is related to continuous professional learning as the implementation of inclusive education requires a shift in thinking about educating different types of learners (Ainscow, 2020) and changes in action to provide quality in early childhood settings (Molla & Nolan, 2020).

Agency refers to taking action and making choices based on human capacity (Biesta et al., 2015; Leijen et al., 2020). In conceptualising agency, two approaches can be distinguished based on the literature. On the one hand, the socio-pedagogical approach emphasises the psychological characteristics – forethought, self-reactiveness, and self-reflectiveness – of human agency and sees agency as an individual or collective capabilities to influence one's own activity (Bandura, 2018). On the other hand, the socio-cultural and pragmatist approach considers agency to be a phenomenon and conceptualises it as a process of social engagement; it is not seen as a fixed internal characteristic but as an ongoing intentional interaction in different contexts (Biesta et al., 2015; Leijen et al., 2020; Priestly et al., 2012). Teacher agency is considered a specific form of professional agency where they actively contribute to shaping their work and its conditions (Biesta et al., 2015). Therefore, in this doctoral study the socio-cultural and pragmatist approach to agency is followed.

According to the pragmatist approach and based on a previous study by Emirbayer and Mische (1998), Biesta and colleagues (2015) address agency through three dimensions: experiences from the past, orientations towards the future and engagement with the present. They developed the ecological model

based on these three dimensions. This model highlights that the achievement of agency is influenced by experiences of past, the patterns of thinking and action (iterational); oriented towards the future including professional short-term and long-term perspectives (projective); and is enacted in the everyday practice influenced by cultural, material and structural resources (practical-evaluative) (Biesta et al., 2015). A further elaborated version of this model was developed by Leijen and her colleagues (2020) to increase the practical relevance of this model for teacher learning settings. They specify aspects of the iterational dimension and emphasise the distinction between personal and professional knowledge, beliefs and values referring to the development process of teachers' professional identity. Secondly, they refer to the importance of teachers' personal long-term purposes in the projective dimension as these are also related to teachers' identity alongside professional purposes. Finally, they indicate that the practical-evaluative dimension of the model could be divided into three phases – perception, interpretation and decision-making – in order to understand more deeply the formation of teacher agency. It means that teachers should first perceive the possibilities and limitations of the context, then interpret them by taking into account professional competences and both long-term and short-term professional purposes, and then make their decisions by choosing between alternatives based on reasoning. In addition, they argue that the formation of agency can be sustained and further supported through systematic reflection. Reflection on action is considered to be the dominant activity for expanding practical knowledge and supporting teacher learning in general (Leijen et al., 2020). This elaborated model of agency is the basis for **Study 1** of this doctoral study.

As mentioned above, teacher agency has been an important contributor to implementing inclusive education. Agentic teachers take more responsibility for changing conditions of injustice through their pedagogic work, and they focus more on really benefitting the children they teach (Molla & Nolan, 2020). Moreover, Pantić (2017) argues that agentic inclusive teachers tend to prioritise children's well-being and learning needs. Hence, the assessment and improvement of teacher agency is essential in implementing inclusive education. Effective professional learning needs to be embedded within teachers' everyday work, thereby enabling them to investigate, evaluate and draw conclusions about their practices (Molla & Nolan, 2020). In-service training programmes that address the main features required for the implementation of inclusive education are the main way to support teacher agency for such an implementation. In addition, the model with operationalised main features related to inclusion could be helpful for designing an in-service training programme. At the same time, the improvement of the agency of kindergarten professionals during this in-service training programme could serve as evidence for of the applicability of the model, which is why it is the of **Study 3** of this doctoral study.

In conclusion, the implementation of inclusive education is important in early childhood education, but kindergartens need more support. A good model could be helpful to support kindergartens in implementing inclusive education. A shared understanding of the concept of inclusion is the most important prerequisite for

the implementation of inclusive education (Florian et al., 2017; Sukumaran et al., 2015). The diversity of features across early childhood education point to the need to provide a better understanding of how the features could be operationalised and how inclusive education could be differentially implemented across multiple early childhood contexts (Love & Horn, 2021) and on all levels of the educational system, from national policy to teacher teaching and children's experiences and learning support (Haug, 2017).

Therefore, the aim of this doctoral study is to develop a model for implementing inclusive education in early childhood education. It starts from the development of a definition that involves all aspects appearing in different definitions in the theoretical literature, thus aiming for a rich and universal approach to inclusive education. Then the features appearing in the literature need to be operationalised through different levels of the education system and indicated in this model. The quality of the model will be evaluated through the model's applicability. The next step is to explore to what extent the theoretical model is in accordance with the kindergarten practices. Finally, the improvement of the agency of kindergarten professionals during the in-service training programme that is based on the model could serve as evidence for the applicability of the model.

3. RESEARCH METHODOLOGY

The following section gives an overview of the research design, methodology and the context of Estonian early childhood education. More specifically, it described the selection of participants, data collection and data analysis processes.

3.1. Research design

The research design helps to understand how the studies of this thesis have been conducted and how they have been affected by the researcher's beliefs and worldview. The research of this study is guided by pragmatism, and it therefore focuses on the outcomes of research for implementing inclusive education in early childhood education and uses multiple methods (triangulation of methods) to answer the research questions. Both of these elements are aspects of pragmatism (Creswell & Poth, 2018). The first step of this doctoral study was to find a definition of inclusive education and features required for implementation of inclusive education and therefore a systematic literature review was conducted. Secondly, a case study was conducted in order to explore to what extent kindergarten practices are in accordance with findings based on the literature. Thirdly, an intervention study was conducted to find out whether the in-service training programme based on the findings of the first and second study support the agency of kindergarten professionals in implementing inclusive education and thereby show the applicability of the theoretical model.

This doctoral study is also influenced by social constructivism (Vygotsky, 1978), which focuses on exploring multifaceted social phenomena and understanding the world in which people live and work (Denzin & Lincoln, 2017). This research is focused on exploring how participants interpret the meaning of inclusive education and how they use this knowledge in their professional practice. The specific context is also important in social constructivism (Creswell, 2012), and the implementation of inclusive education is related to several features that occur in contexts like politics, legislation, values, competencies and resources.

Based on the pragmatist and social constructivism paradigms, this doctoral study aims to develop a model for implementing inclusive education in early childhood education in Estonia. Three studies, one theoretical study and two empirical studies, were conducted to fulfil the aim of the doctoral study. A more specific overview of the research questions and studies is presented in Table 1.

Table 1. Overview of the research questions and studies

	Research Questions	Focus of the study	Materials and Participants	Method of the Study		Articles
				Data collection	Data Analysis	
Theoretical study	1. How can we operationalise the definition and main features of inclusive education in the context of a model for implementing inclusive education?	Study 1: development of a model for implementing inclusive education	55 sources	**Systematic literature review**		Article I
				Systematic search of sources from EBSCOhost repository	Qualitative inductive content analysis	
Development and implementation of an in-service training programme to support the implementation of inclusive education						
Empirical studies	2. To what extent is the model for implementing inclusive education in accordance with kindergarten practices?	Study 2: consistency of the model and the practices of the kindergarten in implementing inclusive education	Participants from 1 kindergarten: 14 employees answered the questionnaire 7 employees participated in the focus group interview 2 employees participated in the observation 17 children participated in the observation.	**Case study**		Article II
				Questionnaire, Focus group interview, Observation, Document analysis	Quantitative data analysis – descriptive statistics, Qualitative inductive content analysis	
	3. How does an in-service training programme based on the model for implementing inclusive education support participants' agency for implementing inclusive education?	Study 3: agency improvement in implementing inclusive education	24 team members from 8 kindergartens (participants of the in-service training programme who answered both the pre- and post-questionnaire).	**Intervention study**		Article III
				Pre-questionnaire at the beginning of the in-service training, Post-questionnaire after the in-service training	Wilcoxon Signed Ranks test	

3.2. Research context

This section provides an overview of early childhood education policy and legislation and kindergarten professionals' qualification requirements in order to gain a better understanding of the context of the studies of this thesis.

3.2.1. The policy and legislation of early childhood education in Estonia

The main characteristics of early childhood education in Estonia are a rather decentralised educational system, state level legislation and qualified kindergarten professionals. Also, a high-quality child-centred learning approach (learning through play and child-initiated activities) and individualised service model serve as the main principles of the learning and teaching processes in Estonian kindergartens (Koolieelse lasteasutuse riiklik õppekava, 2008), and kindergartens have great autonomy in Estonia (Alusharidusseadus, 2025; Koolieelse lasteasutuse seadus, 1999). In Estonia all children have a legal entitlement to early childhood education and care: they have the right but no legal obligation to participate in early childhood education. Children aged at least 18 months are granted a place in an early childhood education and care institution (if the parents request it) (Koolieelse lasteasutuse seadus, 1999). However, in practice, the situation may differ from what is stipulated by law, and local governments are not always able to ensure a place for every child in such institutions. The Preschool Child Care Institutions Act (1999) regulates the forming of groups in preschool. In Estonia, separate groups are formed for children under three years of age and children between three and seven years of age. Usually, the groups are formed so that the age difference of the children is two to three years in one group. However, it is also possible to form a so-called mixed group of children between two and seven years of age. There are 20 to 24 children in one group. In mixed groups and groups for children under three years of age the number is smaller, 18 and 14, respectively.

Inclusive education is the guiding principle of the Estonian state education system (Ministry of Education and Research, 2021). Early childhood education has been mainly regulated by two important national documents: Preschool Child Care Institutions Act (1999) and National Curriculum for Pre-School Child Care Institutions (2008). This regulation remained unchanged until very recently, and so the principles of inclusive education were not very clearly reflected. In January 2025 a new Early Childhood Education Act was passed in Estonia, and a new national curriculum for early childhood education will soon come into force. The main changes of these documents are briefly described below.

Despite the fact that the main documents in the field of early childhood education entered into force a long time ago, the Preschool Childcare Institutions Act (1999) stipulates that the main task of early childhood education is to take into account the individual needs of the child. In this act, both the main task of early childhood education and the definition of a child with special needs were

formulated in quite general terms, which allowed various interpretations. For example, the law stipulates that the development of each child must be based on their needs, providing appropriate support in a regular environment (Koolieelse lasteasutuse riiklik õppekava, 2008), which is in line with the principles of inclusive education (European Agency for …, 2021). However, a closer look at the law with respect to providing support for each child reveals that the main emphasis is on children with special needs and the possibility of teaching children with special needs separately, which is certainly not in line with the idea of inclusive education (European Agency for …, 2021). For example, the Preschool Childcare Institutions Act (1999) stipulated the possibility of forming special groups or establishing special kindergartens that allow children with special needs to be taught separately. More specifically, it is possible to form six different types of special groups: 1) a group for children with physical disabilities, where up to twelve children participate; 2) a remedial group for children with specific development disorders, also with up to twelve children; 3) a development group for children with mental disabilities, with up to seven children; 4) a group for children with sensory disabilities, where up to ten children participate, 5) a group for children with multiple disabilities, with up to four children; and 6) a group of children with pervasive developmental disorders, where up to four children participate (Koolieelse lasteasutuse seadus, 1999). According to the agreement of the member states of the European Agency for Special Needs and Inclusive Education, inclusion occurs when learners learn with their peers for at least 80% of the weekly workload (European Agency for …, 2022). Some critics have argued that separate initiatives or campaigns to support people with special needs may increase exclusion rather than inclusion (Slee, 2005). However, the act also provides for the possibility of creating an integration group, which means that both children with special needs and children without special needs participate in the same group. An integration group is distinguished from a regular group by the fact that the number of children in the group is smaller, because one child with special needs takes the place of three children. In this respect, the possibility of creating an integration group is in line with the principle of inclusive education and the agreement of the European Agency for Special Needs and Inclusive Education about the meaning of inclusive education (European Agency for …, 2022).

Our own study of Estonian kindergartens (Nelis et al., 2023) also showed that the principles of inclusive education are not sufficiently clear in Estonia, are not reflected in the law or are too rigid to implement inclusion. The results of our study (Nelis et al., 2023) clearly indicated the need to think in terms of legislation about the implementation mechanisms that support the principle of inclusive education in early childhood education and what inclusive education means in Estonian society and its education system.

Finally, we can also shed some light on the recent legislative changes in Estonia. These were implemented after conducting this doctoral study and enable us to understand how the findings of the doctoral study could be implemented in the current context. The new Early Childhood Education Act (2025) creates a com-

prehensive early childhood education system based on the needs of children and families, now clearly presenting the principles of inclusive education. However, its definition of a child with special educational needs focuses on a narrow definition of inclusive education, which may encourage exclusion. The law leaves several implementation options for kindergartens to implement the principles of inclusive education. For example, they can create smaller groups, taking into account the well-being of the child, where both children with and without special needs participate, which is in line with the principle of inclusive education. However, the law leaves also the possibility of creating a group only for children with special needs, which is not in line with the principle of inclusive education. Thus, this doctoral study should contribute to framing the understanding of kindergarten professionals regarding inclusive education in accordance with the international frameworks focusing on increasing the inclusion of all children and decreasing their exclusion.

3.2.2. Kindergarten professionals' qualification requirements and their roles related to implementing inclusive education

In the implementation of inclusive education in kindergartens, qualified kindergarten professionals are essential. Kindergarten professionals have an important role to play in implementing inclusive education. The qualifications and professional development of kindergarten professionals play a central role in promoting the improvement of inclusive kindergarten practices (Ainscow, 2020; Chadwell et al., 2020; Sharma, et al., 2019). In Estonia, the presence of qualified kindergarten professionals is one of the characteristics in early childhood education.

The qualification requirements for kindergarten teachers are higher education, a teachers' qualification or pedagogical competencies, and knowledge of the Estonian language in accordance with the Language Act (Alusharidusseadus, 2025). Furthermore, in the kindergarten group where children with special educational needs participate, the qualification requirements of teachers also include special education competencies (Alusharidusseadus, 2025). In Estonia, the teaching profession is regulated by teachers' professional standards (Kutsestandardid: Õpetaja, tase 6, 2024), and the minimum qualification level of kindergarten teachers is a Bachelor's degree (Alusharidusseadus, 2025). The teacher qualification according to the professional standards is awarded by universities in the case of graduation from teacher education curricula or by the Estonian Teachers Association based on the teacher's portfolio and related interview. The aim of the professional standards is to support teacher training and the assessment of teachers' competences as well as to support teachers in their continuous professional development throughout their career (Pedaste et al., 2019). Teachers' professional development is ensured in several ways in kindergartens: through in-service training courses (for both individuals and teams); by independent reading of the literature; through online discussion groups; through co-vision for sharing experiences and ideas for dealing with complicated situations; supervision;

through sharing reading recommendations; and developmental discussions (Nelis et al., 2023). Teachers' professional development is essential in implementing inclusive education. Several researchers (Chadwell et al., 2020; Florian & Gamedda, 2020; Nelis et al., 2023; Sharma et al., 2019) refer to the lack of appropriate teacher training and knowledge to effectively promote the meaningful development of each child in the diverse mainstream settings.

In addition to teachers, teaching assistants work in most of the kindergartens in collaboration with the teachers. They did not participate as participants of this doctoral study and therefore they are not referred to as kindergarten professionals, although they belong to the stakeholders who are important in implementing inclusive education principles in kindergartens. The qualification requirements for teaching assistants are at least a secondary education, a childminder qualification and knowledge of the Estonian language in accordance with the Language Act. Teaching assistants have a role to assist the teacher, and their main task is to support the development of every child and the acquisition of an early childhood education (Alusharidusseadus, 2025). The position of teaching assistant is new in Estonian kindergartens. Previously, the main duties of a person assisting a teacher were related to cleaning and other tasks in the room; now their main role is seen as assisting in teaching and educational activities. Therefore, the new law has changed the job title and set qualification requirements. This change is fully consistent with the implementation of the principles of inclusive education because, according to different studies both in other countries and in Estonia, professionals and professional-related resources are very important indicators for implementing inclusive education (Locke et al., 2020; Nelis et al., 2023; Sharma et al., 2019). The creation of the teaching assistant position in Estonian kindergartens is an important step in the implementation of inclusive education because it allows them to participate in activities directly related to the child's learning.

In Estonia, kindergarten professionals also include speech therapists and special education teachers. The qualification requirements for support specialists are a specialised master's degree or an equivalent qualification or a speech therapist or special education teacher qualification and knowledge of the Estonian language in accordance with the requirements set out in the Language Act (Põhikooli- ja Gümnaasiumiseadus, 2024). Support specialists provide support and guidance to the child who needs special support and to parents and teachers of that child (Alusharidusseadus, 2025). Still, it is also one of challenges in Estonia because of the lack of support specialists. The National Audit Office report (2020) points out that a shortage of support specialists hinders access to support. Although positions have been created in kindergartens, specialists have not been found.

Finally, kindergarten professionals also include the heads of the kindergartens. The qualification requirements for this position are a master's degree, pedagogical and management competencies and knowledge of the Estonian language in accordance with the requirements set out in the Language Act (Alusharidusseadus, 2025). The head of the kindergarten is responsible for ensuring the

effective operation of the kindergarten and for managing the activities of the kindergarten in cooperation with other kindergarten professionals and parents (Alusharidusseadus, 2025). In addition, the heads of the kindergarten play an important role in implementing inclusive education. There is a need for shared responsibility with agreed values, which means changes in leadership principles (Booth & Ainscow, 2002). It means that heads of the kindergarten act as primary agents of the changes made in the kindergarten, providing the knowledge and skills necessary to cope with diverse groups of learners and implementing inclusive education.

3.3. Theoretical study – Study 1

This doctoral study consists of three studies – one theoretical study (**Article I**) and two empirical studies (**Articles II** and **Article III**). This section provides an overview of the data collection and data analysis of the theoretical study. In order to achieve the aim of the study, it was necessary to synthesise and analyse the findings of the various studies, and therefore a systematic literature review was conducted, which allows analysis and synthesis of scientific literature in a logical, transparent, comprehensible and analytical way. It also helps to highlight similarities and differences, describe features and identify patterns and trends across studies (Alexander, 2020). This would allow this study to provide a generalised definition and identify the main features of inclusive education and, based on these, to develop a model for implementing inclusive education.

3.3.1. Data collection and data analysis of Study 1

The systematic literature review was conducted to answer the first research question of this doctoral study. The data collection procedure started with searching sources from the EBSCOhost repositorium. The first search in the EBSCOhost service found 580 sources using the following keywords: *inclusive education OR inclusion OR inclusive settings AND early childhood education OR preschool OR kindergarten OR early years AND characteristics OR activities OR framework OR dimension OR components OR principles OR intervention OR profile OR structure*. After removing the duplicates, 423 publications remained for the abstract assessment stage (see Figure 1). The abstract of each article was screened to see if the article met the inclusion criteria: 1) information; the article provides information on the characteristics, activities or frameworks of inclusive education; and 2) context: the article relates to early childhood education. Only sources with access to the full text were included for further analysis.

To ensure reliability of the study, two researchers assessed the abstracts of the sources found in the first search. The aim was to collectively evaluate the abstracts of at least 10% of the total number of sources, i.e. the abstracts of 58 sources. The abstracts were reviewed and evaluated against the two inclusion criteria. Agreement between the evaluators was then reached on the basis of

Cohen's weighted kappa, which had a value of 0.682. The differing opinions of the evaluators were discussed until a consensus was reached on whether to take the article forward for further analysis. Descriptions of some assessment criteria were specified to ensure reliability of the study in the subsequent assessment process. For example, in the case of the criterion "article is related to early childhood education", it was specified that early childhood education includes children up to seven years and terms like "early childhood education and care", "kindergarten" and "preschool".

The next stage was full-text assessment. During this process, any articles that failed to meet the inclusion criteria were excluded. This resulted in 55 articles being included for further analysis.

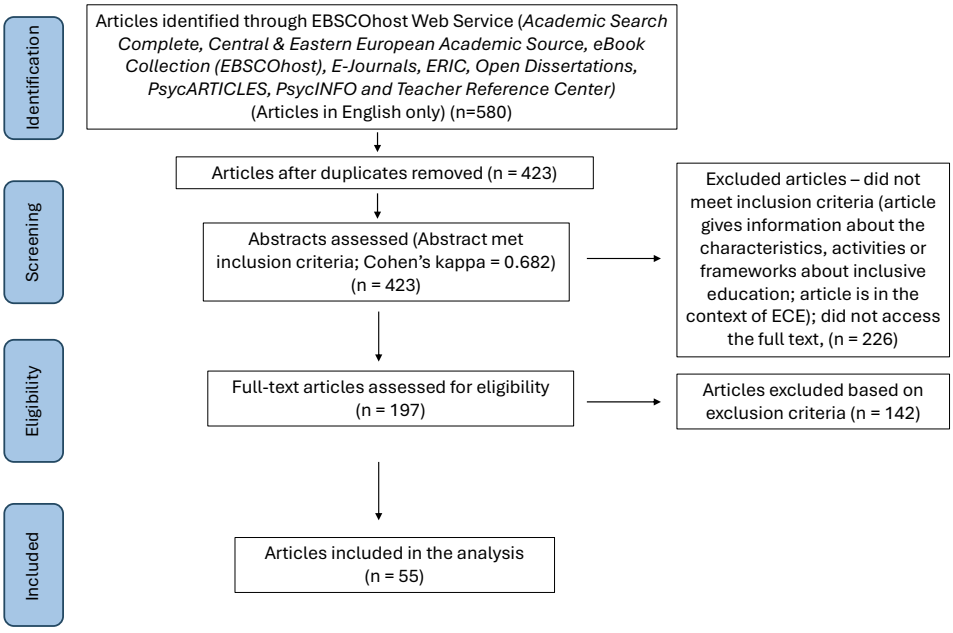

Figure 1. Overview of the systematic selection of the sources (see **Article I**)

The 55 sources included in the analysis were coded and analysed according to the research questions: 1) definitions of inclusive education used in the literature; and 2) main features of inclusive education. Qualitative inductive content analysis was used to analyse the articles. This is a method of analysis that is carried out in several stages, following specific rules of analysis, and in which systematic categories are arrived at on the basis of the text under analysis itself (Mayring, 2022). Inductive analysis was considered the most suitable one as it helps to analyse the gathered data without the need to fit it into a pre-existing model or framework and allows identification of important patterns and themes from a text (Braun & Clarke, 2006). This method is a systematic approach to research with specific steps in data analysis during coding and then grouping the information (Creswell, 2012). In the first stage of the analysis, one researcher read the articles

and found meaningful units in the text. Meaningful units were words, phrases, sentences or sets of sentences that contained definitions of inclusive education and features of inclusive education. Meaningful units were given names or codes. In the second stage, codes with similar content were merged and categories were created. To do this, the sources were repeatedly returned to ensure that meaningful units were appropriately contextualised. In the third stage, similar categories were grouped into larger main categories that would describe the dimensions of the definition of inclusive education or the main features required for implementing inclusive education.

3.4. Empirical studies – Study 2 and Study 3

This section provides an overview of the development and implementation of the in-service training programme, the research context and data collection of the two empirical studies. Empirical studies were needed because the research into inclusive education needs to establish the applicability of the theoretical results in practice in order to foster the implementation of inclusion in early childhood education. The applicability of the model can be seen under two circumstances: 1) whether the structure of the model is in accordance with the practices under consideration (what does and does not support inclusion in the teachers' practices); 2) whether the in-service training based on the model has a positive effect on the agency of kindergarten professionals in inclusive education. The first step of the empirical studies was to develop the in-service training programme based on the results of the theoretical study (**Study 1**).

This doctoral study provides a holistic description and greater insight into the implementation of inclusive education. First, hermeneutic research encourages researchers to analyse their self-awareness with regards to their role in order to understand how they interpret participants' meanings and experiences; it also considers researchers to be primary instruments in the interpretative process (Patterson & Williams, 2002). The author of this doctoral study has 17 years of experience in four kindergartens in several roles (as a regular teacher, as a vice head, and as the head of the kindergarten). Second, hermeneutic research strives to understand the wholeness of experiences within a context (Patterson & Williams, 2002). An exploratory case study (**Study 2**) was conducted to explore the phenomenon and provide depth to the understanding of a phenomenon (Creswell, 2003). Subsequently, an intervention study (**Study 3**) using pre- and post-questionnaires was conducted. The in-service training programme based on the theoretical model was deployed as an intervention for exploring whether this programme has a positive effect on the agency of kindergarten professionals in inclusive education

The next section provides an overview of the development and implementation of the in-service training programme, followed by a description of the participants, data collection and data analysis of the **Study 2** and **Study 3**.

3.4.1. Development and implementation of the in-service training for kindergarten team members

In developing the in-service training programme, the aim was to support kindergarten team members in the implementation of inclusive education by supporting their agency. Teacher agency has been seen as an important contributor to implementing inclusive education by several researchers (see the scoping review by Miller et al., 2020). In developing this in-service training, the focus was to provide support in the three dimensions of agency based on the ecological model of agency (Leijen et al., 2020) across different domains outlined in the model for implementing inclusive education (**Article I**). In addition, three principles for developing in-service programmes to support agency were taken into account: supporting team collaboration; developing professional discourses to reflect on and develop team members' practices; and developing team members' inquiry competences. Previously, these three principles had been successfully applied by Leijen and colleagues (2022). Their programme and study were implemented in the context of basic schools; in our training programme, these principles were adapted to the context of inclusive early childhood education.

The in-service training was developed in collaboration with two Estonian universities. The programme was also introduced and discussed with the international working group of inclusive education that included the researchers from the University of Stavanger and the University of Oslo. The kindergarten team in-service training programme was developed within the framework of the school team in-service training programme, which aimed to enhance inclusive education in basic schools (see Kivirand, 2023). Unlike our study, Kivirand (2023) focused on only one course from a larger programme, while we examined the impact of the entire training programme consisting of six courses and a final study. The in-service training programme for kindergarten teams was implemented during 2021–2022 in two Estonian universities. Two different versions of the in-service training programme were developed (see Figure 2). These two versions had slightly different programme structures, but both versions of the programme consisted of seven courses, totalling 40 credit points (ECTS). One programme consisted of twelve face-to-face sessions over twelve months, and the other one consisted of thirteen sessions over sixteen months. Although the two programmes differed in the titles and credits of their courses, the topics the programmes covered were similar and considered the results of the theoretical study (**Study 1**) of this doctoral study.

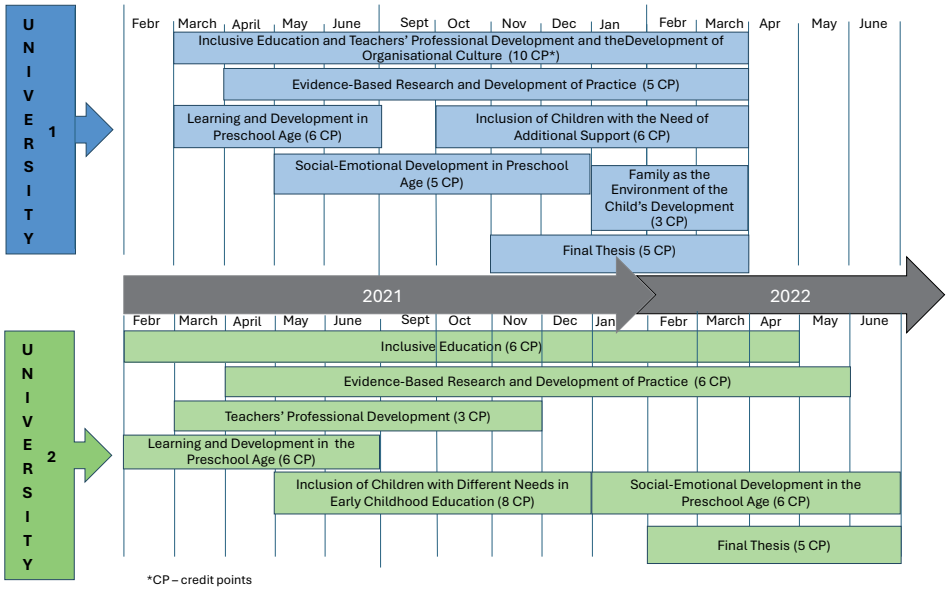

Figure 2. Design of the long-term in-service training programmes for kindergarten teams in two universities (based on **Article III**)

What was important in the in-service training was that all these topics were discussed in the specific context of each kindergarten, where the participants worked in order to achieve a meaningful and shared understanding of those topics. Collaborative discussions, presentations, reflections, group-based inquiry, etc. within teams and between teams were applied in all courses throughout the in-service training. Discussions in teams support the development of professional discourses (Horn et al., 2016) and help to understand how to support inclusion and avoid exclusion (Ballard, 2013). Collaborative activities also enable greater reflection, which positively correlates with the quality of early childhood teaching (Hong et al., 2022). The second fundamental idea was to offer participants opportunities to link different courses and to support the analysis of their everyday practice and learning process through reflection. Reflection on action is considered to be the dominant activity for expanding teachers' practical knowledge and supporting teacher learning in general (Leijen et al., 2020) as well as for providing opportunities to establish a connection between teachers' practical and theoretical knowledge (Leijen et al., 2022). The third essential idea was to shape the participants' skills needed for the evidence-based improvement of their everyday practice and the sustainable development of the kindergarten. Valuing inquiry-based practice and collaboration is one aspect that teachers struggle with while promoting inclusive practices and cultures in their organisations (Pantić & Florian, 2015). By the end of the programme, participants were expected to have a deeper understanding of the concept of inclusive education, a plan for inclusive practices in their teaching or in the kindergarten in general and evidence-based solutions to problems related to implementing inclusive education in their kindergarten. A more detailed overview of the training programme is described in **Article III**.

3.4.2. Participants in the empirical studies

Participants in the empirical studies (**Study 2** and **Study 3**) partly overlapped because they were members of the kindergarten teams that attended the in-service training that is related to this doctoral study. The kindergartens were sought based on three selection criteria: 1) a readiness to apply the principles of inclusive education; 2) a willingness to support their professionals' agency related to implementing inclusive education; and 3) a voluntary request to participate in the training programme on inclusive education for kindergarten teams (the team had to include 1–2 representatives from management, 1–2 support specialists and up to five teachers). A formal invitation letter was sent to all kindergartens in two Estonian cities (close to two universities running the two versions of the programme). The invitation letter provided information about the studies, but additional questions were asked to understand how well the kindergartens were aligned with the purpose of the study. The participants from the kindergartens were selected by the kindergartens themselves. Participation was voluntary, and informed consent was obtained from all participants prior to participation. A total of 50 participants from eight kindergartens (see **Article III**) attended the whole training programme. One kindergarten team did not include the support specialist as this person could not attend the whole training programme. All kindergartens were municipal institutions (none of them were a private institution).

One of the eight kindergartens that participated in the training programme was selected for the case study (**Study 2**). A case study involves exploring a real-life, contemporary bounded system (a case) (Creswell & Poth, 2018). We selected the kindergarten that best met the selection criteria for the case study, with its motivation, as well as the fact that the implementation of inclusive education was their priority, being a decisive factor. The selected kindergarten had already taken several steps to implement inclusive education, such as creating positions for additional staff, integrating groups of children with special needs with other children and introducing smaller groups. Thus, they were to some extent already aware of the meaning and principles of inclusive education and we assumed that they would be able to provide meaningful insight into the research problem and therefore support achieving the aim of the study. The participants from the kindergarten were selected by the kindergarten, and all participants were included in the study on a voluntary basis. The number of participants in the study differed due to the data collection method. A total of 14 completed questionnaires were received out of 18. Seven kindergarten employees (the head of the kindergarten, the vice head of the kindergarten, four kindergarten teachers and a speech therapist) participated in the focus group interview. The observation was carried out in one group of the kindergarten, which included one teacher, one teacher assistant and 17 children. A more detailed overview of the background of the selected kindergarten is presented in **Article II**.

Participants in **Study 3** consisted of those participants of the training programme who responded to the pre- and post-questionnaire about agency. The pre-questionnaire was completed by 40 participants and the post-questionnaire by 28

participants. Both the pre- and post-questionnaire were completed by 24 participants. A more detailed overview of the selection and background of the participants is provided in **Article III**.

3.4.3. Data collection of the empirical studies

Data collection was related to the in-service training programme. Data were collected at the beginning, during and after the training programme (see Figure 3).

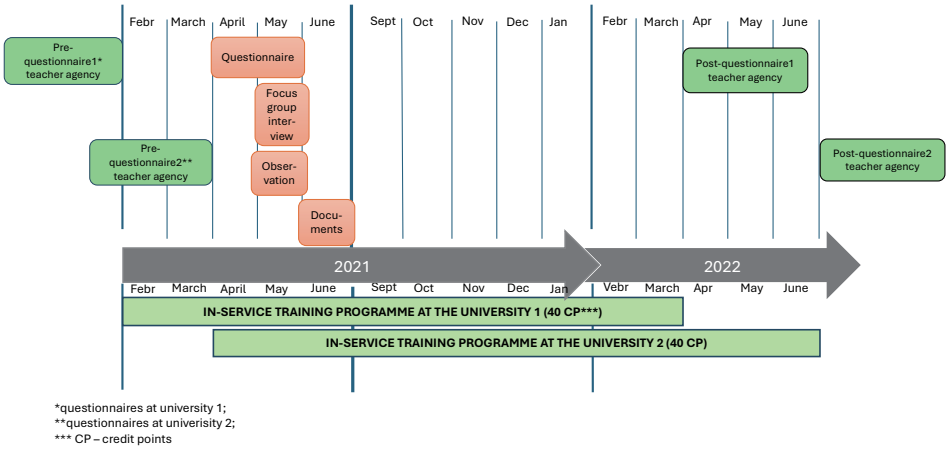

Figure 3. The flow of the data collection

Triangulation of methods was used to ensure the quality of **Study 2**. Qualitative case studies generate holistic and contextual in-depth knowledge using multiple sources of data (Miles & Huberman, 1994) that provide a detailed case description (Yin, 2018). A questionnaire, semi-structured focus group interviews, observation and document analysis for data collection were used in **Study 2**.

The questionnaire was used to identify the features of inclusive education that are important for implementing inclusive education. The questionnaire was developed on the basis of the theoretical model for implementing inclusive education in early childhood education that was created based on the results of a systematic literature analysis (**Article I**). The first version of the questionnaire was developed by the author of this doctoral study and was later reviewed in cooperation with the supervisor. The questionnaire consisted of six sections. First, respondents were asked for background information (age, work experience, education, and knowledge of inclusive education). Second, respondents were asked to what extent were the main features of five levels presented in the model for implementing inclusive education taken into account in the kindergarten (see Appendix 1). A five-point Likert-type scale was used, where all scale values were described as follows: 1 = to a very small extent; 2 = to a small extent; 3 = so-so; 4 = to a large extent; and 5 = to a very large extent. The online survey was carried out via email invitations to the participants between April and May 2021.

The *semi-structured focus group interview* aimed to collect data on the features and opportunities related to inclusive education that are used and/or followed in the implementation of inclusive education in the kindergarten. A focus group was used to identify a collective rather than an individual view on the implementation of inclusive education in the kindergarten. The semi-structured interview allowed us to ask open-ended questions (Cohen et al., 2018) following the main features of the theoretical model. The interview plan contained questions about the following subject blocks: child attributes, characteristics of teaching in an inclusive group, cooperation with parents, organisational culture, organisational structure of the kindergarten, cooperation with non-kindergarten institutions and policy and legislation (see Appendix 2). In addition, we focused on interpersonal relationships and the participants' culture of communication and behaviour.

The preliminary interview plan was prepared by the author of this doctoral study and discussed with the supervisor. The moderator of the focus group interview was the author of this doctoral study, and the interview was carried out in May 2021 at the selected kindergarten. The interview was audio recorded and lasted 111 minutes.

The observation allowed us to identify what features of inclusive education occur in the kindergarten's learning and teaching process and physical environment. Observation offers an opportunity to collect "live" data *in situ* from the natural environment (Clark et al., 2009). The author of this doctoral study observed activities and behaviour during the learning and teaching process and other activities during the observation period, such as getting dressed for going outside. The researcher role in the observation was to be the complete observer, which means that the researcher only observes and is detached from the group (Cohen et al., 2018). It was a structured observation, and the observation protocol was created based on the model of inclusive education presented in **Article I**. The observation protocol included the main features of the child level and teacher level of the model and other features related to them (see **Article II**). During the observation and later when reviewing the video recordings, the author of this doctoral study noted down the activities that met the description of the features in the protocol.

The observation was video recorded and lasted two hours. Video recordings can be viewed several times and therefore video data have the capacity for completeness of analysis and comprehensiveness of material, reducing dependence on prior interpretations by the researcher (Cohen et al., 2018). Two cameras placed on a tripod were used for the recording, and they were placed in such a way that the entire group and all the activities were recorded. The video recordings were stored on the IRIS Connect (2022) platform, which allows secure storage and analysis of video files in a password-protected environment.

Document analysis was used because it allows a systematic procedure for reviewing or evaluating documents (Yin, 1994). Documents provide data on the context within which research participants operate, information and insights derived from documents can be valuable additions to a knowledge base and

documents provide a means of tracking change and development (Bowen, 2017). The document analysis involved two documents, the curriculum and development plan of the kindergarten, chosen with the aim of acquiring an overview of the features of inclusive education contained in them compared with the model of inclusive education.

In Study 3, data was collected with a questionnaire to find out how kindergarten professionals make decisions in implementing inclusive education. Pre- and postquestionnaires were used to explore how the in-service training programme based on the model for implementing inclusive education supports the improvement of participants' agency in implementing inclusive education. The questionnaire was based on a previously validated agency questionnaire (Leijen et al., 2021) and the model for implementing inclusive education (**Article I**) for data collection. It contained a total of 74 statements (see **Article III**). A 7-point Likert-type self-evaluation agreement scale was used in the questionnaire.

The preliminary questionnaire was prepared by the author of this doctoral study and was developed in cooperation with the supervisor and the second co-author of the **Article III**. Data were collected in the electronic environment LimeSurvey (LimeSurvey Development Team, 2023) (survey.ut.ee). The hyperlinks of the questionnaire were shared with each participant of the training programme. The pre-questionnaire was administered before the start of the programme, and the post-questionnaire after completing the programme. Each participant generated their own unique code that was known only to them. This allowed us to connect data collected in the pre- and post-questionnaires.

3.4.4. Data analysis of the empirical studies

Both qualitative and quantitative data analysis methods were applied in the empirical studies: qualitative and quantitative analysis in **Study 2** and quantitative analysis in **Study 3**.

In Study 2, triangulation of the data included the comparison of different data sources (questionnaire, focus group interview, observation and document analysis) to verify themes across all sources (Guba & Lincoln, 1981) and to produce a detailed description of the case. The results of the questionnaires were analysed using a quantitative analysis method – descriptive statistics (frequency of the respondents' answers to each question). In analysing the interview, observation and documents, qualitative deductive content analysis was applied. This means that the researcher interprets and makes sense of the data based on the existing categories. The categories were built based on the model of inclusive education (**Article I**) and are described in more detail in **Article II**.

Prior to the analysis of the focus group interview, the audio recording was transcribed verbatim applying the Estonian Speech Recognition and Transcription Editing Service (Olev & Alumäe, 2022). The transcription was then reread and mistakes corrected manually by the author of this doctoral study. Next, the transcription of the interview and kindergarten documents (curriculum and developmental plan) were repeatedly read, and observation recording was

watched several times in order to find the meaningful units based on described features of the model. Hence, the first step of analysis was coding, a code being a name or a label that the researcher gives to a meaningful unit (Cohen et al., 2018). The second step was to categorise the data by grouping the codes into more general categories (Cohen et al., 2018). In this study, categorisation meant grouping codes under the main features of the model. Data-analysis triangulation was used to compare the features that emerged from the different data sources. This triangulation of data sources increased the match between the main features of the model.

For increasing the reliability of the study, two strategies were used. First, two researchers (the author of the doctoral study and the third author of the **Article II**) assessed the appearance of 46 features of the model based on the focus group interview transcription. The Cohen's Weighted Kappa for assessing inter-rater reliability was not acceptable (Kw = .443). Therefore, two coders discussed all the cases where they had different opinions until they reached a consensus. Second, the strategy of peer examination, as suggested by Denzin (1978). Specifically, the author of this study discussed the results of the analysis and interpretations of the data gathered carefully with the researcher from the University of Stavanger (Stein Eric Ohna) and the third author of **Article II**.

In Study 3, quantitative data analysis was applied. Considering the aim of the study, descriptive statistics that involved measures of central tendency (means) and standard deviations and test of difference for non-parametric data were applied. First, Cronbach's alpha was calculated to assess the internal consistency of the three scales of agency dimensions (iterational, projective and practical-evaluative), as well as the more specific aspects in these dimensions. Reliability analysis revealed that in all three main dimensions and eight more specific aspects internal consistency was good ($\alpha > .8$). Next, the compliance of the data with the normal distribution conditions (Shapiro-Wilk) was carried out. Some data were not normally distributed and therefore the non-parametric Wilcoxon Signed Ranks test was used to compare the data collected with the teacher agency questionnaire at the beginning and at the end of the programme. This method was appropriate for evaluating changes in the agency of kindergarten professionals. A change in the results was considered statistically significant if the p-value of the test was < 0.05. In addition to the p-value, the mean (M) and standard deviation (SD) of the results were calculated.

3.5. Ethical considerations and the role of the researcher

The European Code of Conduct for Research Integrity (ALLEA, 2023) and the Estonian Code of Conduct for Research Integrity (Centre for Ethics, 2017) were followed by the author of this doctoral study to ensure the reliability of the studies, as well as the credibility of the results. An overview of the actions taken and principles followed regarding research ethics is described below.

The study was approved by the university's ethics committee ("Research Ethics Committee of the University of Tartu)" on 6 April 2021. The main

principle underlying the study was related to protection of participants' rights. All the participants were included in the study on a voluntary basis. Therefore, the kindergarten professionals and the parents of the children who participated were asked to sign an information and informed consent form in **Study 2**. Before answering the questionnaires, the consent of the participants was asked in Study 3. In the forms, participants were informed of the purpose and all the procedures of the study and that they were free to withdraw from the study at any time. In addition, study participants and their legal representatives were informed about who they could contact if they had any questions related to the study or its results.

The next important principle that was followed was related to data storage and processing of the data to ensure transparency of the data collection and replication of the data analysis, if it were necessary. In addition, the principles of participants' privacy and data protection were followed. All the data and research material were electronic and stored in the password-protected computer of the author of this doctoral study. Only the author of this doctoral study could access the data, and some data were shared with co-coders using Google Drive. The video recordings were stored in the IRIS Connect (2022) platform, which allows secure storage and analysis of video files in a password-protected environment. The data has been deleted from all other devices that were used to collect data. The data were collected anonymously, and the participants cannot be identified based on the responses. In **Study 3**, the codes were used to refer to concrete participants instead of their names.

The data were used for scientific purposes only, and the results of the data analysis have been published in a manner that prevents identification of the individuals or kindergartens participating in the study. All parties participating in the study (kindergarten professionals, children, parents) have the right and option to familiarise themselves with the study results in a generalised form and, if so desired, to receive relevant explanations about the study results from the author of this doctoral study.

Researcher bias is an important factor in qualitative studies since researchers possess their own values and worldviews through which they interpret the collected data, and thus the research situation is inevitably influenced them (Cohen et al., 2018). As mentioned earlier, I, as the author of the doctoral study, have 17 years of experience working in four kindergartens in various roles: as a regular teacher, music and physical education teacher, and both vice head and head of a kindergarten. Working as a kindergarten teacher has helped me understand that each child's development and learning process can be different. Therefore, teaching must be tailored to meet each child's needs and provide appropriate support for their development. This understanding led me to adopt a more child-centred approach to teaching. I came to realise that inclusive education is the most appropriate approach in early childhood education. At the same time, while working as the head of a kindergarten, I noticed that the participation of children with special needs was not naturally accepted by every teacher or parent. Children with special needs were not always welcomed in mainstream kindergartens. I realised that I cannot change other people's attitudes or rely solely on my own understanding

as the only correct approach. However, I can support the implementation of inclusive education in Estonian early childhood education through evidence-based solutions. I believe that my approach contributed to the reliable collection and interpretation of data.

Since 2011, I have been working at the University of Tartu, which has had the greatest impact on my professional development. I have grown from a kindergarten teacher and head of a kindergarten into a university lecturer. This journey has been challenging at times but also highly educational. I began my doctoral studies at the University of Tartu in 2019. The choice of my research topic was influenced by my previous experience in kindergartens, where I recognised the need for support in implementing inclusive education. My doctoral studies have primarily helped me develop as a researcher and have deepened my expertise in the field of inclusive education. My development has been supported by lecturers and excellent researchers throughout my studies. Additionally, the inclusive education research group – comprising experts from the University of Tartu, Tallinn University and Norwegian universities – has supported me in conducting my research. During my studies, I also spent a few months in Norway to work together with a team of researchers focusing on inclusive education in Norway. This also had a significant impact on my approach towards inclusive education. Thus, both my practical experience and the insights gained during my doctoral studies have shaped me as a researcher. I believe that inclusion refers to all children despite their special educational needs, cultural background, mother tongue or whatever other characteristics. All these children should learn together and teachers play a key role in making this learning process succeed. Of course, every child needs personal attention and adaptation of the learning process or environment to their specific needs, but this should not be a reason to create permanent separate groups of them. My belief that inclusive education is the most appropriate approach was visible through my body language during the focus group interview and can be seen in my previously published articles, for example, in *Õpetajate Leht (Newspaper for Teachers),* made available to participants, and may have influenced them in giving socially appropriate answers. To avoid this, I used a triangulation of methods, but it could also be one of the limitations of this study.

Since reflexivity is a key component of qualitative research (Braun & Clarke, 2022), I engaged in a number of activities to minimise bias. For example, I held discussions with my supervisor, other doctoral students and fellow researchers at different stages of the research and reflected on their feedback. This feedback helped me consider different perspectives and avoid allowing my personal attitudes and opinions to influence the research process and interpretation of results. Furthermore, my supervisor was involved in preparing the interview plan, observation protocol, questionnaire and deductive data analysis framework. Co-coders also participated in the data analysis. All these activities helped me critically examine my prior knowledge and assumptions, minimise bias in data analysis and interpretation and ensure the quality of the research.

4. RESULTS

This section provides an overview of the main findings according to the research questions. First, this section provides results related to the operationalisation of the definition of inclusive education, outlines main features of inclusive education identified in various studies and presents a model for implementing inclusive education in early childhood education. Second, it describes the results for understanding the applicability of the model; more specifically, the findings about the alignment of the model for implementing inclusive education and the practices in a kindergarten. It also presents the improvement of the agency of kindergarten professionals supported during an in-service training programme based on the model. All the findings are presented in more detail in **Articles I–III**.

4.1. Operationalisation of the contemporary concept of inclusive education

A systematic literature (**Study 1**) was conducted to answer the first research question and to find out how to operationalise the definition and main features of inclusive education in the context of a model for implementing inclusive education. More specifically, the answers to two sub-questions were in focus: how can we define inclusive education based on the important aspects specified in the definitions used in the literature? And which main features are related to implementing inclusive education in the context of early childhood education?

4.1.1. Aspects of the definition of inclusive education

Based on the results of the literature review, on a general level, two categories of aspects could be differentiated in the definition of inclusive education: *a philosophical sense* and *a practical sense*.

The philosophical sense refers to the values, beliefs and approaches to inclusion that are expressed in culture, decisions and choices at all levels of the education system. The philosophical sense could be described more specifically through four aspects: access, human rights, sense of belonging and social integration.

Access means education that promotes access to educational opportunities for all children. It requires a general positive attitude in the society towards inclusive education where the inclusion of children with special needs is appreciated and self-evident.

Human rights means that children with special needs are accepted and appreciated in every kindergarten and by every kindergarten teacher. Offering special support is a normal part of the kindergarten curriculum and teachers' daily activities.

Sense of belonging means that all children feel that they are members of the society and the group and the kindergarten community. All children participate in

the joint activities at all times and receive the same amount of attention from the teacher. This means, for example, that teachers acknowledge that they supervise and work with children with special needs while also working with children without special needs. They assume the responsibility to support all children and not delegate the task of supporting children with special needs solely to the support specialist or other members of the team.

Social integration means opportunities to socialise with peers and society in general. The appropriate knowledge and knowing the positive effects of inclusive classrooms could help create positive social interaction. It is very important to prepare teachers, children with typical development needs, children with special needs and families for the idea of inclusive classroom.

The practical sense refers to the activities and practical applications that promote inclusion and could be described through three aspects: the participation, support and development of every child.

Participation means the placement of all children in the mainstream kindergarten or groups and is related to access to education and its regulation at the state level. At the institution level, it means that kindergartens are ready to welcome all children with and without special needs, for example by providing possibilities to move around for a child with visual impairment or in a wheelchair and other special support providing meaningful participation for every child in kindergarten groups.

Support refers to the adaptation of the activities and instruction in ways that encourage access and active participation in the group and offering different types of support to different children. In addition, it requires that all adults involved have access to high-quality professional development.

Development of every child involves enabling every child to reach their full potential. It means that teachers have thought about how to assess and analyse children's development and how to use the results of the analysis in planning the learning and teaching process.

Based on the results, a new definition that takes into account all the aspects found in the literature and described above was provided for inclusive education: "*Inclusive education is an educational approach that takes into account human rights and provides all children with access to high quality education in a learning environment where children feel social integration and belongingness in their wider social network despite their special needs; it is achieved by the meaningful participation of all children and personalised support in the development of each child's full potential*".

In interpreting this definition, we can first point out that inclusive education is a specific educational approach. Secondly, the subjects of inclusive education are children, who perceive themselves in a specific way, whereas enabling each child to realise their full potential is the goal. Thirdly, it refers to the methods – active meaningful participation and personal support – by which the approach, perception and potential are achieved. The results related to this definition are described in more detail in **Article I**.

4.1.2. The main features of inclusive education in early childhood education

The results of **Study I** revealed 43 features of inclusive education in 14 categories. These 14 categories are seen as main features required for the implementation of inclusive education on five levels in the early childhood education system: child, teacher, family, institution and state level. All 14 main features involve secondary features that describe the main features in greater detail.

The main features of the child level are *child attributes, physical, social* and *psychical inclusio*n. *Child attributes* include every child's individual attributes and special needs. There is the need for teachers to be able to notice a child's individual attributes and ascertain potential special needs. *Physical inclusion* means that the learning environment is organised considering children's individual characteristics and needs, interests and developmental level in order to promote access to the learning process and meaningful participation of every child. It involves organisation of the physical environment, space and furnishing, educational materials, environmental modifications, adaptations of space and materials/equipment, and how children interact with the space and materials. It also requires considering the group size and teacher-child ratios. Physical inclusion also means minimising the need to use transport through neighbourhood placements whenever possible. *Social inclusion* means positive relationships, interactions among children and friendship, and a positive attitude toward children with special needs. The main role of social inclusion is the facilitation of building positive peer-to-peer relationships and child-child interactions during free play in the kindergarten. *Psychical inclusion* means that children with special needs are welcomed and appreciated as equal members of the kindergarten group.

The main features of the teacher level include *teacher attributes* and *classroom practices*. *Teacher attributes* involve teachers' personal characteristics and competence. Competence acquired in initial teacher education (qualification, preparation, type of teacher education programme completed, knowledge and skills of inclusive education); competence acquired in continuous professional development (qualification, training in special education); and practical knowledge acquired in teaching practice (expertise and skills in inclusive education and teacher values and attitudes, such as general beliefs, self-efficacy, readiness for inclusion and commitment). *Classroom practices* should provide a high quality of the learning and teaching process. This means quality of inclusive practices in the classroom, particularly in terms of resources, materials and equipment, including technology. Resources include the number of professionals in the classroom. The setting up of learning outcomes and goals according to children's individual needs and capabilities is an important feature here. A positive classroom climate is created through teacher-child interactions in learning activities, adult involvement in peer interactions and relationships between adults and children. Personalised learning activities are an essential aspect of classroom practices. It includes focusing on children's individual abilities and needs and offering a variety of activities on different levels using different methods and interventions.

Assessment and feedback should support successful participation and the progress of children with special needs according to the curriculum and monitoring children's learning. Reflection on the practices used is needed in order to examine and reflect on the methods of teaching.

The main features of the family level include *family involvement* and *family support*. *Family involvement* refers to family-professional partnerships, which means regular communication between home and preschool, working with families while considering the home environment and families' abilities to access information. It is important that both parents of children with special needs and those without special needs are involved in the learning and teaching process. Parents' characteristics and family perceptions of inclusion are also important features that influence family involvement. *Family support* includes parent education and individualised family service plans. It is important to focus on families' individual abilities and needs.

The main features of the institution level include *organisational culture* and *organisational structure*. *Organisational culture* involves sociocultural values and beliefs, the meaning and understanding of inclusion, infrastructural support and supporting kindergarten professionals in their efforts to become competent, confident professionals. It requires good teamwork, joint discussions about inclusion, co-teaching practices, professional learning communities in preschool, external trainings for preschool teams and professional learning communities for supporting the implementation of inclusive education. *Organisational structure* means the reconstruction of the preschool system in order to arrange services, resources and support systems for both children and teachers. Structural characteristics involve leadership, administrative issues, professional decisions and preschool options, as well as dealing with teachers' workloads, extra personnel, salaries and benefits and scheduling appointments for collaboration with families.

The main features of the state level include *policy and legislation, cooperation, resources* and *monitoring*. *Policy and legislation* mean the state/local context, laws, local policy of inclusion and delivery system. It includes the quality of and accessibility to the curriculum and the formulation of 'productive' preschool pedagogies in which issues of social justice and equity are foregrounded. *Cooperation* involves state level interagency support and collaboration between institutions. *Resources* and funding involve policy and economic resources providing fiscal support and resources. It is necessary to think about how the state might support the implementation of inclusive education. *Monitoring* means assessment of the quality of inclusion and evaluations that include the opinions of stakeholders. This allows the state to receive feedback and plan resources, and it serves as an opportunity to systematically analyse indicators related to inclusive education and identify the need for support.

In conclusion, there are a lot of features to consider in implementing inclusive education (see **Article I**). Therefore, an operationalised model that includes both the described categories of aspects of the definition of inclusive education and all the main features of inclusive education on five levels of early childhood

education is needed. The following sub-section presents and describes this model for implementing inclusive education.

4.1.3. The model for implementing inclusive education in early childhood education

Based on the revised definition and categories of main features of inclusive education on five levels, a new model to operationalise inclusive education in early childhood education was created (see Figure 4, **Article I**).

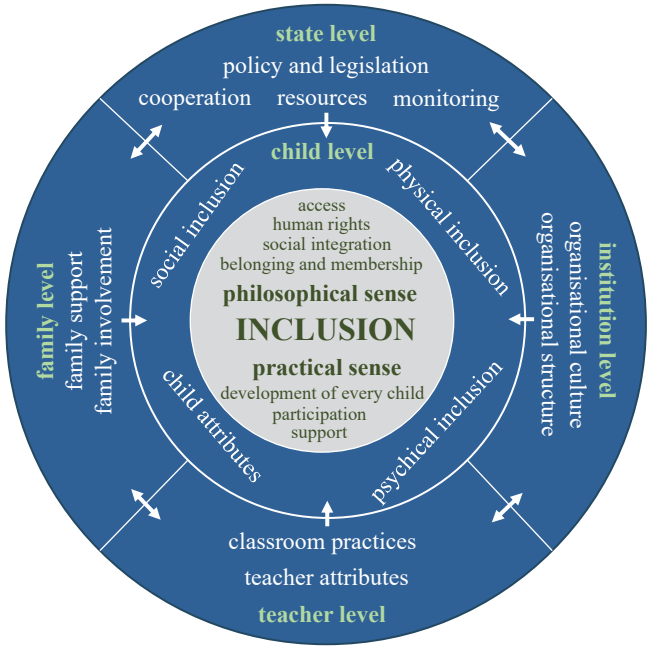

Figure 4. The model for implementing inclusive education in early childhood education (based on **Article I**)

The model consists of three circles. The definition of inclusive education lies at the centre, as a similar understanding of inclusive education needs to be achieved in order to successfully implement inclusive education. The circle where the definition is presented is divided into two different parts showing the two categories of the definition: the philosophical and practical sense, accompanied by their specific aspects. The other two circles represent how the main features of inclusive education in early childhood education are operationalised. At the centre of each level is the subject related to the main features or responsible for providing access and ensuring the quality of the main features on a particular level, thereby influencing the implementation of inclusive education. The arrows refer to relatedness and influence between the different levels of the model. Two-directional arrows show mutual influence between different levels, and

unidirectional arrows show that all levels on the outer circle should consider the child's attributes and ensure the physical, psychical and social inclusion of each child as an outcome of the implementation of inclusive education. This model demonstrates two categories of aspects of the definition of inclusive education and the responsibility of each stakeholder and could therefore support the implementation of inclusive education.

In conclusion, as the model is theoretical and developed based on the literature, it is essential to evaluate the model's applicability by aligning it with the kindergarten practices, using wider feedback collected from kindergarten professionals in empirical studies. In addition, it is valuable to understand how this model is applicable in designing professional development programmes to support the agency of kindergarten professionals in implementing inclusive education. Therefore, the following section presents the results of these empirical studies.

4.2. Alignment of the model and kindergarten practices

Two empirical studies (**Study 2** and **Study 3**) were conducted to answer the second and third research question and find out how the model for implementing inclusive education is in accordance with the kindergarten practices and is applicable for triggering and capturing changes in the agency of kindergarten professionals in implementing inclusive education. First, Study 2 focused on RQ 2, on finding to what extent the model for implementing inclusive education is in accordance with the kindergarten practices. Second, Study 3 focused on RQ 3, on finding out how an in-service training programme based on the model for implementing inclusive education supports participants' agency for implementing inclusive education. In the following sub-sections, the results related to these research questions are presented. The results of **Study 2** are presented in **Article II** and the results of **Study 3** in **Article III**.

4.2.1. Kindergarten practices of inclusive education based on the theoretical model of inclusive education

The results of a single case study (**Study 2**) are presented based on data gathered from the questionnaire, focus group interview, observation and document analysis. The results show that all the main features on the five levels of the theoretical model – child, teacher, family, institution and state (see Figure 4) – are also evident in the case study. Each level comprises main features and secondary features that describe the main features in greater detail (see **Article II** and Appendix 3). Below, the results of each level of the model are described.

On the child level, all the main features presented in the theoretical model, *child's attributes, physical, social* and *psychical inclusion*, occurred in the case study. All the secondary features occurred as well, but they differed depending on the method used. Hence, different methods allowed us to see different secondary features, or some methods did not reveal any secondary features at all. While the

questionnaire and the focus group interview brought out all main and secondary features, the observation and document analysis only partially revealed the main feature of *physical inclusion* on the child level. This means that although all main features and secondary features were considered important, they were not always evident in practice. For example, the results of observation showed that children with special needs were often given extra attention and opportunities that support the teaching of all children together were not always implemented. The questionnaire and focus group interview revealed that the secondary feature *the number of children and teacher-child ratios* under the main feature *physical inclusion* were important in implementing inclusive education because having a smaller number of children in the group supports the meaningful participation of every child, especially with special needs children. However, observation and documents analysis did not reveal this secondary feature, which means it is still not implemented in practice.

On the teacher level, both the main features, *teacher attributes* and *classroom practice*, presented in the theoretical model appeared in the case study. All secondary features appeared as well, but different methods allowed to find different secondary features, on different generalization levels. Results revealed also one new secondary feature, *professional development*, that was added under the main feature *teacher attributes*. As it is an essential prerequisite for the quality of inclusive education and was viewed as important by the participants, it was added to the model as a separate secondary feature. *Teacher competence* related to the main feature *teacher attributes* is crucial in implementing inclusive education. Participants pointed out that teamwork and cooperation skills as well as specific knowledge and skills related to special needs are important for coping in an inclusive learning environment. The results revealed all the secondary features related to main feature *classroom practices*. Some secondary features like *setting of learning outcomes and goals, early identification of children with special needs, assessment of children's development and reflection on teaching*, were not visible during the observation process but were evident in the questionnaire, focus group interview and in the documents.

On the family level, both of the main features presented in the theoretical model, *family involvement* and *family support*, were evident in the case study. Unlike other methods, observation was the one that did not allow us to see the main features of the family level. As for the secondary features, all of these were present, but different methods revealed different aspects of the secondary features or showed the secondary features to differing degrees of comprehensiveness. Regarding *family involvement* several activities brought out. Sometimes, cooperation was hampered by the fact that the parent would not see or recognise the problem. Although presented in the theoretical model, the secondary feature *family's perception of inclusive education* did not appear clearly in results. Kindergarten professionals found out about the parents' expectations for the kindergarten in general, but they did not ask about and discuss their perception of inclusive education. Regarding *family support*, the kindergarten offered speech therapist services and, if necessary, an individual development plan for the child.

They applied different possibilities for parent education. Counselling in the learning process took place through meetings with parents, daily conversations and development discussions about the child. In order to raise parents' awareness, workshops, training courses, round tables and events, among others, were organised in cooperation with the local government.

On the institution level, both of the main features presented in the theoretical model – *organisational culture and organisational structure* – were manifested in the case study. As opposed to other methods, observation allowed us to only partially see the main feature of the institution level. With respect to the secondary features, one secondary feature related to organisational culture – *the meaning of inclusion* – was not evident in this case study, which means there are no discussions about the meaning of inclusive education in the kindergarten. In addition, contrary to the theoretical model, where staff-related activities were presented in a generalised way, the case study indicated that more detailed secondary features related to staff should be presented based on the results. Therefore, some secondary features regarding the main feature *organisational structure* are presented separately now: *structure of employees (positions, number of employees, additional workforce), work organisation (work schedules, workload, work tasks)* and *benefits (benefits, bonuses, rest time and holidays)*.

On the state level, the theoretical model involved four main features: *policy and legislation; cooperation; resources;* and *monitoring*. Observation did not reveal any main features of the state level, whereas document analysis revealed two main features: *policy and legislation*, which was partially visible, as the secondary feature *state/local context* was implicit in the documents; and *cooperation,* which was visible. Based on the questionnaire and focus group interview, all the main features of the state level were crucial for implementing inclusive education. Regarding main features of the state level there were challenges that do not support the implementation of inclusive education in the kindergarten. It appeared that regarding the main feature *policy and legislation*, the principles of inclusive education were not sufficiently clear and unambiguously documented in the law or were too rigid to implement inclusion. *Cooperation* between all stakeholders was seen as important but was perceived as not efficient enough. *Resources* were essential in implementing inclusive education, but there were lack of resources. The results indicated that if opportunities are created in the form of resources, it will be much easier for kindergartens to implement inclusive education. *Monitoring* was also revealed as an important main feature, but it was found that monitoring at the national level is not sufficient to draw conclusions to support the implementation of inclusive education at the national level, for example for resource planning or changes of a law.

In conclusion, the results of the case study indicated that all the main features presented in the model were valued by the kindergarten professionals and revealed in their practices. These results are described in more detail in **Article II**. Still, there were challenges related to the secondary features describing these main features. Although all secondary features were important based on the questionnaire and focus group interview, some of them weren't visible in the practices.

4.2.2. Supporting the agency of kindergarten professionals in inclusion through in-service training

In **Study 3**, the change in agency was studied in three general dimensions and eight specific aspects of agency and at five levels of inclusion. First, the comparison of teacher agency in implementing inclusive education was done separately in three general dimensions (iterational, projective and practical-evaluative). The Wilcoxon Signed Ranks tests showed statistically significant changes in the iterational and projective dimensions (see Table 3).

Table 2. Changes in participants' (n = 24) agency in implementing inclusive education in three general dimensions of agency (see **Article III**)

Scale (number of items)	Pre-Q mean (SD)	Post-Q mean (SD)	z	p*	α**
Iterational (27)	5.4 (0.9)	6.0 (0.8)	–3.279	0.001	.963
Projective (18)	4.9 (1.2)	5.6 (1.2)	–2.524	0.012	.976
Practical-evaluative (29)	5.1 (1.2)	5.3 (0.9)	–0.871	0.391	.969

*Statistical significance of the differences between the Pre-Q and Post-Q ($p < 0.05$); **Cronbach Alpha indicating internal consistency of the scale. Pre-Q = Pre-questionnaire; Post-Q = Post-questionnaire; SD = Standard deviation

The comparison of the eight more specific aspects of agency also showed statistically significant changes in several aspects, specifically in four out of eight aspects in two dimensions of agency. Two aspects were related to the iterational dimension (personal knowledge and personal beliefs) and two to the projective dimension (long-term and short-terms goals related to participants). The results indicate that the programme had a positive effect on participants' personal knowledge and beliefs and both long-term and short-term goals for implementing inclusive education. These results are presented in more detail in **Article III**.

The agency of kindergarten professionals was also compared throughout the five levels of inclusion, with statistically significant changes being found in all of them (see Table 4).

Table 3. Changes in participants' (n = 24) agency at the five levels of the model for implementing inclusive education (see **Article III**)

Scale (number of items)	Pre-Q mean (SD)	Post-Q mean (SD)	z	p	α*
Child level (11)	5.3 (1.0)	5.9 (0.9)	–3.186	0.002	.939
Teacher level (12)	5.4 (0.9)	5.8 (0.8)	–2.549	0.011	.895
Family level (10)	5.3 (0.9)	5.7 (0.8)	–2.448	0.015	.861
Institution level (25)	5.4 (1.0)	5.8 (0.8)	–2.071	0.040	.948
State level (16)	4.5 (1.0)	5.1 (0.9)	–2.414	0.016	.919

*Differences between the Pre-Q and Post-Q are significant ($p < 0.05$); **Cronbach Alpha indicating internal consistency of the scale. Pre-Q = Pre-questionnaire; Post-Q = Post-questionnaire; SD = Standard deviation

As the results related to the changes in the agency of kindergarten professionals at all five levels of inclusion were promising, more specific results at each level were analysed. The comparison of agency in implementing inclusive education was carried out separately in the iterational, projective and practical-evaluative dimensions at each of the five levels of the model. *In the iterational* dimension, the results revealed a statistically significant change in agency at all five levels of inclusion. More specifically, the statistically significant difference was not related to personal values ($p > .05$) but to personal knowledge and beliefs ($p < .05$). Hence, the results showed that the training programme had a positive impact on the participants' knowledge of inclusion, but after completing the programme, the participants were not convinced and did not feel confident in implementing inclusive education. *In the projective dimension*, a statistically significant change in agency was also found at all five levels of inclusion. On the teacher level there was no statistically significant improvement in teachers' short-term and long-term goals related to developing their competence. Still, the results showed improvement in participants' long-term goals for teaching children with different abilities together. It could mean that participants have a longer perspective for inclusion, but they do not yet have goals for developing their own competence. *In the practical-evaluative dimension*, no statistically significant changes in agency were found at the five levels of inclusion. The practical-evaluative dimension is related to environmental conditions: cultural, material and structural conditions. The training programme implemented did not have many possibilities to affect material conditions in the kindergartens, and changes in cultural and structural conditions do not only depend on the participants of the course but also involve other colleagues, and so this change might be more challenging.

In conclusion, the results revealed that there were indeed changes in the agency of kindergarten professionals according to their own opinion during the long-term in-service programme. As the programme was based on the model for implementing inclusive education, it could be concluded that the main features are relevant for implementing inclusive education in early childhood education.

5. DISCUSSION

This doctoral study was motivated by the need to support kindergartens in implementing inclusive education, as implementing the principles of inclusive education is one of the goals in contemporary Estonian early childhood education. Therefore, the overall aim of this doctoral study was to develop a model for implementing inclusive education in early childhood education. The quality of the model was evaluated through its applicability. The applicability of the model could be seen under two circumstances: 1) whether the structure of the model is in accordance with the practices under consideration (what does and does not support inclusion in kindergarten practices); 2) whether the in-service training based on the model has a positive effect on the agency of kindergarten professionals in inclusive education. The results of three studies revealed that contemporary inclusive education could be operationalised through 14 main features which are in accordance with kindergarten practices. This section discusses the key findings, considering the results of the theoretical and empirical studies.

5.1. The theoretical model for implementing inclusive education in early childhood education

The theoretical model for implementing inclusive education was developed during this doctoral study. More specifically, the first step was to define inclusive education based on the important aspects specified in the definitions used in the literature. The second step was to identify the main features related to implementing inclusive education in the context of early childhood education. Based on these results, a well-structured model was designed for applying inclusive education at the early childhood level.

The theoretical study revealed that inclusive education can be defined through two categories of aspects: those considered in a *philosophical sense* and in a *practical sense*. Lundquist and colleagues (2015) have previously used a similar distribution. These results are in accordance with other studies in the field of inclusive education in early childhood education. Inclusive education is a broad concept that can be related to both philosophical and practical aspects, and it refers to human rights, social togetherness, an appreciation of diversity as well as to the participation of children with and without special needs in the same educational activities, routines and play and to their provision of support (Lundquist et al., 2015; Soukakou, 2012). Another aspect discussed in the literature related to the meaning of inclusive education is its narrow and broad definitions. The results of this study are in accordance with the broad definition of inclusive education as the aspects of the definition allow inclusion of all groups of children who are at the risk of exclusion. Still, there is the question of how these aspects are explained and discussed in the society and stipulated in the Estonian legislation related to early childhood education. It seems that the new Early Childhood

Education Act (2025) focuses more on the narrow definition of inclusive education. According to this new legislation, a child is considered to be a special educational needs child if they have been advised to implement enhanced or special support by the out-of-kindergarten multidisciplinary counselling team. At the same time, some authors (Slee, 2005) argue that legislation and the language we use to talk about inclusive education could lead to exclusion rather than inclusion. Therefore, as Ballard (2013) suggests, to reduce exclusion and create more inclusive ways of living, we need to think differently and consider alternative ideas that would support the development of fairer and more democratic practices. This is related to both the philosophical sense and practical sense of the definition of inclusion, as the results of the **Study I** of this doctoral study revealed. Consequently, the results of this doctoral study also indicate that the contemporary concept of inclusive education refers to a socio-cultural approach and focuses on the interaction and participatory processes that occur between and among people in social and physical contexts where a person's thinking and actions are mediated by the cultural symbol systems and artefacts that surround them or to which they have access, as is described by Arcidiacono and Baucal (2020).

Our literature review revealed 43 features that were grouped under 14 main features related to the implementation of inclusive education in the context of early childhood education. These results refer to the need to give different stakeholders in society a better understanding of how the features could be operationalised and how inclusive education could be implemented in different ways across multiple early childhood contexts while maintaining the quality of its main features, as Love and Horn (2021) suggest. The operationalisation of the main features of inclusive education between different levels of the education system distinguishes this approach from earlier models for describing the features of inclusive education. The bioecological model (Bronfenbrenner & Morris, 1998) and the adapted ecological model of inclusive early childhood education (Bartolo et al., 2019) are similar in describing the environments around the child. The two-dimensional model introduced by Odom et al. (1999) focuses on the context of classroom settings and activities to support individual needs. Several authors describe the quality of inclusive education by differentiating the features of inclusive education into structural features (e.g. teacher education, specialised training, professional development, class size, teacher-child ratios, funding) and process features (e.g. emotional support, social interaction, classroom organisation, instructional support) (see European Agency for…, 2017; Fyssa et al., 2014; Pelatti et al., 2016). However, we are unaware of any model that integrates all these aspects into a well-structured model. The operationalisation of main features of different levels of the education system in early childhood education, as done in this doctoral study, is in accordance with the expectation is that all levels of the educational system – from national policy to teachers' teaching and children's experiences and learning support – promote the intentions and practices of inclusive education, as Haug (2017) also suggests. In such a case, the different levels would support each other and improve the chances of a successful

implementation of inclusive education. Therefore, the model for implementing inclusive education in early childhood education was provided through five levels of the education system based on the results of this doctoral study (see Figure 4).

The definition of inclusive education is the core of the model because reaching a shared understanding of inclusion supports the implementation of the principles of inclusive education (Florian et al, 2017; Sukumaran et al., 2015). Both categories of aspects – philosophical sense and practical sense – of the definition should be understood and interpreted in the same way by all related stakeholders. It is highly recommended that a similar understanding of inclusive education be reached; this supports the implementation of inclusive education (Florian et al., 2017; Sukumaran et al., 2015). Thus, an effective and high-quality implementation starts from an approach and mindset towards inclusive education, requiring discussion, cooperation and inclusion within and between different levels of the model. The main features of inclusive education in early childhood education are operationalised so that at the centre of each level is the subject related to the main features or responsible for providing access and ensuring the quality of the main features on a particular level, thereby influencing the implementation of inclusive education. Haug (2017) also suggests that the implementation of inclusive education is successful only if stakeholders at all levels of the education system support it. In conclusion, this model demonstrates the responsibility of each stakeholder and could therefore support the implementation of inclusive education. As the model is theoretical and developed based on the literature, the next section focuses on discussion about the applicability of this model using results collected from kindergarten professionals in empirical studies.

5.2. Applicability of the model for implementing inclusive education

Alignment of the theoretical model and kindergarten practices is needed for applying the model. Therefore, we explored how does the model perform with regards to implementing inclusive education in accordance with the kindergarten practices. Moreover, we focused on the applicability of the model by exploring to what extent an in-service training programme based on the model for implementing inclusive education supports participants' agency in implementing inclusive education.

5.2.1. Alignment of the model with the kindergarten practices

The results of our case study revealed that all 14 main features of the theoretical model at the five levels are relevant because the features of the model are expressed in the kindergarten practices. The main features expressed in the kindergarten practices are in accordance with the theoretical study of this doctoral study and the findings of other researchers (Ainscow, 2020; Haug, 2017), which demon-

strate that the implementation of inclusive education is successful only if stakeholders at all levels of the education system support it. In general, three important aspects can be highlighted. First, although all the main features were expressed, some of them occurred partially, meaning that some of the secondary features describing the main features did not occur. Second, the results of the case study revealed the need for some improvements in the secondary features describing the main features of the model. One new secondary feature was added to describe the main feature *teacher attribute* in the model, and one secondary feature was presented in a more detailed manner. Third, the case study revealed challenges related to the main features required for the implementation of inclusive education in early childhood education.

The main features at the family, institution and state levels occurred partially. At the family level, the study did not allow us to see the secondary feature *perception of inclusive education*. At the institution and state levels, the secondary feature *meaning of inclusion* did not appear. This suggests that the philosophical sense of inclusive education has not received meaningful consideration and has remained unclear. The main focus is on the practical nature of inclusive education, whereas the definition of inclusive education contains both categories of aspects – in the philosophical and the practical sense. The results of the case study also indicate that the concept of inclusive education is mostly referred to in its narrow meaning. Mostly, the focus is on children with special needs when implementing inclusive education; children with, for example, different linguistic or cultural backgrounds tend to remain somewhat unnoticed. Still, it is important to build a shared understanding of inclusion for supporting the implementation of the principles of inclusive education (Florian et al., 2017; Sukumaran et al., 2015). Moreover, Kivirand and others (2022) found that the development activities planned in the institution for implementing inclusion depended to a large degree on how the institution had understood the concept of inclusive education and then also focused on how to increase the capacity of the whole institution to put inclusive education into practice. These results indicated school level activities but are also relevant in early childhood education as universal activities in the functioning of an institution. In addition, these activities are essential assumptions in implementing inclusive education, as is also shown in this doctoral study. Thus, to raise the awareness of parents, kindergarten professionals and the public, the nature of inclusive education and its positive effects should be discussed much more in society.

Some new secondary features were added to the model based on the results of the case study. On the teacher level, the secondary feature *teacher's professional development* was added under the main feature *teacher attribute*. Teachers' continuous professional development was shown to be an essential prerequisite for the implementation of inclusive education and its quality. More specifically, the study revealed a lack of teachers' specific skills in supporting children with special needs and kindergarten professionals' low awareness of inclusive education. These results are in accordance with international studies (Chadwell et al., 2020; Florian & Gamedda, 2020) and studies conducted in Estonia at the school

level as well as at the early childhood education level (Häidkind & Oras; 2016; Kivirand, 2020; Silm et al., 2024). Teachers' insufficient preparation has been seen as a barrier to implementing inclusive education (Chadwell et al., 2020; Sharma et al., 2019). The provision of continuous professional development is associated with changes in practices, increased performance of learners and institutional improvement (Youmans & Godden, 2022), and therefore the secondary feature related to teacher's professional development was added to the model created during this doctoral study. On the institution level, the secondary feature presented in the theoretical model as *personnel-related activities* was specified. The case study revealed that more detailed secondary features could be presented separately here: *structure of employees* (positions, number of employees, additional workforce), *work organisation* (work schedules, workload, work tasks) and *benefits* (benefits, bonuses, rest time and holidays). These secondary features derived from the local context and participants perceived them as problems regarding the implementation of inclusive education. Kindergarten professionals and professionals-related resources are very important indicators for implementing inclusive education (Locke et al., 2020; Sharma et al., 2019). To provide an inclusive environment, adequate resources and facilities are essential (Purcell et al., 2007). Both adequate human resources and financial resources should be provided, but it seems to be one of the main challenges in implementing inclusive education around the world and also in Estonia (Schuelka, 2018; Silm et al., 2024). Thus, presenting these secondary features in the model could help overcome the challenge related to resources.

Although the main features on the state level are relevant based on the results of the case study, some challenges were still highlighted on the state level of implementing inclusive education, as do several other studies (Grisham-Brown et al., 2010; Haug, 2020; Magnússon et al., 2019; Shuelka, 2018). The main concern in the context of **Study 2** was related to policy and the general understanding of inclusion, as Haug (2020) and Magnússon and others (2019) also indicate in their studies. Regarding the local policy and laws of inclusion, the case study showed that the principles of inclusive education were not sufficiently clear and unambiguously documented, or they were too rigid to implement inclusion. The new Early Childhood Education Act (2025) was recently approved, which stipulates that a kindergarten has to apply the principles of inclusive education in its activities, which means that the child participates in the learning and educational activities for most of their time with all the children and under the guidance of their teacher. Still, it seems to be too general an explanation, and more specific discussions are needed about what it exactly means for every kindergarten, as the results of this doctoral study show. Kindergarten professionals should translate the goals of policies into practice and play a key role in implementing inclusive education (Van Mieghem et al., 2020), and therefore a shared understanding by kindergarten professionals of inclusive education is essential. The new Estonian Early Childhood Act (2025) also specifies the definition of a child with special educational needs, but this focuses on a narrow definition of inclusive education and may encourage exclusion. In addition, the law leaves several implementation

options for kindergartens to apply the principles of inclusive education. The model for implementing inclusive education created in this doctoral study could support kindergartens in their application of these principles as it offers a well-structured overview of the main features required for implementing inclusive education.

A lack of support specialists such as special education teachers and speech therapists and insufficient resources were evident in our study as well. Sharma and his colleagues (2019) indicate the lack of resources as a barrier to the implementation of inclusive education. In Estonian, financial support by the state should increase because it is directly related to hiring additional staff personnel like speech therapists and teacher assistants that would allow for a more needs-based support for children and provide a classroom environment that supports learning for every child regardless of their needs in both kindergartens and schools (Kivirand, 2023; Silm et al., 2024). Unlike international studies, however, this doctoral study and some studies conducted recently in Estonia (Kivirand, 2923; Silm et al., 2024) detected ineffective cooperation in the support system outside the schools and kindergartens; and state-level monitoring and evaluation was also a challenge. Challenges related to cooperation in the support system outside the kindergarten due the lack of quality and accessibility of the support services. Monitoring and evaluation by the state could give an evidence-based input for improving cooperation in the support system outside the education institution as well as the planning for resources, improvements of the legislation and policy and other decisions related to education on the state level.

In conclusion, the main features of theoretical model are in accordance with kindergarten practices and indicate the applicability of the model. In addition, several challenges related to implementing inclusive education were revealed at the state level. Presenting the main features of the state level in the model could help overcome these challenges.

5.2.2. Applicability of the model based on the improvement of the agency of kindergarten professionals during an in-service training programme

The results of **Study 3** explain how an in-service training programme based on the model for implementing inclusive education supported participants' agency in implementing inclusive education. The results revealed that there were indeed changes in the agency of kindergarten professionals during the long-term in-service training programme. More specifically, the changes occurred in two dimensions out of three: the iterational and projective dimensions according to the agency model (Leijen et al., 2020). These results are similar to a previous study conducted by Leijen et al. (2022), but some differences were revealed in the current study. More specifically, in this study, a positive effect was found not only in the projective dimension, as was found in the previous study, but also in the iterational dimension. This could be explained by the differences in the

duration of the intervention and engagement of the participants. The duration of the current in-service training programme was longer than it was in the previous training used by Leijen and others (2022). The training programme related to this doctoral study lasted 13 months at one university and 17 months at another university. To increase the engagement of participants, the tasks related to the handled topics were given to apply these in the period between different learning sessions. It seems that teachers and other participants need more time to acquire professional knowledge, beliefs and values, which characterise the iterational dimension of agency. There were no statistically significant effects in either study on the practical-evaluative dimension of agency, which is operationalised through environmental conditions – cultural, material and structural conditions – that either enable or hinder agency. The inclusive education programme implemented in **Study 3** did not have many possibilities to affect material conditions in the kindergartens, but the topics covered, group discussions, reflections, inquiry, and different course assignments were likely to support building more inclusive cultural conditions and enabled discussions for revising the existing structural conditions and rules applied in the kindergartens.

One more important aspect according to the aim of this doctoral study was that **Study 3** should shed some light on agency formation in the context of the five levels of inclusion that are presented in the model for implementing inclusive education (**Article I**). The results revealed changes in the iterational and projective dimension of agency at all five levels: child, teacher, family, institution and state level. For teachers, we may hypothesise that they mainly have agency at the level of children and themselves, and to some degree at the family level as well through the active engagement with parents – in Estonia, kindergarten teachers usually discuss different matters with parents weekly, and parents are involved in different events organised by the kindergarten (Nelis et al., 2023). However, this study also revealed a positive change in agency at the institution and state level. At the institution level, this might be explained by the composition of the kindergarten teams that participated in the programme; it seems that it is very important to involve heads of kindergartens, who have authority to implement changes at the institution level. Several authors also suggest that heads of schools and kindergartens play an important role in promoting inclusion in education (Ainscow, 2020; Haug, 2020; Shuelka et al., 2018). Furthermore, it could also be explained by the activities used during the training programme, for example collective interpretation discussions with equitable instruction (Horn et al., 2016) and workgroups where participants focus on investigating and reasoning about issues of pedagogical practice and student learning (Boonstra et al., 2022) that support kindergarten professionals' professional development. Tammemäe et al. (2023) also reached a similar result in their study, where they found that by supporting each other and discussing important topics, they became even more effective as a team and gained a deeper learning experience. Moreover, joint discussions between kindergarten professionals held during the programme support reaching a shared understanding of inclusion for supporting the implementation of the principles of inclusive education (Florian et al., 2017; Sukumaran

et al., 2015). The change in agency at the state level was a very positive finding, which might be explained by the participants' improved understanding of the state level support for implementing inclusive education. These topics were discussed in different courses of the programme. Thus, it might be that the programme did not affect the agency of the kindergarten professionals at the state level but increased their knowledge of state level features as the results showed an increase in agency related to knowledge in the iterational dimension. Molla and Nolan (2020) have also suggested that knowledge and expertise build confidence, an essential element for improving agency. The changes in agency at the state level refer to the fact that the main features of the state level presented in the model are relevant and important for kindergartens in implementing inclusive education.

In designing the long-term in-service programme for kindergarten teams to support the formation of the participants' agency, three main principles were followed: supporting team collaboration; developing professional discourses to reflect on and develop team members' practices; and developing team members' inquiry competences. Previous research has also demonstrated that collective interpretation discussions with equitable instruction (Horn et al., 2016) and workgroups where participants focus on investigating and reasoning about issues of pedagogical practice and student learning (Boonstra et al., 2022) supported teachers' professional development. The findings indicate that these principles are essential to support the formation of the agency of the kindergarten professionals and therefore the implementation of inclusive education.

In conclusion, the in-service training designed based on the model supported the improvement of the agency of kindergarten professionals in implementing inclusive education, according to their own opinion. Thus, the results refer to the applicability of the model for implementing inclusive education in early childhood education.

6. CONCLUSIONS AND IMPLICATIONS

This doctoral study provides a model for implementing inclusive education in early childhood education. Furthermore, the model provides a definition of inclusive education and the main features required for implementing inclusive education in early childhood education. The core of the model is a definition of inclusive education that includes all the aspects encountered in the literature, and a revised definition was later formulated based on aspects that emerged in this doctoral study. In the model, contemporary inclusive education is operationalised in five levels related to early childhood education: the child, teacher, family, institution and state levels. Each level of the model highlights the subject who is related to the main features or who is responsible for providing access and ensuring the quality of main features on a particular level and thereby influences the implementation of inclusive education. The model refers to responsibility on different levels and should help the application of inclusive education in early childhood education. Although this model has been operationalised in Estonia, it could also be useful in other countries with a similar context. The findings are also valuable for designing curricula for improving early childhood teachers' skills in inclusive education; the curriculum should especially consider the teacher level features. More specifically, this doctoral study revealed the positive impact of an in-service training programme that was based on the main features of the model on the agency of kindergarten professionals in implementing inclusive education. Furthermore, this model could promote the evaluation of teachers' professional development and implementation of inclusive education in general.

This doctoral study highlighted the challenges on the state level of educational legislation and policy related to the implementation of inclusive education. First, a similar understanding of the meaning of inclusive education in early childhood education is essential. Second, financial support and human support, and evidence-based input for decisions in national educational policy are essential for implementing inclusive education.

The findings of this doctoral study have several implications for educational policy and research as well as practical implications for kindergartens and teachers' initial and in-service training programmes.

The implications for academic research

- The findings from this doctoral study have implications with regard to the implementation of inclusive education in early childhood education. Based on this research, inclusive education, as it has been operationalised in early childhood education, does not always lead to inclusion. The model for implementing inclusive education could support examining the effectiveness of implementing inclusive education.
- A widespread and universal definition of inclusive education provides a framework for research in the field of inclusive education.

The implications for early childhood education policy

- Although the main idea of inclusive education is to increase inclusion and reduce exclusion, this may not always be the case, according to this doctoral study. The central phenomenon in implementing inclusive education should be a common understanding of the concept of inclusive education in the society. This doctoral study revealed that the concept of inclusive education is mostly referred to in its narrow meaning, with the focus being mostly on children with special needs when implementing inclusive education. Children with, for example, different linguistic or cultural backgrounds tend to remain somewhat unnoticed. Therefore, discussions about the concept of inclusive education in the society are essential in order to achieve a common understanding about inclusive education in early childhood education in Estonia.
- This research has shown that policy and legislation do not currently support inclusion as the relevant regulations are not clear and straightforward enough or are too rigid. There is a need for additional materials for kindergartens that could provide support to establish a clear understanding of inclusion and comprehensible instructions on how to implement it.
- The doctoral study brought out the importance of sufficient resources, including financial and human resources to facilitate the effective implementation of inclusive education. A lack of support specialists such as special education teachers and speech therapists in the society and insufficient resources were evident in this research. It is difficult to increase financial support by the state. Therefore, the state could think about what kind of work organisation best supports implementing inclusive education in kindergartens. This doctoral study brought out the responsibility and important role of heads of kindergartens in implementing inclusive education. Perhaps the state should pay more attention to the competence of heads of kindergartens and the assessment of quality of management on the state level.
- To provide a meaningful implementation of inclusive education according to the educational policy in order to increase inclusion and reduce exclusion, state-level monitoring and evaluation is important. Monitoring and evaluation by the state could provide the evidence-based input for educational short-term and long-term goals and decisions related to national educational policy.

The implications for kindergartens

- To achieve a meaningful implementation of inclusive education in every kindergarten, a shared understanding of inclusive education is essential. The concept of inclusive education and the way this concept is interpreted by kindergarten professionals are essential in implementing inclusive education in kindergartens. Thus, raising awareness of the nature of inclusive education and its positive effects should be discussed in kindergartens with children, kindergarten professionals and parents much more.

- This doctoral study refers to responsibility on the institution and teacher levels in the implementation of inclusive education. The implementation of inclusive education is successful only if all professionals in the kindergarten support it. As the idea of inclusive education has been highlighted in educational policies and should be the goal of early childhood education, practitioners' readiness for implementing inclusive education is essential. They should translate the goals of policies into practice and therefore play a key role in implementing inclusive education. Therefore, the kindergarten professionals should meaningfully interpret the main features presented in the model, considering the specific conditions of the kindergarten.
- Professional development of the kindergarten professionals is essential. They should be provided with training to increase their competence in implementing inclusive education. This doctoral study showed the positive impact of a long-term team-based in-service training programme on the agency of kindergarten professionals in implementing inclusive education. It shows a need for team-based training that supports building a more inclusive culture and enables discussions for revising existing conditions in the kindergartens. The composition of kindergarten teams of not only teachers but also support specialists and members of management enables the collaboration needed to form a shared understanding of inclusive education practices. Therefore, kindergartens should focus on team-based trainings rather than individual teachers' professional development to support implementation of inclusive education.
- The model provided in this study could promote evaluation of the needs of teachers' professional development. The main features and features of the teacher level provide input for creating evaluation indicators of an inclusive teacher and assessment using these indicators could be the input for the professional development of teachers.

The implications for teachers' initial and in-service training programmes

- The findings of this study are valuable for designing curricula for improving early childhood teachers' skills in applying inclusive education. The curriculum should consider the teacher level features, especially classroom practices, as well as other features that influence teachers' skills in applying inclusive education. Moreover, the results of this study are valuable for designing educational programmes to support the agency of kindergarten teachers in their preparation during initial teacher training and in-service training. More specifically, based on the findings of this research we can recommend three key principles – supporting team collaboration, developing professional discourses to reflect on and develop team members' practices, and developing team members' inquiry competences – for designing other courses aimed at improving agency.

7. LIMITATIONS AND FUTURE RESEARCH

Some limitations should be considered when interpreting the findings of this doctoral study. First, a purposeful sampling strategy was used in the empirical studies: the selected kindergartens were ready to apply the principles of inclusive education in the kindergarten; they volunteered to participate in the training course on inclusive education for kindergarten teams (the team had to include 1–2 representatives from management, 1–2 support specialists, and up to five teachers); and they were willing to improve their agency in implementing inclusive education. These criteria might have influenced the results as the participants might have been more motivated to improve inclusion in their kindergartens than their colleagues in other kindergartens. Thus, the results might be different in the case of a random sample. In order to generalise applicability of the proposed model for implementing inclusive education, further studies should be conducted with a larger sample and any selection criteria that imply participants' motivation for implementing inclusive education should be excluded.

Second, improvement in agency was evaluated using respondents' own opinions, but these may not match the actual situation or the opinions of observers. Therefore, further studies could use a triangulation of methods to increase the validity of the conclusions.

Third, in this study we assessed the applicability of the model based on one kindergarten's practices and using one intervention (in-service training), and so generalisations are not relevant. Therefore, the model could be used for analysing multiple cases. In addition, the model could be used to prepare and analyse different interventions in further studies.

Finally, this model was developed in early childhood education and could provide a basis for studies to support implementing inclusive education at the school and vocational education levels.

REFERENCES

Ainscow, M. (2020). Promoting Inclusion and Equity in Education: Lessons from International Experiences. *Nordic Journal of Studies in Educational Policy*, *6*(1), 7–16. https://doi.org/10.1080/20020317.2020.1729587

Ainscow, M., Booth, T., & Dyson, A. (2006). *Improving Schools, Developing Inclusion* (1st ed.). Routledge. https://doi.org/10.4324/9780203967157

Alexander, P. A. (2020). Methodological Guidance Paper: The Art and Science of Quality Systematic Reviews. *Review of Educational Research*, *90*(1), 6–23.

ALLEA. (2017). *The European Code of Conduct for Research Integrity* (Revised ed.). https://allea.org/wp-content/uploads/2023/06/European-Code-of-Conduct-Revised-Edition-2023.pdf

Alusharidusseadus [Early Childhood Education Act] (2025). *Riigi Teataja I*, 09.01.2025, 1. https://www.riigiteataja.ee/akt/109012025001

Amor, A. M., Verdugo, M. A., Calvo, M. I., Navas, P., & Aguayo, V. (2018). Psychoeducational Assessment of Students with Intellectual Disability: Professional-Action Framework Analysis. *Psicothema 30*(1) 39–46. https://doi.org/10.7334/psicothema2017.175

Andrews, D., Walton, E., & Osman, R. (2021). Constraints to the Implementation of Inclusive Teaching: A Cultural Historical Activity Theory Approach. *International Journal of Inclusive Education, 25*(13), 1508–1523. https://doi.org/10.1080/13603116.2019.1620880

Arcidiacono, F., & Baucal, A. (2020). Towards Teacher Professionalization for Inclusive Education: Reflections from the Perspective of a Socio-cultural Approach. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education], 8*(1), 5–25. https://doi.org/10.12697/eha.2020.8.1.02a

Ballard, K. (2013). Thinking in Another Way: Ideas for Sustainable Inclusion. *International Journal of Inclusive Education, 17*(8), 762–775. https://doi.org/10.1080/13603116.2011.602527

Bandura, A. (2018). Toward a Psychology of Human Agency: Pathways and Reflections. *Perspectives on Psychological Science, 13*(2), 130–136. https://doi.org/10.1177/1745691617699280

Barned N. E., Flanagan Knapp, N., Neuhart-Pritchett, S. (2011). Knowledge and Attitudes of Early Childhood Preservice Teachers Regarding the Inclusion of Children With Autism Spectrum Disorder. *International Journal of Inclusive Education, 32*(4), 302–321. https://doi.org/10.1080/10901027.2011.622235

Bartolo, P. A., Kyriazopoulou, M., Björck-Åkesson, E., & Giné, C. (2019). An Adapted Ecosystem Model for Inclusive Early Childhood Education: A Qualitative Cross European Study. *International Journal of School & Educational Psychology*, *9*(1), 1–13. https://doi.org/10.1080/21683603.2019.1637311

Basic Schools and Upper Secondary Schools Act (2018). *Riigi Teataja I*, 01.02.2018. https://www.riigiteataja.ee/en/eli/501022018002/consolide

Biesta, G., Priestley, M., & Robinson, S. (2015). The Role of Beliefs in Teacher Agency. *Teachers and Teaching*, *21*(6), 624–640. https://doi.org/10.1080/13540602.2015.1044325

Block, K., Gibbs, L., Macfarlane, S., & Townsend, M. (2015). Promoting Appreciation of Cultural Diversity and Inclusion with the Stephanie Alexander Kitchen Garden Program. *Journal for Multicultural Education, 9*(1), 2–9. https://doi.org/10.1108/JME-01-2014-0007

Boonstra, K. E., Miesner, H. S., Graue, E., & Grodsky, E. (2022). Participation and Learning in Prek Teacher Workgroups: A Communities of Practice Analysis of Mathematics-focused Professional Development. *Journal of Early Childhood Teacher Education.* https://doi.org/10.1080/10901027.2022.2104185

Booth, T., & Ainscow, M. (2002). *Index for Inclusion: Developing Learning and Participation in Schools*. United Kingtom: Centre for Studies on Inclusive Education. https://www.eenet.org.uk/resources/docs/Index%20English.pdf

Bowen, G. (2017). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal, 9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Braun V., & Clarke, V. (2022). *Thematic Analysis: A Practical Guide*. SAGE Publications Ltd.

Bronfenbrenner, U., & Morris, P. A. (1998). The Ecology of Developmental Processes. In W. Damon, & R. M. Lerner (Eds.), *Handbook of Child Psychology: Theoretical Models of Human Development* (pp. 993–1028). John Wiley and Sons.Centre for Ethics. (2017). *Estonian Code of Conduct for Research Integrity*. University of Tartu. https://eetika.ee/sites/default/files/2023-06/HEA%20TEADUSTAVA_eng_2023.pdf

Chadwell, M. R., Roberts, A. M., & Daro, A. M. (2020). Ready to Teach All Children? Unpacking Early Childhood Educators' Feelings of Preparedness for Working with Children with Disabilities. *Early Education and Development*, *31*(1), 100–112. https://doi.org/10.1080/10409289.2019.1621584

Clark, A., Holland, C., Katz, J., & Peace, S. (2009). Learning to See: Lessons from a Participatory Observation Research Project in Public Spaces. *International Journal of Social Research Methodology, 12*(4), 345–360. https://doi.org/10.1080/13645570802268587

Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage Publications, Inc.

Creswell, J. W. (2012). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (3rd ed.). Sage Publications, Inc.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry & Research Design. Choosing Among Five Approaches*. (4th ed.). Sage Publications, Inc.

Diamond, K. E. (2001). Relationships Among Young Children's Ideas, Emotional Understanding, and Social Contact with Classmates with Disabilities. *Topics in Early Childhood Special Education, 21*(2), 104–113. https://doi.org/10.1177/027112140102100204

Denzin, N. K. (1978). *The Research Act: A Theoretical Introduction to Sociological Methods* (2nd ed.). New York: McGraw-Hill.

Denzin, N. K., & Lincoln, Y. S. (1994). *The SAGE Handbook of Qualitative Researc*h. Sage Publications, Inc.

Edström, K., Gardelli, V., & Backman, Y (2022). Inclusion as Participation: Mapping the Participation Model with Four Different Levels of Inclusive Education. *International Journal of Inclusive Education.* https://doi.org/10.1080/13603116.2022.2136773

Emirbayer, M., & Mische, A. (1998). What Is Agency? *American Journal of Sociology 103*(4), 962–1023. https://doi.org/10.1086/231294

European Agency for Special Needs and Inclusive Education. (2017). *Inclusive Early Childhood Education. Literature Review*. In F. Bellour, P. Bartolo & M. Kyriazopoulou, (Eds.), European Agency for Special Needs and Inclusive Education. https://www.european-agency.org/sites/default/files/IECE%20Literature%20Review.pdf.

European Agency for Special Needs and Inclusive Education. (2021). *Key Principles – Supporting Policy Development and Implementation for Inclusive Education*. In V. J. Donnelly, & A. Watkins, (Eds.), European Agency for Special Needs and Inclusive Education.

European Agency for Special Needs and Inclusive Education. (2022). *European Agency Statistics on Inclusive Education: 2018/2019 School Year Dataset Cross-Country Report*. In A. Lenárt, A. Lecheval, & A. Watkins (Eds.), European Agency for Special Needs and Inclusive Education.

European Commission. (2014). *Proposal for Key Principles of a Quality Framework for Early Childhood Education and Care. Report of the Working Group on Early Childhood Education and Care Under the Auspices of the European Commission*. European Union. https://www.opgroeien.be/sites/default/files/documenten/ecec-quality-framework_en.pdf

European Commission/EACEA/Eurydice (2019). *Key Data on Early Childhood Education and Care in Europe – 2019 Edition. Eurydice Report*. Luxembourg: Publications Office of the European Union. https://eurydice.eacea.ec.europa.eu/sites/default/files/2023-01/EC0319375ENN.pdf

Florian, L. (2019). On the Necessary Co-Existence of Special and Inclusive Education. *International Journal of Inclusive Education, 23*(7), 691–704. https://doi.org/10.1080/13603116.2019.1622801

Florian, L., Black-Hawkins, K., & Rouse, M. (2017). *Achievement and Inclusion in Schools* (2nd ed.). Routledge.

Florian, L., & Camedda, D. (2020). Enhancing Teacher Education for Inclusion. *European Journal of Teacher Education, 43*(1), 4–8. https://doi.org/10.1080/02619768.2020.1707579

Frankel, E. B., Gold, S., & Ajodhia-Andrews, A. (2010). International Preschool Inclusion: Bridging the Gap Between Vision and Practices. *Young exceptional children, 13*(5), 2–16. https://doi.org/10.1177/1096250610379983

Fyssa, A., Vlachou, A., & Avramidis, E. (2014). Early Childhood Teachers' Understanding of Inclusive Education and Associated Practices: Reflections from Greece. *International Journal of Early Years Education 22*(2), 223–237. https://doi.org/10.1080/09669760.2014.909309

Grisham-Brown, J., Cox, M., Gravil, M., & Missall, K. (2010) Differences in Child Care Quality for Children With and Without Disabilities. *Early Education and Development, 21*(1), 21–37. https://doi.org/10.1080/10409280902783491

Guba, E. G. & Lincoln, Y. S. (1981). *Effective Evaluation*. CA: Jossey-Bass.

Göransson, K., & Nilholm, C. (2014). Conceptual Diversities and Empirical Shortcomings – a Critical Analysis of Research on Inclusive Education. *European Journal of Special Needs Education, 29*(3), 265–280. https://doi.org/10.1080/08856257.2014.933545

Haug, P. (2017). Understanding Inclusive Education: Ideals and Reality. *Scandinavian Journal of Disability Research, 19*(3), 206–217. https://doi.org/10.1080/15017419.2016.1224778

Haug, P. (2020). It is Impossible to Avoid Policy Comment on Mel Ainscow: Promoting Inclusion and Equity in Education: Lessons from International Experiences. *Nordic Journal of Studies in Educational Policy, 6*(11), 17–20. https://doi.org/10.1080/20020317.2020.1730092

Hilt, L. T. (2016). *The Borderlands of Educational Inclusion. Analysis of Inclusion and Exclusion Processes for Minority Language Students*. [Dissertation, University of Bergen]. https://bora.uib.no/bora-xmlui/bitstream/handle/1956/12692/dr-thesis-2016-Line-Torbjørnsen-Hilt.pdf?sequence=1&isAllowed=y

Hong, S.-Y., Hamel, E., Joo, Y, & Burton, A. (2022). Enhancing Preschool Teachers' Reflective Thinking on Science Teaching and Learning Using Video Reflections. *Journal of Early Childhood Teacher Education 44*(4), 791–811. https://doi.org/10.1080/10901027.2022.2149435

Horn, I. S., Garner, B., Kane, B. D., & Brasel, J. (2016). A Taxonomy of Instructional Learning Opportunities in Teachers' Workgroup Conversations. *Journal of Teacher Education, 68*(1) 41–54. http://dx.doi.org/10.1177/0022487116676315

Hu, B. Y., Roberts, S. K., Wang, Y., & Zhao, H. (2011). The Initiation of Early Childhood Inclusion in China: A Case Study from Beijing. *International Journal of Early Years Education 19*(2), 111–131. https://doi.org/10.1080/09669760.2011.596396

Häidkind, P., & Oras, K. (2016). Kaasava hariduse mõiste ning õpetaja ees seisvad ülesanded lasteaedades ja esimeses kooliastmes. [The Notion of Inclusive Education and Challenges for the Teacher in Kindergartens and the First Stage of School]. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education], 4*(2), 60–88. http://dx.doi.org/10.12697/eha.2016.4.2.04

IRIS Connect (2022). https://www.irisconnect.com/uk/

Kivirand, T. (2023). *The Meaning of Inclusive Education and Supporting the Implementation of Inclusive Education Through In-Service Training Course in the Estonian Context*. [Dissertation, University of Tartu]. DSpace. https://dspace.ut.ee/items/2fdc1436-d857-47c7-9150-3f4ed0b8de53

Kivirand, T., Leijen, Ä., Lepp, L., & Malva, L. (2020). Kaasava hariduse tähendus ja tõhusa rakendamise tegurid Eesti kontekstis: õpetajaid koolitavate või nõustavate spetsialistide vaade. [The Meaning of Inclusive Education and Factors for Effective Implementation in the Estonian Context: A View of Specialists who Train or Advise Teachers]. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education], 8*(1), 48–71. https://doi.org/10.12697/eha.2020.8.1.03

Kivirand, T., Leijen, Ä., & Lepp, L. (2022). Enhancing Schools' Development Activities on Inclusive Education Through In-service Training Course for School Teams: A Case Study. *Frontiers in Psycholo*gy, *13*. https://doi.org/10.3389/fpsyg.2022.824620

Koolieelse lasteasutuse riiklik õppekava [National Curriculum for Pre-School Child Care Institutions] (2008). *Riigi Teataja I, 2008, 23,152.* https://www.riigiteataja.ee/akt/12970917

Koolieelse lasteasutuse seadus [Pre-school Child Care Institutions Act] (1999). *Riigi Teataja I, 1999, 27, 387*. https://www.riigiteataja.ee/akt/77275

Kutsestandardid: Õpetaja, tase 6. [Qualification Standards: teacher, level 6]. (2024). https://www.kutseregister.ee/ctrl/et/Standardid/vaata/11334368

Kwon, K.-A., Hong, S.-Y., & Jeon, H.-J. (2017). Classroom Readiness for Successful Inclusion: Teacher Factors and Preschool Children's Experience with and Attitudes Toward Peers with Disabilities. *Journal of Research in Childhood Education*, *31*(3), 360–378. https://doi.org/10.1080/02568543.2017.1309480

Leijen, Ä., Pedaste, M., & Lepp, L. (2020). Teacher Agency Following the Ecological Model: How It Is Achieved and How It Could Be Strengthened by Different Types of Reflection. *British Journal of Educational Studies 68*(3), 295–310. https://doi.org/10.1080/00071005.2019.1672855

Leijen, Ä., Pedaste, M., & Baucal, A. (2021). Assessing Student Teachers' Agency and Using It for Predicting Commitment to Teaching. *European Journal of Teacher Education 45*(5), 1–17. https://doi.org/10.1080/02619768.2021.1889507

Leijen, Ä., Pedaste, M., & Lepp, L. (2022). Supporting Teacher Agency During a Collaborative Inquiry-Based In-Service Teacher Education Course. *European Journal of Teacher Education*. https://doi.org/10.1080/02619768.2022.2132385

LimeSurvey Development Team. (2023). *LimeSurvey: An Open Source Survey Tool* [Software]. Limesurvey GmbH. http://www.limesurvey.org

Locke, J., Kang-Yi, C., Frederick, L., & Mandell, D. S. (2020). Individual and Organizational Characteristics Predicting Intervention Use for Children with Autism in Schools. *Autism, 24*(5), 1152–1163. https://doi.org/10.1177/1362361319895923

Love, H.R. (2018). *Understanding High-Quality Inclusive Education Across Early Childhood Settings*. [Dissertation, University of Kansas]. https://www.proquest.com/docview/2116960856?sourcetype=Dissertations%20&%20Theses

Love, H. R., & Horn, E. (2021). Definition, Context, Quality: Current Issues in Research Examining High-Quality Inclusive Education. *Topics of Early Childhood Special Education, 40*(4), 204–216. https://doi.org/10.1177/0271121419846342

Lundqvist, J., Allodi, M. W., & Siljehag, E. (2015). Inclusive Education, Support Provisions and Early Childhood Educational Pathways in The Context of Sweden: A Longitudinal Study. *International Journal of Special Educaton, 30*(3), 3–16. https://files.eric.ed.gov/fulltext/EJ1094947.pdf

Magnússon, G., Göransson, K., & Lindqvist, G. (2019): Contextualizing Inclusive Education in Educational Policy: The Case of Sweden. *Nordic Journal of Studies in Educational Policy, 5*(2), 67–77. https://doi.org/10.1080/20020317.2019.1586512

Mayring, P. (2022). *Qualitative Content Analysis: A Step-by-Step Guide*. SAGE Publications Ltd.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.). Sage Publications, Inc.

Mitchell, D. (2015). Inclusive Education is a Multifaceted Concept. *Center for Educational Policy Studies Journal, 5*(1), 9–30. https://doi.org/10.26529/cepsj.151

Miller, A. L., Wilt, C. L., Allcock, H. C., Kurth, J. A., Morningstar, M. E., & Ruppar, A. L. (2020). Teacher Agency for Inclusive Education: An International Scoping Review. *International Journal of Inclusive Education*. https://doi.org/10.1080/13603116.2020.1789766

Ministry of Education and Research. (2021). *Education Strategy 2021–2035*. https://www.hm.ee/en/ministry/ministry/strategic-planning-2021-2035#documents

Molla, T., & Nolan, A. (2020). Teacher Agency and Professional Practice. *Teachers and Teaching 26*(1), 67–87. https://doi.org/10.1080/13540602.2020.1740196

National Audit Office. (2020). *Availability of education support services*. https://www.riigikontroll.ee/tabid/206/Audit/2516/language/et-EE/Default.aspx

Nelis, P., Pedaste, M., & Šuman, C. (2023). Kaasava hariduse rakendamine Eesti lasteaedades kaasava hariduse teoreetilise mudeli põhjal: juhtumiuuring. [Implementation of Inclusive Education in Estonian Kindergartens Based on the Theoretical Model of Inclusive Education: A Case Study]. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education], 11*(1), 48-74. https://doi.org/10.12697/eha.2023.11.1.03

Noggle, A. K., & Stites, M. L. (2018). Inclusion and Preschoolers Who Are Typically Developing: The Lived Experience. *Early Childhood Education Journal 46(3)*, 511–522. https://doi.org/10.1007/s10643-017-0879-1

Næsby, T. (2018). The Quality of Inclusion in Danish Preschools. *Early Child Development and Care, 19*(10), 1561–1573. https://doi.org/10.1080/03004430.2018.1541320

Odom, S. L., Horn, E. M., Marquart, J. M., Hanson, M. J., Wolfberg, P., Beckman, P., Lieber, J., Li, S., Schwartz, I., Janko, S., & Sandall, S. (1999). On the Forms of Inclusion: Organizational Context and Individualized Service Models. *Journal of Early Intervention, 22*(3), 185–199. https://doi.org/10.1177/105381519902200301

Odom, S. L., Vitztum, J., Wolery, R., Lieber, J., Sandall, S., Hanson, M. J., Beckman, P., Schwartz, I., & Horn, E. (2004). Preschool Inclusion in the United States: A Review of Research from an Ecological Systems Perspective. *Journal of Research in Special Educational Needs, 4*(1), 17–49. https://doi.org/10.1111/J.1471-3802.2004.00016.x

Odom, S. L., Buysse, V., & Soukakou, E. (2011). Inclusion for Young Children with Disabilities: A Quarter Century of Research Perspectives. *Journal of Early Intervention 33*(4), 344–356. https://doi.org/10.1177/1053815111430094

OECD (2018). *Early Learning Matters.* OECD Publishing.

Olev, A., & Alumäe, T. (2022). Estonian Speech Recognition and Transcription Editing Service. *Baltic Journal of Modern Computing*, *10*(3), pp. 409–421. https://doi.org/10.22364/bjmc.2022.10.3.14 http://bark.phon.ioc.ee/webtrans/

Pantić, N. (2017). An Exploratory Study of Teacher Agency for Social Justice. *Teaching and Teacher Education, 66*, 219–230. https://doi.org/10.1016/j.tate.2017.04.008

Pantić, N & Florian, L. (2015). Developing Teachers as Agents of Inclusion and Social Justice. *Education Inquiry, 6*(3), 27311. https://doi.org/10.3402/edui.v6.27311

Park, M.-H., Dimitrov, D. M., & Park, D.-Y. (2018). Effects of Background Variables of Early Childhood Teachers on Their Concerns About Inclusion: The Mediation Role of Confidence in Teaching. *Journal of Research in Childhood Education, 32*(2), 165–180. https://doi.org/10.1080/02568543.2017.1417926

Patterson, M. E., & Williams, D. R. (2002). *Collecting and Analyzing Qualitative data: Hermeneutic Principles, Methods and Case Examples*. Champaign, IL: Sagamore Publishing.

Pelatti, C. J., Dynia, J. M., Logan, J. A. R., Justice, L. M., & Kaderavek, J. (2016). Examining Quality in Two Pre-School Settings: Publicly Funded Early Childhood Education and Inclusive Early Childhood Education Classrooms. *Child Youth Care Forum* 45, 829–849. https://doi.org/10.1007/s10566-016-9359-9

Peck, N. F., & Neeper, L. S. (2022). Early Childhood Preservice Teachers' Self-Efficacy Related to Inclusion and Professional Roles via a Co-taught Field-based Course. *Journal of Early Childhood Teacher Education, 43*(2), 236–250. https://doi.org/10.1080/10901027.2021.1881662

Pedaste, M., Leijen, Ä., Poom-Valickis, K, & Eisenschmidt, E. (2019). Teacher Professional Standards to Support Teacher Quality and Learning in Estonia. *European Journal of Education. Research, Development and Policy, 54*(3), 389–399, https://doi.org/10.1111/ejed.12346

Prater, M.A. (2010). Inclusion of Students with Special Needs in General Education Classrooms. *International Encyclopaedia of Education* (3rd ed.), 721–726. https://doi.org/10.1016/B978-0-08-044894-7.01117-9

Purcell, M. L., Horn, E., & Palmer, S. (2007). A Qualitative Study of the Initiation and Continuation of Preschool Inclusion Programs. *Exeptional Children, 74*(1), 85–99. https://doi.org/10.1177/001440290707400105

Põhikooli- ja Gümnaasiumiseadus [Basic Schools and Upper Secondary Schools Act] (2024). *Riigi Teataja I, 26.04.2026, 12.* https://www.riigiteataja.ee/akt/13332410?leiaKehtiv

Qvortrup, A., & Qvortrup, L. (2018). Inclusion: Dimensions of Inclusion in Education. *International Journal of Inclusive Education, 22*(7), 803–817. https://doi.org/10.1080/13603116.2017.1412506

Räis, M-L., Kallaste, M., & Sandre, S-L. (2016). *Haridusliku erivajadusega õpilaste kaasava hariduskorralduse ja sellega seotud meetmete tõhusus. Lõppraport. [Effectiveness of Inclusive Educational Organization and Related Measures for Students with Special Educational Needs. Final Report]*. https://centar.ee/uus/wp-content/uploads/2017/01/Pohiraport-final.pdf

Salisbury, C. L. (1990). The Least Restrictive Environment: Understanding the Options. *Policy and Practice in Early Childhood Special Education Series*. U.S Department of Education.

Sargent, R. G. (2013). An Introduction To Verification And Validation Of Simulation Models. In R. Pasupathy, S.-H. Kim, A. Tolk, R. Hill, & M. E. Kuhl (Eds.), *Proceedings of the 2013 Winter Simulation Conference*. https://doi.org/10.1109/WSC.2013.6721430

Schleicher, A. (2019). Helping Our Youngest to Learn and Grow: Policies for Early Learning. *International Summit on the Teaching Profession*. OECD Publishing. http://dx.doi.org/10.1787/9789264313873-en

Schuelka, M. J. (2018). Implementing Inclusive Education. *Helpdesk Report, K4D, Knowledge, evidence and learning environment*. https://assets.publishing.service.gov.uk/media/5c6eb77340f0b647b214c599/374_Implementing_Inclusive_Education.pdf

Schuelka, M. J., & Engsig, T. T. (2022). On the Question of Educational Purpose: Complex Educational Systems Analysis for Inclusion. *International Journal of Inclusive Education*, *26*(5), 448–465. https://doi.org/10.1080/13603116.2019.1698062

Sharma, U., Armstrong, A. C., Merumeru, L., Simi, J., & Yared, H. (2019). Addressing Barriers to Implementing Inclusive Education in the Pacific. *International Journal of Inclusive Education, 23*(1), 65–78. https://doi.org/10.1080/13603116.2018.1514751

Silm, G., Lepp, L., Kivirand, T., Leijen, Ä., Pedaste, M., Nelis, P., Rikanson, L., Sild, A., & Kutti, A. (2024). *Kaasava hariduskorralduse tõhusus üldhariduses 2023*. *Uuringu lõppraport*. *[The Effectiveness of Inclusive Education in General Education in 2023. Final Report]*. Tartu Ülikool. Haridusteaduste Instituut.

Slee, R. (2005). Education and the Politics of Recognition: Inclusive Education – An Australian Snapshot. In D. Mitchell (Ed.), *Contextualizing Inclusive Education. Evaluating Old and New International Perspectives* (pp. 139–165). Routledge. Taylor & Francis Group.

Soukakou, E. (2012). Measuring Quality in Inclusive Preschool Classrooms: Development and Validation of the Inclusive Classroom Profile (ICP). *Early Childhood Research Quarterly, 27*, 478–488. http://doi.org/10.1016/j.ecresq.2011.12.003

Soukakou, E., Evangelou, M., & Holbrooke, B. (2018). Inclusive Classroom Profile: A Pilot Study of Its Use as a Professional Development Tool. *International Journal of Inclusive Education*, *22*(10), 1124–1135. https://doi.org/10.1080/13603116.2017.1416188

Sukumaran, S., Loveridge, J., & Green, A. G. (2015). Inclusion in Malaysian Integrated Pre-Schools. *International Journal of Inclusive Education 19*(8), 821–844. https://doi.org/10.1080/13603116.2014.981229.

Symeonidou, S., & Loizou, E. (2023). Bridging Early Childhood Education and Inclusive Practices in Classrooms that Serve Children with Disabilities: A Narrative Portrait. *European Early Childhood Education Research Journal*, *31*(1), 92– 105. https://doi.org/10.1080/1350293X.2022.2140817

Syrjämäki, M., Reunamo, J., Pesonen, H., Pirttimaa, R., & Kontu, E. (2023). The Involvement of Autistic Children in Early Childhood Education. *European Journal of Special Needs Education, 38*(6), 879–893. https://doi.org/10.1080/08856257.2023.2179310

Tammemäe, T., Lilleoja, L., & Nelis, P. (2023). Osalejate hinnangud meeskonnakoolitusele kaasava hariduse tähenduslikust rakendamisest koolieelses lasteasutuses. [Participants' evaluations of the meaningful implementation of Inclusive Education in preschool for team training]. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education], 11*(1), 75–102. https://doi.org/10.12697/eha.2023.11.1.04

UNESCO. (1994). *The Salamanca Statement and Framework for Action on Special Needs Education*. https://unesdoc.unesco.org/ark:/48223/pf0000098427

UNESCO. (2009). *Policy Guidelines on Inclusion in Education*. https://unesdoc.unesco.org/ark:/48223/pf0000177849

UNESCO. (2020). *Global Education Monitoring Report 2020. Inclusion and Education: All Means All*. https://doi.org/10.54676/JJNK6989

Van Mieghem, A., Verschuren, K., Petry, K., & Stuyf, E. (2018). An Analysis of Research on Inclusive Education: A Systematic Search and Metareview. *International Journal of Inclusive Education, 24*(6), 675-689. https://doi.org/10.1080/13603116.2018.1482012

Vlachou, A., & Fyssa, A. (2016). Inclusion in Practice: Programme Practices in Mainstream Preschool Classrooms and Associations with Context and Teacher Characteristics. *International Journal of Disability, Development and Education, 63*(5), 529–544. http://dx.doi.org/10.1080/1034912X.2016.1145629

Vygotski, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.

Yin, R. K. (1994). *Case Study Research: Design and Methods (2nd ed.)*. SAGE Publications.

Yin, R. K. (2018*). Case Study Research and Applications: Design and Methods* (6th ed.). SAGE Publications.

Youmans, A., & Godden, L. (2022). The Coalition Model for Professional Development. *Teachers and Teaching, 28*(3), 284–300. https://doi.org/10.1080/13540602.2022.2062716

Zhang, K.C. (2011). Early Childhood Education and Special Education: How Well Do They Mix? An Examination of Inclusive Practices in Early Childhood Educational Settings in Hong Kong, *International Journal of Inclusive Education*, *15*(6), 683–697. https://doi.org/10.1080/13603110903317676

APPENDICES

Appendix 1. Questionnaire of Study 2

Kindergarten professionals were asked to answer the questions using a 5-point Likert scale, where all scale values were described as follows: 1 = to a very small extent; 2 = to a small extent; 3 = so-so; 4 = to a large extent; and 5 = to a very large extent. In addition, participants were given the opportunity to add their own thoughts.

Child level main features of inclusive education

1. To what extent do you take into account a child's personal and individual attributes in the kindergarten?
2. To what extent do you take into account the following features in order to achieve a child's physical inclusion in the kindergarten?
   - Space (size, layout, etc.)
   - Furniture (design, layout, ease of rearrangement etc.)
   - Resources (teaching materials and other tools in learning and teaching activities)
   - Opportunities for large group, small group and individual activities
   - Teacher-child ratios
   - Number of children in the group
   - The distance of the child's residence from the kindergarten
3. Please write here if you would like to add anything about a child's physical inclusion.
4. To what extent do you take into account the following features in order to achieve a child's social inclusion in the kindergarten?
   - Positive relations between children
   - Creating friendships
   - A positive attitude towards children with special needs
   - Involving all children, including those with special needs, in different activities
5. Please write here if you would like to add anything about a child's social inclusion.
6. To what extent do you take into account the following features in order to achieve a child's psychical inclusion in the kindergarten?
   - Acceptance of all children, including children with special needs
   - A positive attitude towards children with special needs
   - All children, including children with special needs, are offered emotional support
   - The well-being and health of all children, including children with special needs, are taken into account
   - All children, including children with special needs, receive equal attention from the teacher

- The opinions of all children, including children with special needs, are taken into account
- Valuing differences is stated in the kindergarten's strategic documents

7. Please write here if you would like to add anything about a child's psychical inclusion.

Teacher level main features of inclusive education

8. To what extent is a teacher's personal attributes important in implementing inclusive education?
9. To what extent is a teacher's qualifications important in implementing inclusive education?
10. Please write here if you would like to add anything about the teacher's personal attributes or qualification.
11. To what extent do you use the following activities in your teaching?
    - Early detection
    - Differentiation of set goals
    - Creating a positive atmosphere where children dare to express their opinions
    - Differentiation of teaching and educational activities (different methods, tasks of different difficulty)
    - Assessment of achievement of goals
    - Assessment of children's development
    - Feedback on children's activities to support them maximally
    - Use of individual tasks
    - Implementation of group work
    - Implementation of joint activities with the whole group
    - Reflection on one's own teaching
12. Please write here if you would like to add anything about teaching.

Family level main features of inclusive education

13. To what extent do you implement the following activities to involve families?
    - Different methods for working with parents
    - Identifying families' expectations for a kindergarten
    - Identifying families' needs
    - Finding out families' perceptions of inclusive education
14. Please write here if you would like to add anything about family involvement.
15. To what extent are the following activities implemented in the kindergarten to support families?
    - Training for families
    - Individual service plan for families (e.g. services from various support specialists, counselling, etc.)
16. Please write here if you would like to add anything about family support.

Institution level main features of inclusive education

17. To what extent are the following features of organisational culture taken into account in the implementation of inclusive education in the kindergarten?
    - Developing a common/shared understanding of inclusive education in the kindergarten
    - Common values that support the implementation of inclusive education
    - Developing a supportive and collaborative organisational culture
    - Reflecting the principles of inclusive education in the kindergarten's strategic documents (development plan, action plans, curriculum)
    - A curriculum that supports inclusive education and is clearly understood by everyone
    - Multifaceted support (collaboration with support specialists, other teachers and management)
18. Please write here if you would like to add anything about organisational culture.
19. To what extent are the following structural characteristics taken into account in the kindergarten when implementing inclusive education?
    - Decisions made by management support the implementation of inclusive education (e.g. related to workload, work schedule and rest time)
    - Additional professional in the classroom (e.g. support person)
    - Inclusion of support specialists (e.g. special education teacher, speech therapist) in teaching activities
    - Opportunity for further training and self-development
20. Please write here if you would like to add anything about the structural characteristics of the kindergarten.

State level main feaures of inclusive education

21. To what extent do the following state level main features support the implementation of inclusive education in the kindergarten?
    - National inclusive education policy
    - Legislation (Early Childhood Education Act, National Curriculum for Pre-School Child Care Institutions)
    - Cooperation with institutions outside the kindergarten (e.g. local and state level counselling centers)
    - Material resources (e.g. infrastructure, physical environment)
    - Financial resources (e.g. salary; possibility of involving additional professionals, etc.)
    - Monitoring and evaluation (e.g. internal and external evaluation including feedback from the state)
22. Please write here if you would like to add anything about state level features.

Appendix 2. Focus Group Interview Plan of Study 2

1. Which child attributes should teachers consider in an inclusive learning environment?
   - What personal attributes of children should teachers take into account?
   - What special needs have you observed in the kindergarten?
   - What challenges exist in supporting children with special needs?
2. What should be considered when supporting each child's development and meaningful participation?
   - What factors do you consider when designing and furnishing classrooms and kindergarten facilities to ensure the inclusion of all children?
   - What factors do you consider when sourcing materials?
   - What actions do you take to make each child feel valued as part of the group?
   - How do you encourage children to interact with one another?
   - What methods do you use to encourage children to work together?
   - What principles do you follow to ensure the inclusion of all children in discussions and activities?
3. What do you do in learning and teaching activities to increase children activity and support each child's maximum developmental potential?
   - What principles do you follow in conducting learning and teaching activities?
   - How do you consider each child's individuality in learning and teaching activities?
   - What opportunities do you provide to reach each child's maximum potential?
   - How do you determine a child's developmental level?
   - How do you consider the results of a child's developmental assessment in educational and developmental activities (planning, implementation)?
   - How do you analyse the learning and teaching process?
   - How do you assess your professional development and professional development needs?
4. What expectations does the implementation of inclusive education set for teachers?
   - Personal attributes, qualifications?
5. What opportunities for family involvement and support do you provide in the kindergarten to support each child's development?
   - How do you determine each family's expectations and needs?
   - How do you consider the needs of families?
   - How do you involve parents in kindergarten activities?
   - What support do parents of children with special needs require?
   - What support is provided to parents of children with special needs in the kindergarten?

6. How does the kindergarten's organisational culture support the implementation of inclusive education?
    - How are kindergarten professionals involved in leadership and decision-making?
    - What opportunities are there for collaboration with colleagues in the kindergarten?
    - What opportunities are provided for participation in the kindergarten's development activities?
    - What opportunities are there for supporting professional development?
    - What opportunities are provided for recognition?
    - What opportunities are provided to support kindergarten professionals?
7. What should be considered in the kindergarten structure to support the implementation of inclusive education?
    - What forms of inclusion do you consider appropriate?
    - What changes have been made or are planned related to the implementation of inclusive education by kindergarten professionals? (number of staff in the group, additional professionals, support specialists)
    - What benefits are provided or should be provided in the kindergarten to support the implementation of inclusive education?
8. What should be considered at the state level to support the implementation of inclusive education in early childhood education?
    - What aspects should be reflected in the legislation (social justice/ equality; multiculturalism; the concept of special needs; the obligation to provide support; forms of inclusion; principles of cooperation with other institutions)?
    - To what extent do the resources provided by the state support the implementation of inclusive education?
    - What is lacking for the successful implementation of inclusive education?
    - What opportunities have been created or should be created for the state to receive feedback on the implementation of inclusive education in early childhood education?
9. Is there anything else you would like to add?

Appendix 3. Table of main features and secondary features of inclusive education

Main features of inclusive education	Secondary features describing the main features of inclusive education
Child level	
1. Child attributes	• Child's individual attributes • Characteristics of special needs (type and severity)
2. Physical inclusion	• Environment management • The number of children and the teacher-child ratios • Children's participation in inclusive classroom
3. Social inclusion	• Positive relationships • Positive attitude toward children with special needs
4. Psychical inclusion	• Acceptance • Membership • Health and safety (well-being)
Teacher level	
5. Teacher attributes	• Personal attributes • Competence (values, attitudes, knowledge and skills) • Professional development
6. Classroom practices	• Quality of the learning process • Setting of learning outcomes and goals • Early identification of children with special needs • Positive classroom climate • Personalised learning activities • Assessment of child development • Reflection of teaching
Family level	
7. Family involvement	• Family-professional partnerships • Family needs, family expectations • Family perception of inclusion
8. Family support	• Parent education • Individualised family service plan
Institution level	
9. Organisational culture	• Sociocultural values and beliefs • Meaning of inclusion • Various support system
10. Organisational structure	• Leadership and administrative issues (policy documents and curriculum) • Structure of employees (positions, number of employees, additional workforce) • Work organization (work schedules, workload, work tasks) • Benefits (benefits, bonuses, rest time and holidays) • Different forms of inclusion

Main features of inclusive education	Secondary features describing the main features of inclusive education
State level	
11. Policy and legislation	• State/local context • Local policy and law of inclusion • The meaning of inclusion
12. Cooperation	• Interagency support • Collaboration between institutions
13. Resources	• Financial support • Resources
14. Monitoring	• Assessment of the quality of inclusion • Stakeholders' opinions

SUMMARY IN ESTONIAN

Mudel kaasava hariduse rakendamiseks alushariduses

Kaasav haridus on olnud alushariduses rahvusvaheliselt oluline teema, ent selle rakendamine kujutab endiselt suurt väljakutset. Seetõttu on käesoleva doktoritöö keskmes mudeli loomine kaasava hariduse rakendamiseks alushariduses. Süstemaatilisele kirjandusanalüüsile tuginevalt koostatud mudelit hindasime läbi selle rakendatavuse kahel viisil: 1) juhtumiuuringu kaudu ühe Eesti lasteaia kontekstis ja 2) sekkumise efekti uurimise kaudu lasteaia töötajate tegevusvõimekusele kaasava hariduse rakendamisel.

Hariduse valdkonna viimaste kümnendite üks olulisi teemasid üle kogu maailma on olnud tõhusamate viiside leidmine kaasava hariduse rakendamiseks. Kaasava hariduse põhimõtteks on kõikide õppijate kaasatuse suurendamine ja kõrvalejäetuse vähendamine, mis tähendab iga lapse õigust haridusele ning haridusasutuse kohustust kohandada õppimist ja õpetamist vastavalt õppijate erinevatele vajadustele (Ainscow, 2020; Florian & Pantić, 2017; UNESCO, 1994). Kaasamine on tõusnud prioriteediks nii rahvusvahelistes haridusstrateegiates kui ka alushariduse poliitikates (Alusharidusseadus, 2025; European Agency for …, 2021; Schleicher, 2019; UNESCO, 2020). Paljud uuringud on näidanud, et alusharidus kaasavas õpikeskkonnas avaldab pikaajalist ja positiivset mõju laste akadeemilistele oskustele, sotsiaalsele arengule ja edasijõudmisele koolis (Kwon et al., 2017; Odom et al., 2011; OECD, 2018; Vlachau & Fyssa, 2016). Vaatamata sellele, et kaasav haridus on olnud ülemaailmselt oluline teema hariduses, on kaasava hariduse rakendamine jätkuvalt väljakutseks tänapäeva haridussüsteemides, sealhulgas Eestis. Eestis läbiviidud kaasava hariduse rakendamist käsitlevad uuringud (Nelis et al., 2023; Räis et al., 2016; Silm et al., 2024) on toonud esile mitmeid kitsaskohti nagu ebaselge kaasava hariduse tähendus; piiratud ressursid; erivajadustega õppijate eraldi õpetamine; hariduspoliitika ja dokumentatsioon, mis peaksid arvestama rohkem tõenduspõhiseid tulemusi; õpetajate ja tugispetsialistide esma- ja täienduskoolitus, mis ei taga kaasava hariduse elluviimiseks piisavalt vajalike kompetentsidega spetsialiste (Nelis et al., 2023; Räis et al., 2016; Silm et al., 2024).

Üks suurimaid väljakutseid kaasava hariduse rakendamisel on kaasava hariduse mõiste muutuv tähendus ja sarnase arusaama puudumine kaasava hariduse tähendusest. Kaasava hariduse tähendus võib erineda riikide vahel kui ka nende sees olenevalt kultuurilisest, poliitilisest, sotsiaalsest ja majanduslikust kontekstist (Hu et al., 2011; Næsby, 2018; Sukumaran et al., 2015) ning kaasamise mõiste enda tõlgendustest (Sukumaran et al., 2015). Eesti alusharidust reguleerivas seadustikus sõnastati kaasava hariduse põhimõtted alles uues alusharidusseaduses, mis võeti vastu detsembris aastal 2024. See võib olla üks põhjus, mis on mõjutanud kaasava hariduse tähenduse erinevaid tõlgendusi. Ka Eestis läbiviidud uuringud näitavad, et kaasamise mõiste tõlgendused erinevad õpetajate, juhtide ja tugispetsialistide seas nii lasteaia kui ka kooli tasandil (Häidkind & Oras, 2016; Kivirand et al., 2020; Silm et al., 2024). Kaasava hariduse määratlus

ja viis, kuidas hariduspoliitikud, juhid, õpetajad, vanemad ja lapsed seda tõlgendavad, on kaasava hariduse rakendamisel oluline (Florian et al., 2017; Sukumaran et al., 2015). Kõik see viitab vajadusele kaasava hariduse universaalse definitsiooni järele.

Kaasav haridus on mitmetahuline ja selle rakendamise osas puudub samuti selgus (Haug, 2017; Prater, 2010). Kaasava hariduse rakendamine on tulemuslik vaid siis, kui seda toetavad sidusrühmad kõigil haridussüsteemi tasanditel – õppijad, õpetajad, tugispetsialistid, abiõpetajad klassi või rühma tasandil, lapsevanemad ja õppeasutuste juhid asutuse tasandil, aga ka poliitikud kohaliku omavalitsuse ja riigi tasandil. Mitmed autorid väidavad, et erinevatel tasanditel on endiselt mitmeid raskusi ja takistusi, mis vajavad ületamist kaasamise rakendamiseks (nt Ainscow, 2020; Haug, 2020). Kaasavamatele tööviisidele üleminek nõuab seetõttu muutusi kogu haridussüsteemis. Need ulatuvad muutustest poliitikakujundajate väärtushinnangutes ja mõtteviisides kuni oluliste muutusteni haridusasutustes ja rühmas või klassis (Ainscow, 2020). Tasandite vaheline sidusus saavutatakse paremini, kui on kirjeldatud iga tasandi võtmetunnused (Haug, 2017). Love ja Horn (2021) leiavad, et vähe on teada kaasava hariduse võtmetunnustest, mis arvestavad terviklikku konteksti ehk haridussüsteemi kõigi tasanditega.

Kaasava hariduse rakendamisel on oluline roll lasteaia juhtidel ja õpetajatel, sest nemad peaksid poliitikas seatud sihid praktikasse rakendama (Van Mieghem et al., 2020). Samas ei pea õpetajad end kaasavas õpikeskkonnas õpetamiseks piisavalt ettevalmistatuks või ei ole neil olnud piisavalt võimalusi enda professionaalse arengu toetamiseks (Räis et al., 2016; Sharma et al., 2019). Organisatsiooni tasandil on oluline, et kaasava hariduse tähendus oleks organisatsiooni jaoks väga selgelt sõnastatud (Kivirand et al., 2022). Ainscow (2020) väidab, et kaasava hariduse rakendamine on seotud haridusasutuse arendamisega ja peaks keskenduma asutuse sellekohase võimekuse suurendamisele. Seega on lasteaia juhtide ülesandeks kavandada ja rakendada arendustegevusi, et liikuda kaasavama organisatsiooni poole ja õpetajatel tuleb tulla toime väljakutsetega mitmekesises rühmaruumis (Florian & Gamedda, 2020; Van Mieghem et al., 2020). Õpetaja toimetulek õpetamisega kaasavas keskkonnas sõltub õpetaja teadmistest ja hoiakutest (Park et al., 2018). Õpetaja kompetentsus mõjutab aga tema tegevusvõimekust (Leijen et al., 2020). Mitmed teadlased on pidanud õpetaja tegevusvõimekust oluliseks kaasava hariduse elluviimisel (vt Milleri jt kirjanduse ülevaadet, 2020). Lasteaia töötajate tegevusvõimekust kaasava hariduse rakendamisel võivad suurendada õppekavad või täienduskoolitusprogrammid, mille loomisel võetakse aluseks kaasava hariduse kontseptsioon ja kaasava hariduse rakendamist toetavad võtmetunnused.

Kokkuvõttes on vaatamata erinevustele kaasava hariduse definitsioonides siiski oluline kujundada ühine arusaam kaasamisest, et toetada kaasava hariduse põhimõtete rakendamist (Florian, et al 2017; Sukumaran et al., 2015). Kaasava hariduse rakendamist soodustab see, kui on kirjeldatud iga tasandi võtmetunnused (Haug, 2017; Love & Horn, 2021). Kuigi lasteaia juhtidel ja õpetajatel on oluline roll kaasava hariduse rakendamisel, jääb sageli vajaka kompetentsusest, mis

omakorda mõjutab lasteaia töötajate tegevusvõimekust kaasava hariduse rakendamisel (Leijen et al., 2020; Miller et al., 2020). Hea mudel, mis hõlmab endas kaasava hariduse mõiste määratluse ja võtmetunnused haridussüsteemi erinevatel tasanditel, võiks selle tühimiku kaasava hariduse rakendamisel alushariduses täita.

Eelnevat arvesse võttes on käesoleva doktoritöö eesmärk luua mudel kaasava hariduse rakendamiseks alushariduses. Mudeli kvaliteeti saab hinnata mudeli rakendatavuse kaudu. Rakendatavus on nähtav kahes situatsioonis:

– kuidas on mudeli struktuur kooskõlas praktikaga (mis toetab lasteaia tegevustes kaasamist ja mis mitte);
– kuidas mudeli põhjal loodud täienduskoolitusprogramm avaldab mõju tegevusvõimekusele kaasava hariduse põhimõtete rakendamisel.

Eesmärgist tulenevalt sõnastati kolm peamist uurimisküsimust ja kaks alaküsimust:

1. Kuidas operatsionaliseerida nüüdisaegne kaasava hariduse definitsioon ja võtmetunnused mudelis kaasava hariduse rakendamiseks alushariduses?
   1.1. Kuidas defineerida kaasav haridus tuginedes kirjanduses esinevate definitsioonide olulistele aspektidele?
   1.2. Millised tunnused on seotud kaasava hariduse rakendamisega alushariduses?
2. Kuidas on kaasava hariduse rakendamise mudel kooskõlas lasteaia tegevustega?
3. Kuidas toetab mudeli põhjal loodud täienduskoolitusprogramm koolitusel osalejate tegevusvõimekust kaasava hariduse rakendamisel?

Uurimisküsimustele vastamiseks viidi läbi kolm uuringut: üks teoreetiline ja kaks empiirilist. Esimeseks uuringuks oli süstemaatiline kirjandusanalüüs (uurimisküsimus 1 ja alaküsimused 1.1.–1.2.; **Artikkel I**), mis hõlmas hindamiskriteeriumite põhjal valitud 55 teadusartikli analüüsi. Artikleid analüüsiti induktiivse sisuanalüüsi teel. Teises ja kolmandas uuringus olid osalejateks lasteaedade meeskonnad, kes osalesid pikaajalisel kaasava hariduse täienduskoolitusel. Kokku osales koolitusel 50 inimest kaheksast lasteaiast, igast lasteaiast osales 1–2 juhtkonna liiget, 1 tugispetsialist ja kuni 5 õpetajat. Teise uuringusse, milleks oli juhtumiuuring (uurimisküsimus 2; **Artikkel II**) valiti koolitusel osalenute hulgast vaid üks lasteaed. Kolmandas uuringus (uurimisküsimus 3; **Artikkel III**) kujunes valim nendest koolitusel osalenutest, kes vastasid uuringu käigus nii eelkui järelküsimustikule. Kokku osales kolmandas uuringus 24 lasteaia töötajat. Juhtumiuuringus koguti andmed küsimustiku, fookusgrupi intervjuu, vaatluse ja dokumentide analüüsi (lasteaia õppekava ja arengukava) kaudu. Fookusgrupi intervjuu, vaatluse ja dokumentidega kogutud andmete analüüsiks kasutati kvalitatiivse sisuanalüüsi meetodi deduktiivset lähenemist, kus analüüsi aluseks oli

kaasava hariduse mudeli põhjal koostatud raamistik. Küsimustikuga kogutud andmete analüüsiks kasutati kvantitatiivset lähenemist kirjeldava statistika (sagedused) näol. Kolmandas uuringus koguti andmed kirjaliku küsimustikuga. Küsimustik koostati tegevusvõimekuse ökoloogilise mudeli ja kaasava hariduse rakendamise mudeli põhjal. Koolitusel osalejatel paluti küsimustikule vastata koolituse alguses ja lõpus. Küsimustikuga kogutud andmete analüüsiks kasutati kvantitatiivset lähenemist. Nii eel- kui järelküsimustikes leiti kirjeldavad statistikud (keskmised, standardhälve) ning eel- ja järelküsimustiku andmete võrdlemiseks kasutati mitteparameetrilist Wicoxon Signed Rank testi.

Esimese uurimisküsimusega sooviti operatsionaliseerida nüüdisaegne kaasava hariduse definitsioon ja võtmetunnused mudelis kaasava hariduse rakendamiseks alushariduses. Täpsemalt sooviti defineerida kirjanduses leiduvates definitsioonides sisalduvate oluliste aspektide põhjal uus kaasava hariduse definitsioon, leida kaasava hariduse rakendamisega seotud tunnused. Nende tulemuste põhjal loodi mudel kaasava hariduse rakendamiseks. Tulemuste põhjal saab kaasava hariduse mõiste määratlemisel eristada varasemalt Lundqvist'i ja teiste (2015) poolt esitatud kahte dimensiooni: filosoofiline ja praktiline olemus. Filosoofilise olemuse all mõeldakse süstemaatilise kirjandusanalüüsi põhjal kaasamise väärtustamist, uskumusi ja lähenemist, mis väljendub kultuuris, otsustes ja valikutes haridussüsteemi kõigil tasanditel. Praktiline olemus tähendab tegevusi ja praktilisi rakendusi, mis soodustavad kaasamist. Kaasava hariduse filosoofilist olemust selgitavad täpsemalt neli aspekti: hariduse kättesaadavus, inimõigused, sotsiaalne integratsioon ja kuuluvustunne. Praktilist olemust avavad täpsemalt kolm aspekti: osalemine tavaharidusasutuses, tugisüsteem ja lapse arengu toetamine. Neid kahte dimensiooni ja seitset aspekti arvesse võttes saab sõnastada kaasava hariduse definitsiooni alushariduse kontekstis: *kaasavaks hariduseks nimetatakse inimõigusi arvestavat ja heale haridusele ligipääsu võimaldavat lähenemisviisi, kus lapsed tajuvad sotsiaalset integratsiooni ja kuuluvustunnet laiemas sotsiaalses võrgustikus, hoolimata nende erivajadustest, ning kaasamine saavutatakse laste aktiivse mõtestatud osaluse ja personaalse lähenemise kaudu lapse arengu toetamisel tema täielikku potentsiaali arvestades*.

Kirjanduse ülevaate kohaselt on alushariduses kaasava hariduse edukaks rakendamiseks vajalik arvestada 43 tunnusega. See on märkimisväärne hulk tunnuseid mistõttu oli vaja luua süsteem, mis võimaldaks nende arvestamist kaasava hariduse rakendamisel. Seetõttu süstematiseeriti analüüsi põhjal tunnused 14 võtmetunnuse kaudu viiel haridussüsteemi tasandil: laps, õpetaja, perekond, organisatsioon ja riik. Iga tasandi keskmes on subjekt, kes on seotud tasandi võtmetunnustega. Võtmetunnuste esitamine haridussüsteemi eri tasandite kaudu alushariduses on kooskõlas ootusega, et kõik haridussüsteemi tasandid alates riiklikust poliitikast kuni õpetajate õpetamise ja laste kogemuste ning õppimiseni toetavad ja edendavad kaasava hariduse rakendamist (Haug, 2017). Tasandite ja tunnuste kirjeldamiseks loodi mudel. Mudeli keskmes on kaasava hariduse definitsioon. See on oluline, sest arutelud kaasamise definitsiooni ja ühise arusaama saavutamise üle toetavad kaasava hariduse põhimõtete rakendamist (Florian et al, 2017; Sukumaran et al., 2015). Mudeli iga tasandi keskmeks on

subjekt, kes on seotud võtmetunnustega, vastutab nende kättesaadavuse ja kvaliteedi eest ehk mõjutab võtmetunnuseid sellel tasandil või on ise mõjutatud nendest tunnustest. Mudel viitab ka sellele, kuidas tasandid omavahel seotud on.

Teise uurimisküsimusega sooviti välja selgitada, kuidas on kaasava hariduse rakendamise mudel kooskõlas lasteaia tegevusega. Juhtumiuuringu tulemused näitasid, et kõik 14 teoreetilise mudeli põhitunnust viiel tasandil on asjakohased, sest väljendusid lasteaia tegevustes. Seega näitasid tulemused mudeli rakendatavust. Lasteaia tegevustes avaldunud tunnused on kooskõlas käesoleva doktoritöö teoreetilise uuringu ja teiste uurijate (Ainscow, 2020; Haug, 2017) järeldustega, et kaasava hariduse rakendamine on edukas ainult siis, kui seda toetavad kõik haridussüsteemi tasandid. Lisaks, nagu märkis Haug (2017), on erinevate tasandite vaheline sidusus paremini saavutatav, kui on kirjeldatud iga taseme võtmetunnused. Üldiselt võib välja tuua kolm olulist aspekti, mida juhtumiuuringu tulemused näitasid. Esiteks, kuigi kõik võtmetunnused väljendusid, ilmnesid mõned neist osaliselt. Võtmetunnuste osaline esinemine tähendab, et osa võtmetunnust kirjeldavaid tunnuseid ei esinenud. Teiseks näitasid juhtumiuuringu tulemused, et mudeli võtmetunnuseid kirjeldavates tunnustes oli vaja teha mõningaid muudatusi. Mudeli võtmetunnuste kirjeldamisel lisati õpetaja tasandile üks uus tunnus ja institutsiooni tasandil täpsustati üht olemasolevat tunnust. Õpetaja tasandile lisati eraldi tunnus "*õpetaja professionaalne areng*", kuna tulemused tõid esile õpetajate pideva professionaalse enesearengu olulisuse kaasava hariduse rakendamise ja selle kvaliteedi eeltingimusena. Õpetajate ebapiisavat ettevalmistust on peetud takistuseks kaasava hariduse elluviimisel (Chadwell et al., 2020; Sharma et al, 2019) ning pideva professionaalse arengu võimaldamine on seotud praktikate muutumise, õppijate saavutuste paranemise ja institutsioonide arendamisega (Youmans & Godden, 2022). Seetõttu oli oluline mudelis rõhutada õpetajate professionaalset arengut eraldi tunnusena. Organisatsiooni tasandil täpsustati teoreetilises mudelis toodud tunnust „*personaliga seotud tegevused*". Juhtumiuuringust selgus, et siin võiks eraldi välja tuua täpsemad tunnused: töötajate struktuur (ametikohad, töötajate arv, lisatööjõud), töökorraldus (töögraafikud, töökoormus, tööülesanded) ja hüved (hüvitised, lisatasud, puhkeaeg ja puhkused). Need tunnused tulenevad kohalikust kontekstist ja osalejad tajusid neid tunnuseid kaasava hariduse rakendamisel murekohana. Lasteaia töötajad ja töötajatega seotud ressursid on kaasava hariduse rakendamisel väga olulised näitajad (Locke et al., 2020; Sharma jt, 2019) ja seetõttu on oluline need selgelt esitada ka mudelis. Kolmandaks tõi juhtumiuuring esile väljakutsed, mis on seotud kaasava hariduse rakendamisega alushariduses. Kuigi kõik riigi tasandil esitatud tunnused olid olulised, näitasid tulemused, et nendega on seotud ka mitmed kitsaskohad kaasava hariduse rakendamisel ja, millele viitavad ka varasemad uuringud (Grisham-Brown et al., 2010; Haug, 2020; Magnússon et al., 2019; Shuelka, 2018). Peamine murekoht oli seotud poliitika ja üldise arusaamaga kaasamisest, nagu toovad välja ka Haug (2020) ja Magnússon jt (2019) oma uuringutes. Eesti hariduspoliitika ja seaduste osas ilmnes juhtumiuuringus, et kaasava hariduse põhimõtted ei olnud selgelt ja üheselt dokumenteeritud või olid elluviimiseks liiga jäigad. Uus alusharidusseadus (2025) sätestab kaasava

hariduse põhimõtted ja see annab võimaluse tulevikus aruteludeks kaasamise tähenduse ja kaasava hariduse rakendamise võimaluste üle. Teine kitsaskoht oli seotud tugispetsialistide puudusega ühiskonnas ning ressursside vähesusega kaasava hariduse rakendamisel. Samuti toovad Sharma ja tema kolleegid (2019) kaasava hariduse elluviimisel takistusena välja ressursside nappuse. Riigi tasandi võtmetunnuste esitamine mudelis võib aidata ületada nimetatud väljakutseid.

Kolmanda uurimisküsimusega sooviti välja selgitada, kuidas toetab mudeli põhjal loodud täienduskoolitusprogramm koolitusel osalejate tegevusvõimekust kaasava hariduse rakendamisel. Kolmanda uuringu tulemused näitasid, et kaasava hariduse rakendamise mudeli põhjal loodud täienduskoolitusprogramm toetab koolitusel osalejate tegevusvõimekust kaasava hariduse rakendamisel. Täpsemalt toimusid muutused kahes tegevusvõimekuse dimensioonis kolmest: pagas ja sihid, vastavalt tegevusvõimekuse mudelile (Leijen et al., 2020). Need tulemused on sarnased Leijeni jt (2022) läbi viidud varasema uuringuga. Selle doktoritööga seotud uuringus leiti erinevalt eelmisest uuringust positiivne mõju ka pagasi dimensioonis, mitte ainult sihtide dimensioonis nagu oli Leijeni ja teiste (2022) uuringus. Seda võib seletada erinevustega sekkumise kestuses ja osalejate koosluses lasteaedade meeskondade näol. Olulisem aspekt käesoleva doktoritöö eesmärgi kohaselt oli see, et uuring selgitab mõningal määral tegevusvõimekuse kujunemist kaasava hariduse rakendamise mudelis toodud viie kaasamise tasandi kontekstis. Tulemused näitasid muutusi tegevusvõimekuse pagasi ja sihtide dimensioonides kõigil viiel mudeli tasandil: lapse, õpetaja, perekonna, institutsiooni ja riigi tasandil.

Selle doktoritööga seotud tegevusvõimekuse kujunemist toetava lasteaiameeskondade pikaajalise täienduskoolitusprogrammi loomisel järgiti kolme peamist põhimõtet: meeskonna koostöö toetamine; meeskonnaliikmete praktikate reflekteerimine ja arendamine; meeskonnaliikmete uurimispädevuste arendamine. Eelnevalt välja toodud tulemused näitavad, et need põhimõtted on lasteaia töötajate tegevusvõimekuse toetamisel hädavajalikud. Varasemad uuringud on samuti näidanud, et sobiva juhendamisega kollektiivsed arutelud (Horn et al., 2016) ja töörühmad, kus osalejad keskenduvad pedagoogilise praktika ja õppijate õppimise uurimisele (Boonstra et al., 2022), toetavad õpetajate professionaalset arengut. Kokkuvõtteks võib öelda, et mudeli põhjal loodud täienduskoolitus toetas lasteaia töötajate tegevusvõimekuse paranemist kaasava hariduse rakendamisel. Seega näitasid tulemused, et mudel on sobiv kaasava hariduse rakendamiseks alushariduses.

Doktoritöö tulemustele tuginedes saab anda soovitusi nii edasiseks uurimistööks kui ka kaasava hariduse rakendamise toetamiseks Eestis. Doktoritöös loodud mudel, kus esitatakse kaasava hariduse definitsioon ja võtmetunnused tasandite kaupa, toetab kaasava hariduse rakendamist alushariduses. Seejuures tuleks edaspidi rohkem arutleda nii ühiskonnas laiemalt kui ka haridusasutustes kaasava hariduse tähenduse üle, mis on loodud mudeli keskmeks, ja jõuda sarnasele arusaamisele kaasava hariduse tähendusest, sest nii rahvusvahelistes uuringutes kui ka Eestis läbiviidud uuringud näitavad, et selles osas ei ole konsensust. Sarnase arusaama saavutamine võimaldab haridusasutustel kavandada arendus-

tegevusi ja leida sobivaid viise kõikide laste mõtestatud kaasamiseks lasteaias. Samuti peaksid edasised uuringud keskenduma praktikate kirjeldamisele, mis aitavad saavutada tõhusamat kaasamist, et vältida tõrjutust igal tasandil vastavalt kaasava hariduse mudelile. Tõenduspõhised tulemused saavad olla sisendiks hariduspoliitiliste otsuste tegemisel, pikemate sihtide seadmisel, ressursside planeerimisel ja seaduste muutmisel, et liikuda kaasavama ühiskonna poole. Samuti võib olla kasulik uurida, kuidas erinevad sekkumised võivad mõjutada õpetajate praktikat ja laste kaasamist. Doktoritööst selgus, et pikaajaline täienduskoolitus lasteaedade meeskondadele toetab osalejate tegevusvõimekust kaasava hariduse rakendamisel. Seega saab doktoritöös loodud mudel olla sisendiks ka õpetajate esma- ja täiendusõppe programmide loomisel või täiendamisel.

ACKNOWLEDGEMENTS

With this doctoral study, a very important journey in my life comes to an end. It has been an educational and enlightening experience, full of challenges and discoveries. Throughout this journey, I have experienced a wide range of emotions: joy, satisfaction, excitement, but also anxiety, longing and disappointment. Fortunately, the positive emotions have outweighed the negative ones. I have had the privilege of sharing these moments with many people, to whom I am deeply grateful.

I wish to express my deepest gratitude to my supervisor, Margus Pedaste. Without a doubt, it has been an honour and a privilege to have such an amazing supervisor. My doctoral studies began thanks to your encouragement—you believed in me and saw the potential for doctoral research. Our discussions were inspiring, exciting and educational, helping me to understand the nature of the scientific world. I truly appreciate the way you guided me. At the beginning of my studies, your support was especially strong. You explained the essential principles of scientific work and gave me the tools to become more independent in the future. This greatly increased my autonomy in conducting research. You were demanding, but never in a way that caused stress or anxiety. I never felt discouraged after our discussions or when receiving feedback because you always communicated in a supportive and constructive way. Even when we received critical feedback from reviewers, you remained positive. I learned from you that such feedback is an opportunity, not a failure. Your positivity and thoroughness were invaluable, and I learned so much from you. Thank you, Margus!

I would also like to thank Äli Leijen for her support in writing the third article of this doctoral study. Your detailed feedback provided valuable insights and helped me better understand the concept of teacher agency. You supported me in many ways throughout my doctoral journey. Do you remember that you were the one who proposed the theme for my doctoral study? That suggestion was the final push I needed to begin this journey. Thank you, Äli!

I am grateful to my colleagues in the inclusive education working group, which included members from the University of Tartu, Tallinn University and universities in Norway. Our regular meetings and discussions helped me better understand my work and gave me confidence that I was on the right path. I would like to thank Lii Lilleoja and Tiiu Tammemäe from Tallinn University for your contributions to designing and implementing the training programme and data collection. I also thank my close colleague Tiina Kivirand from the University of Tartu. Tiina, our discussions were always enlightening. I appreciate your insight and encouragement, especially as one of the few experts in inclusive education in Estonia. Thank you, Tiina!

Special thanks go to Stein Erik Solbø Ohna from the University of Stavanger, who hosted me during my fellowship. Stein Erik, you introduced me to the world of qualitative research. Through meaningful discussions and your illustrative drawings on the board, you helped me understand the nature of case study

research. Your feedback on my articles was invaluable. I will never forget our walks on the hiking trails around Stavanger. Your care and support during those three months meant so much to me. Thank you for your hospitality and encouragement!

I am also grateful to the excellent researchers who participated in various committees during my doctoral studies. I would also like to express my gratitude to the reviewers of pre-defence, Evelyn Kiive and Maire Tuul, who gave relevant suggestions to improve this doctoral study.

I extend my thanks to all fellow doctoral students and colleagues from the Institute of Education at the University of Tartu who supported me in various ways. Thank you, Gerli Silm, for your help with quantitative data analysis. Thank you, Maarja Taaler, for editing my articles – I truly appreciate your efforts in language editing, especially given the limitations of my English skills. Thank you, Airi Heinaru, for listening, thinking along with me and celebrating my successes.

This journey would not have been possible without the kindergartens that participated in the study. Thank you for engaging in the long-term training programme and for taking the time to participate in interviews, observations and questionnaires. Your cooperation was essential.

Finally, and most importantly, I extend my deepest gratitude to my family and closest friends. Thank you, Liisi Tool, for our fruitful discussions and your encouragement. Thank you, Mom and Dad, for your support! I was able to focus on my studies knowing you were always there if needed. To my dear daughter Janetta – you supported me in everything I did. I shared many emotions with you during this journey, and your honest feedback helped me clarify my thoughts. I'm sorry for the time I spent away from home. I know it was difficult, but you had a very special person supporting you. Thank you, Robin! To my dear son Tristan Martin – you are one of the most sensible, empathetic and kind-hearted children. I'm sorry for the postponed trips and other activities we have not been able to do together yet, or for the long periods away from home when you missed me. I will never forget those bedtime stories over video calls and the long conversations when we shared our impressions of the day. However, I hope that my effort in completing my doctoral studies will inspire you, dear Janetta and Tristan Martin, to move towards your goals and dreams.

And finally, to my loving husband Martin – words cannot express my gratitude. Thank you for allowing me the time and space to dedicate myself to my studies, whether it was the writing camps, the fellowship in Stavanger or the countless weekends spent working on articles and the dissertation. You took on all the responsibilities at home and as a parent. Your love and trust have been the greatest gifts and the most significant contribution to the completion of this journey. Thank you, Martin!

PUBLICATIONS

CURRICULUM VITAE

Name:	Pille Nelis
Date of birth:	22.11.1973
Citizenship:	Estonian
Work address:	Institute of Education, Jakobi 5, Tartu 51003
e-mail:	pille.nelis@ut.ee

Education:

2019–2025	University of Tartu, PhD studies in Educational Science
2006–2008	Tallinn University, Master studies in Educational Leadership
2000–2005	University of Tartu, Master studies in Educational Sciences
1992–1994	Rakvere School of Pedagogy, Vocational secondary education of Early Years Teacher
1981–1992	Palamuse Oskar Lutsu Upper Secondary School

Professional employment:

2023–…	University of Tartu, Institute of Education, Programme Director of Inclusive Education Master's Curriculum
2021–…	University of Tartu, Institute of Education, Junior Lecturer in Educational Sciences
2018–2023	University of Tartu, Institute of Education, Vice Director for Academic Affairs
2018–2020	University of Tartu, Institute of Education, Assistant of Educational Sciences
2015–2018	University of Tartu, Institute of Education, Senior Specialist of Educational Technology
2015–2018	University of Tartu, Institute of Education, Coordinator of Pedagogicum
2011–2014	University of Tartu, Institute of Education, Programme Director
2004–2011	Otepää Kindergarten, Director
2000–2004	Tartu Midrimaa Kindergarten, Early Years Teacher
1995–2000	Rõngu Kindergarten, Music Teacher and Physical Education Teacher

Field of research:	Implementation of inclusive education in early childhood education

Publications:

Kivirand, T., & Nelis, P. (2024). Kaasav hariduskorraldus õppeasutuse tasandil. Ä. Leijen (Toim.), *Kaasav haridus* (pp. 59–85). Tartu Ülikooli Kirjastus. https://hdl.handle.net/10062/104878

Kivirand, T., Šuman, C., & Nelis, P. (2024). Kaasav hariduskorraldus rühma- või klassiruumi praktikas. Ä. Leijen (Toim.), *Kaasav haridus* (pp. 87–111). Tartu Ülikooli Kirjastus. https://hdl.handle.net/10062/104878

Nelis, P., & Kivirand, T. (2024). Kaasava hariduse tähendus ja rakendamine. Ä. Leijen (Toim.), *Kaasav haridus* (pp. 17–57). Tartu Ülikooli Kirjastus. https://hdl.handle.net/10062/104878

Nelis, P., Pedaste, M., & Šuman, C. (2023). Kaasava hariduse rakendamine Eesti lasteaedades kaasava hariduse teoreetilise mudeli põhjal: juhtumiuuring. [Implementation of inclusive education in Estonian kindergartens based on the theoretical model of inclusive education: a Case Study]. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education], 11*(1), 48−74. https://doi.org/10.12697/eha.2023.11.1.03

Pedaste, M., Leijen, Ä., Kivirand, T., Nelis, P., & Malva, L. (2021). School leaders' vision is the strongest predictor of their attitudes towards inclusive education practice. *International Journal of Inclusive Education, 28*(8), 1503−1519. https://doi.org/10.1080/13603116.2021.1994661

Silm, G., Lepp, L., Kivirand, T., Leijen, Ä., Pedaste, M., Nelis, P., Rikanson, L., Sild, A., & Kutti, A. (2024). *Kaasava hariduskorralduse tõhusus üldhariduses 2023: uuringu lõppraport*. Tartu Ülikool. Haridusteaduste Instituut.

Tammemäe, T., Lilleoja, L., & Nelis, P. (2023). Osalejate hinnangud meeskonnakoolitusele kaasava hariduse tähenduslikust rakendamisest koolieelses lasteasutuses [Participants' evaluations of the meaningful implementation of Inclusive Education in preschool for team training]. *Eesti Haridusteaduste Ajakiri [Estonian Journal of Education]*, *11*(1), 75−102. https://doi.org/10.12697/eha.2023.11.1.04

ELULOOKIRJELDUS

Nimi:	Pille Nelis
Sünniaeg:	22.11.1973
Kodakondsus:	eesti
Töökoha aadress:	Haridusteaduste instituut, Sotsiaalteaduste valdkond, Tartu Ülikool, Jakobi 5, Tartu 51003
e-post:	pille.nelis@ut.ee

Haridustee:

2019–2025	Tartu Ülikool, Haridusteaduse doktoriõpe
2006–2008	Tallinna Ülikool, magistriõpe, hariduse juhtimine
2000–2005	Tartu Ülikool, bakalaureuseõpe, kasvatusteadused
1992–1994	Rakvere Pedagoogikakool, keskeri haridus, koolieelse lasteasutsue õpetaja
1981–1992	Oskar Lutsu nimeline Palamuse Keskkool

Teenistuskäik:

2023–…	Tartu Ülikool, haridusteaduste instituut, kaasava hariduse magistriõppekava programmijuht
2021–…	Tartu Ülikool, haridusteaduste instituut, haridusteaduste nooremlektor
2018–2023	Tartu Ülikool, haridusteauste instituut, õppejuht
2018–2020	Tartu Ülikool, haridusteaduste instituut, haridusteaduste assistent
2015–2018	Tartu Ülikool, haridusteaduste instituut, haridustehnoloogia peaspetsialist
2015–2018	Tartu Ülikool, haridusteaduste instituut, Pedagoogicumi koordinaator
2011–2014	Tartu Ülikool, haridusteaduste instituut, programmijuht
2004–2011	Otepää Lasteaed, direktor
2000–2004	Tartu Midrimaa Lasteaed, lasteaiaõpetaja
1995–2000	Rõngu Lasteaed, muusika- ja liikumisõpetaja

Teadusvaldkond: Kaasava hariduse rakendamine alushariduses

Publikatsioonid:

Kivirand, T., & Nelis, P. (2024). Kaasav hariduskorraldus õppeasutuse tasandil. Ä. Leijen (toim.), *Kaasav haridus* (pp. 59–85). Tartu Ülikooli Kirjastus. https://hdl.handle.net/10062/104878

Kivirand, T., Šuman, C., & Nelis, P. (2024). Kaasav hariduskorraldus rühma- või klassiruumi praktikas. Ä. Leijen (toim.), *Kaasav haridus* (pp. 87–111). Tartu Ülikooli Kirjastus. https://hdl.handle.net/10062/104878

Nelis, P., & Kivirand, T. (2024). Kaasava hariduse tähendus ja rakendamine. Ä. Leijen (toim.), *Kaasav haridus* (pp. 17–57). Tartu Ülikooli Kirjastus. https://hdl.handle.net/10062/104878

Nelis, P., Pedaste, M., & Šuman, C. (2023). Kaasava hariduse rakendamine Eesti lasteaedades kaasava hariduse teoreetilise mudeli põhjal: juhtumiuuring. *Eesti Haridusteaduste Ajakiri, 11*(1), 48−74. https://doi.org/10.12697/eha.2023.11.1.03

Pedaste, M., Leijen, Ä., Kivirand, T., Nelis, P., & Malva, L. (2021). School leaders' vision is the strongest predictor of their attitudes towards inclusive education practice. *International Journal of Inclusive Education, 28*(8), 1503−1519. https://doi.org/10.1080/13603116.2021.1994661

Silm, G., Lepp, L., Kivirand, T., Leijen, Ä., Pedaste, M., Nelis, P., Rikanson, L., Sild, A., & Kutti, A. (2024). *Kaasava hariduskorralduse tõhusus üldhariduses 2023: uuringu lõppraport*. Tartu Ülikool. Haridusteaduste Instituut.

Tammemäe, T., Lilleoja, L., & Nelis, P. (2023). Osalejate hinnangud meeskonna-koolitusele kaasava hariduse tähenduslikust rakendamisest koolieelses lasteasutuses. *Eesti Haridusteaduste Ajakiri*, *11*(1), 75−102. https://doi.org/10.12697/eha.2023.11.1.04

DISSERTATIONES PEDAGOGICAE UNIVERSITATIS TARTUENSIS

1. **Карлеп, Карл**. Обоснование содержания и методики обучения родному языку во вспомогательной школе. Tartu, 1993.
2. **Ots, Loone**. Mitmekultuurilise hariduse õppekomplekt eesti kirjanduse näitel. Tartu, 1999.
3. **Hiie Asser**. Varajane osaline ja täielik keeleimmersioon Eesti muukeelse hariduse mudelitena. Tartu, 2003.
4. **Piret Luik**. Õpitarkvara efektiivsed karakteristikud elektrooniliste õpikute ja drillprogrammide korral. Tartu, 2004.
5. **Merike Kull**. Perceived general and mental health, their socio-economic correlates and relationships with physical activity in fertility-aged women in Estonia. Tartu, 2006.
6. **Merle Taimalu**. Children's fears and coping strategies: a comparative perspective. Tartu, 2007.
7. **Anita Kärner**. Supervision and research training within the professional research community: Seeking new challenges of doctoral education in Estonia. Tartu, 2009.
8. **Marika Padrik**. Word-formation skill in Estonian children with specific language impairment. Tartu, 2010.
9. **Krista Uibu**. Teachers' roles, instructional approaches and teaching practices in the social-cultural context. Tartu, 2010.
10. **Anu Palu**. Algklassiõpilaste matemaatikaalased teadmised, nende areng ja sellega seonduvad tegurid. Tartu, 2010.
11. **Mairi Männamaa**. Word guessing test as a measure of verbal ability. Use of the test in different contexts and groups. Tartu, 2010.
12. **Piret Soodla**. Picture-Elicited Narratives of Estonian Children at the Kindergarten-School Transition as a Measure of Language Competence. Tartu, 2011.
13. **Heiki Krips**. Õpetajate suhtlemiskompetentsus ja suhtlemisoskused. Tartu, 2011.
14. **Pille Häidkind**. Tests for assessing the child's school readiness and general development. Trial of the tests on the samples of pre-school children and first-grade students in Estonia. Tartu, 2011.
15. **Karmen Trasberg**. Keskkooli- ja gümnaasiumiõpetajate ettevalmistus Eesti Vabariigis (1918–1940) õpetajakoolituse ajaloolise kujunemise kontekstis. Tartu, 2011, 207 lk.
16. **Marvi Remmik**. Novice University Teachers' professional development and learning as a teacher: Opportunities and Conditions at Estonian Higher Education Institutions. Tartu, 2013, 129 p.
17. **Pilve Kängsepp**. Küsimuste kasutamine kui võimalus toetada õpilaste arusaamist loetust. Tartu, 2014, 125 p.
18. **Marge Täks**. Engineering students' experiences of entrepreneurship education. A qualitative approach. Tartu, 2015, 150 p.

19. **Reelika Suviste**. Students' mathematics knowledge and skills, and its relations with teachers' teaching and classroom management practices: Comparison between Estonian- and Russian-language schools. Tartu, 2015, 147 p.
20. **Liina Lepp**. The objectives of doctoral studies and factors influencing doctoral study process from the perspectives of different parties. Tartu, 2015, 271 p.
21. **Ülle Säälik**. Reading literacy performance: Metacognitive learning strategies matter, schools have effect on student outcomes. Tartu, 2016, 119 p.
22. **Katrin Saks**. Supporting Students' Self-Regulation and Language Learning Strategies in the Blended Course of Professional English. Tartu, 2016, 216 p.
23. **Anne Okas**. Novice and experienced teachers' practical knowledge in planning, delivery and reflection phases of teaching. Tartu, 2016, 172 p.
24. **Külli Kori**. The Role of Academic, Social and Professional Integration in Predicting Student Retention in Higher Education Information Technology Studies. Tartu, 2017, 168 p.
25. **Ingrid Koni**. The perception of issues related to instructional planning among novice and experienced teachers. Tartu, 2017, 142 p.
26. **Ivar Männamaa**. Development of an educational simulation game and evaluation of its impact on acculturation attitudes. Tartu, 2017, 154 p.
27. **Egle Säre**. Developing the reasoning skills of pre-schoolers through Philosophy for Children. Tartu, 2018, 131 p.
28. **Anu Sööt**. The procedure of guided core reflection for supporting the professional development of novice dance teachers. Tartu, 2018, 135 p.
29. **Tiina Anspal**. The development of teacher identity through role and self-conception in pre-service teacher education. Tartu, 2018, 157 p.
30. **Age Salo**. The dual role of teachers: school-based teacher educators' beliefs about teaching and understandings of supervising. Tartu, 2019, 156 p.
31. **Mirjam Burget**. Making sense of responsible research and innovation in science education. Tartu, 2019, 175p.
32. **Kaire Uiboleht**. The relationship between teaching-learning environments and undergraduate students' learning in higher education: A qualitative multi-case study. Tartu, 2019, 169 p.
33. **Karin Naruskov**. The Perception of Cyberbullying among Estonian Students According to Cyberbullying Types and Criteria. Tartu, 2020, 176 p.
34. **Raili Allas**. Supporting teachers' professional development through reflection procedure. Tartu, 2020, 182 p.
35. **Triinu Kärbla**. Assessment of text comprehension and teaching comprehension strategies in Estonian basic school. Tartu, 2020, 183 p.
36. **Kadi Luht-Kallas**. Risk-taking behaviour: Relationship with personality and markers of heritability, and an intervention to prevent unintentional injury. Tartu, 2020, 135 p.
37. **Tõnis Männiste**. Measuring military commanders' decision making skills in a simulated battle leading environment. Tartu, 2020, 256 p.
38. **Maile Käsper**. Supporting primary school students' text comprehension and reading interest through teaching strategies. Tartu, 2021, 158 p.

39. **Liina Malva**. Teachers' General Pedagogical Knowledge: Its Nature, Assessment and Representation in Practice. Tartu, 2021, 163 p.
40. **Liina Adov**. Predicting teachers' and students' reported mobile device use in stem education: The role of behavioural intention and attitudes. Tartu, 2022, 160 p.
41. **Wilson Ofotsu Otchie**. Social Media in Education: Contextualizing Teaching with Social Media in High School. Tartu, 2022, 205 p.
42. **Karmen Kalk**. Using blogs to promote and predict reflection during teaching practice and induction year. Tartu, 2022, 139 p.
43. **Gerli Silm**. Test-Taking Motivation in Low-Stakes and High-Stakes Testing Contexts. Tartu, 2022, 156 p.
44. **Innocent Kwame Bedi**. Determining school heads' practices aimed at ensuring school quality and the resulting job stress factors: a study of senior high school heads in Ghana. Tartu, 2022, 160 p.
45. **Tiina Kivirand**. The Meaning of Inclusive Education and Supporting the Implementation of Inclusive Education through In-service Training Course in the Estonian Context. Tartu, 2023, 173 p.
46. **Triinu Soomere**. Doctoral students' perspectives on learning about teaching in the higher education context. Tartu, 2024, 162 p.
47. **Piret Viirpalu**. Teachers' feelings of curriculum ownership: Estonian school-teachers as curriculum developers and curriculum users. Tartu, 2024, 145 p.