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ESTONIA & GERMANY

Ulrike Beate Müller, Ene Varik-Maasik and Maire Tuul

School Development and Primary School Teacher Education for Inclusion in Estonia and Germany – How a COIL Seminar Promotes Student Teachers' Competences and Attitudes

Abstract

For inclusive school development teacher education is a central element. Internationalisation of teacher education can foster social and intercultural competences. The UNESCO suggests to embed four core values by the *European Agency for Special Needs and Inclusive Education* in teacher education programs for inclusion. To foster students' inclusive competences, the international digital seminar *Virtual international exchange worldwide (View): Transition and inclusion* was designed and conducted by incorporating the concepts of COIL, flipped classroom and continuous formal and informal exchange in international groups. The article presents research findings of how the seminar *View* can promote inclusive competences of student teachers. Seminar evaluations of a pre-post semi-structured online survey with students indicate a positive development of students' attitude towards inclusion and an enhancement of their in-depth knowledge in the field of inclusion. As contributing factors to the attitude towards inclusion students' attitude towards diversity and practical experience have been identified. Cooperation of the group work in the seminar has predominantly been described as being on a quite high level. Findings are discussed in regard of the four core values for inclusive teachers. In conclusion, the seminar *View* contributes to the knowledge about formats in higher education to qualify teachers for inclusive education.

Keywords: Inclusive Education, Teachers' Competences, Intercultural Cooperation, Internationalisation of Teacher Education, Collaborative Online International Learning (COIL), Estonia, Germany

1 Introduction

In 2015 the Incheon Declaration and Framework for Action highlighted indicative strategies to improve teacher training, especially “on how to address challenges of pupils with special education needs” (UNESCO et al., 2015, p. 55). Based on an understanding of inclusive education as a basic human right, Ainscow (2020) emphasizes the international tendency to understand inclusion as a broad concept for all learners. Diversity of learners encompasses aspects of gender, social class, ethnicity, religion, and ability. In Ainscow’s framework four interrelated factors contribute to school development: inclusion and equity as principles, evidence, administration, and community involvement (Ainscow, 2020, pp. 8).

For inclusive school development teacher education is a central element (UNESCO et al., 2015). Internationalisation of teacher education can foster social and intercultural competences (Council of the European Union, 2020). The international digital seminar *View: Transition and inclusion* was designed to promote inclusive competences of German, Estonian and further international students from partner universities of Justus Liebig University in Hesse/Germany. As most students of the seminar were German and Estonian students, one research question of this article will deal with a comparison of these two groups respectively their school systems in regard to inclusion as background for comparison.

There are similarities but also differences in the school systems of Estonia and Germany. In Estonia, primary schools operate under unified national standards. Since 2010, the principle of inclusive education has been a part of national education policy (Basic School and Upper Secondary School Act, 2010), ensuring that all students can learn together in regular neighborhood schools. While special schools for students with specific needs still exist, their numbers have decreased. In the past decade, society has made significant strides towards universal education (Silm et al., 2024), ensuring equal access to quality learning opportunities for all and the development of information and communication technologies (ICT) significantly contributes to overcoming new challenges. In Germany the school system is in many terms governed by federal state governments. Thus, the ways how inclusion actually is implemented in schools differ all over Germany. Even though primary school was proclaimed to be “a school for all children” in 1919 already (Miller, 2019) and the UN CRPD was ratified in Germany in 2009, the process of inclusive education for children with special educational needs at regional schools seems to have stuck somewhere on its way in many federal states (Anders, 2025).

The objective of the article is to present research findings of how the seminar *View* can promote inclusive competences of student teachers from Estonia and Germany. The chapter will start with an overview of the school systems

in Estonia and in Germany, focused on inclusive education. Afterwards competences of teachers for inclusive education are dealt with and the potential of internationalized teacher education for (future) teacher's competences in inclusive education are dealt with. In this context the concept of the Virtual international exchange worldwide (View)-seminar and of its evaluation towards inclusive education are introduced. Research findings will be presented referring to the attitude of inclusion, intercultural cooperation, and in comparison of Estonian and German students. Results will be led back to the state of research and will be discussed in regard to the four core values for inclusive teachers (European Agency for Special Needs and Inclusive Education, 2022).

2 School Systems: Inclusion in Estonia and in Germany

In Estonia, compulsory schooling starts at the age of 7 and lasts until either the completion of basic education (usually at the age of 15-16) or the age of 17 (Basic School and Upper Secondary School Act, 2010, see Table 1. Early childhood education (ECE) is not compulsory, but around 94 % of 4-7-year-olds are enrolled in ECE (Ministry of Education and Research, 2020). Early childhood education and care (ECEC) in Estonia is regulated by the Early Childhood Education Act (2025) and the National Curriculum for Early Childhood Education (2025). Both documents foreground inclusive education by emphasising children's participation alongside their peers and the provision of support based on individual needs. The national curriculum requires the adaptation of learning and teaching activities, as well as the learning environment, in agreement with parents, to support each child's development. Children's development is systematically monitored, and information on assessments, implemented support measures, and their effectiveness is documented to inform further support. Where necessary, an individual development plan is prepared in collaboration with the teacher, assistant teacher, support specialists, and parents, and its implementation is reviewed at least annually. The Early Childhood Education Act (2025) assigns local authorities' responsibility for ensuring access to support services and for creating conditions that enable the inclusion of all children in ECEC settings. The vast majority of children with special needs are included among their peers in kindergartens in Estonia (European Agency for Special Needs and Inclusive Education, 2020).

Table 1: Estonian Educational System (Estonian Education and Youth Board, n.d.)

Age	Educational System		Grade	Related Teacher Qualification
18	General upper secondary education (Üldkeskharidus)	Secondary vocational education (Kutsekeskharidus)	12	Teachers must have a master's degree (300 ECTS) or an equivalent qualification, a teaching certification, and proficiency in Estonian at the C1 level.
17			11	
16			10	
15	Basic education (Põhiharidus)		9	
14			8	
13			7	
12			6	
11			5	
10			4	
9			3	
8			2	
7			1	
6	Preschool (Alusharidus)			Higher Education (Bachelor degree: 180 ECTS), pedagogical competences and proficiency in Estonian at the C1 level.
5				
4				
3				
2				
1.5				

In Estonia, the education and training of school-age children is regulated by the Basic Schools and Upper Secondary Schools Act (2010). Since 2010, schools have been gradually moving towards an inclusive education policy. While after the restoration of Estonia's independence in the 1990s and 2000s, pupils with special needs, often including those with learning difficulties, were placed in special classes or schools, today they mostly remain in mainstream classes in regular schools.

In Estonia, education is organised according to the approach of the European Agency for Special Needs Education and Inclusive Education, according to which the aim of inclusive education is to ensure that all learners have the opportunity to acquire a meaningful and high-quality education in a school close to home, together with other students of their own age (Ministry of Education and Research, n.d.). Inclusion is defined as learning that takes place at least 80 % of the time in a mainstream classroom, which means that, depending on the special needs of the pupil, part of the learning may also take

place in a special classroom (European Agency for Special Needs Education and Inclusive Education, 2020). Each school has a coordinator for the learning of pupils with special educational needs, who manages internal and external cooperation. The need for support for pupils is registered in the Estonian Education Information System (EHIS), where the need for general, enhanced or special support is indicated, and appropriate measures are selected on the basis of this information (Basic Schools and Upper Secondary Schools Act, 2010). According to the Basic Schools and Upper Secondary Schools Act (2010), children in mainstream classrooms can receive general support (individual tutoring by a teacher, services of support specialists, learning support) provided by the school or local authority in case of minor or temporary learning difficulties. Under this law, the school may make adjustments to the learning time, content, process, and environment, and if the general support provided by the school does not produce the desired results, enhanced or specific support may be provided on the recommendation of an out-of-school counselling team. Enhanced support is needed for pupils with persistent learning difficulties or health problems and special support is needed for pupils with severe disabilities or mental health problems. In both cases, the pupil may be in a mainstream or a special class, although most pupils with sensory, mobility or intellectual disabilities are in a special school or special class (Silm et al., 2024). The transition to inclusive education in Estonia has not been smooth.

In Germany the school system is in many terms governed by federal state governments (for further reading on the German school system see Standing Conference of the Ministers of Education and Cultural Affairs, German: *Kultusministerkonferenz* (KMK, 2023), see the chapter on Germany by Schlesier et al. in this anthology for further details). In regard of special and/or inclusive education, first schools for children with learning difficulties were founded at the end of the 19th century (Sturm, 2016). In 1919 primary school was proclaimed to be “a school for all children” (Miller, 2019), yet it was neither a school for children with special learning difficulties nor for children with a different citizenship than German. Children from migrant families were excluded as there was no compulsory education for them until the 1960s (Sturm, 2016). Even though the German Education Committee (German: *Deutscher Bildungsrat*; it was a committee for strategic planning of education in the 20th century) formulated the first document in 1972, which suggested to educate children with and without special needs commonly in one classroom, special schools expanded according to the KMK declarations in 1972. The United Nations’ Convention on the Rights of Persons with Disabilities (UN CRPD) was ratified in Germany in 2009 (Sturm, 2016).

Currently, the process of inclusive education for children with special educational needs at regional schools seems to have stuck somewhere on its way

in many federal states in Germany (Anders, 2022). Whereas there was a clear tendency for more inclusive education in Germany between 2009 and 2016, the rate of exclusion stayed almost the same from 2016 until today (for all Germany: rate of exclusion 4.9 % in 2009, 4.4 % in 2016, 4.3 % in 2021 as time of most current data; Aktion Mensch, 2024a). The rate of inclusion has risen from 1.1 % in 2009 up to 3.5 % in 2021 (Aktion Mensch, 2024a). This can be interpreted as a slightly positive tendency of inclusive education as the rate of assistance has risen since 2009 from 6.0 % to 7.7 % in Germany as well. The rate of assistance corresponds to an average rate in Europe (Aktion Mensch, 2024a). Yet, all data have to be interpreted carefully as the rate of assistance varies quite strongly between the federal states in Germany, also due to the fact that decisions on assistance status are made differently in each federal state, even in each region and city.

The German students referred to in this article attend university in Hesse. In 2021, the rate of assistance there was the lowest in Germany, at just 5.5 %. In Hesse, there is a tendency for more inclusive education (inclusion rate 0.5 % in 2009 and 2.1 % in 2021; exclusion rate 4.3 % in 2009, and 3.4 % in 2021; Aktion Mensch, 2024b). Yet, a sort of barrier seems to keep a certain level of the rate of exclusion, as in all Germany. Of course, a generalization for all Germany is hardly possible because there are individual schools and regions in Germany which work really inclusive and advanced in these terms (e.g., Häcker, 2023).

3 Teacher Education for Inclusive Education

Estonia has made significant investments in teacher preparation, continuously developing and modernizing its teacher education programs (OECD, 2019). School teachers are expected to have a master's degree (Basic Schools and Upper Secondary Schools Act, 2010), while kindergarten teachers must have higher education and pedagogical competences, and special group (for children with special needs) and inclusion group (there are some children with special needs among other pupils) teachers are additionally expected to possess special education competences (Early Childhood Education Act, 2025). In recent years, there has been a strong focus on enhancing the coverage of inclusive education in both initial and in-service teacher training. Knowledge of special needs is integrated into the curricula for early childhood, primary, and subject teachers.

In Germany, teacher education for all kinds of schools is regulated in the laws of the 16 federal states. The Standing Conference of the Ministers of Education and Cultural Affairs of the States in the Federal Republic of Germany (KMK) is the central consortium of ministers for the coordination and development of

education in Germany. It is responsible for “education and schooling, institutes of higher education and research and cultural affairs” and formulates “the joint interests and objectives of all 16 federal states” (*Sekretariat der Ständigen Konferenz der Kultusminister*, Secretary of the Standing Conference of the Ministers of Education and Cultural Affairs, 2024). In 2013, the KMK put “inclusion” in the declarations for all teacher education programmes (Walm & Wittek, 2024). In 2015, the KMK and the German Rector’s Conference (German: Hochschulrektorenkonferenz, HRK) passed a common declaration for teacher education in all federal states with the aim of basic competences to configure inclusive lessons and inclusive school (KMK & HRK, 2015, p. 2). They emphasized knowledge and skills, attitudes towards diversity, professional cooperation, and profession directed reflection as central aims for teacher education. They also pleaded for implementing inclusion in all study parts (KMK & HRK, 2015). In 2020, KMK and HRK concluded to see a visible implementation of inclusion in teacher education at German universities. Nevertheless, Walm and Wittek (2024) summed up in their expertise that inclusive education has not been implemented systematically in teacher education in Germany, yet. In 2017, Greiten et al. still saw a lack of discussion in the field of how to educate teachers for inclusion. They referred to classic and innovative teaching formats in higher education to teach knowledge and reflective competences in regard of inclusion at school. The Council of the European Union (2020, p. 1) regards internationalisation of teacher education – either virtual, blended or physical – to be of importance for (future) teachers to become more “cosmopolitan educators” so that they are better prepared for challenges to work with pupils from diverse linguistic, cultural and socioeconomic backgrounds and with other special needs. In this context a special potential can be seen in teaching formats of internationalisation which focus on inclusion. For example, there are formats such as ‘Mapping of Inclusion’ (Vogt et al., 2024) and bilingual and collaborative formats (Seitz & Demo, 2024). Moreover, there are formats of COIL, which are collaboratively and internationally led by lecturers of different countries – as the View seminar as the researched concept in this article will show later on (Müller, 2025; Brück-Hübner et al., 2024).

4 State of the Art: School Development and (Internationalised) Teacher Education for Inclusion

For inclusive school development, a German study revealed a fundamental willingness for changes and a cooperative basic understanding of a school team as factors of success for school development (Tellisch, 2020). Lütje-Klose and Neumann (2018) identified that successful inclusive schools use intensive forms of cooperation – they refer to the model of cooperative relationships

by Gräsel et al. (2006), which distinguishes between three levels of low up to intensive cooperation. In contrast to this, Richter and Pant (2016) found out that teachers in general usually cooperate on a quite basic level but don't use complex forms of cooperation very often. An Estonian study (Räis et al., 2016) categorised schools into three groups based on their approach to inclusion: inclusive schools, schools in transition, and traditional schools. While most schools aimed to implement inclusive education, they often lacked the necessary vision, experience, and resources. Estonian data from 2020 indicates that while the attitudes of school and kindergarten staff toward inclusive education are generally positive, there are still significant challenges in its implementation (Silm et al., 2024).

In regard of research on teacher education for inclusion, the Teacher Professional Learning for Inclusion (TPL4I) project identified seven essential features to support teacher professional learning for inclusion and resulted in a profile for inclusive teacher professional learning in the form of a framework with four core values and ten areas of competences (European Agency for Special Needs and Inclusive Education, 2022). The profile's core values are: valuing learner diversity, supporting all learners, working with others, and personal and collaborative professional development (European Agency for Special Needs and Inclusive Education, 2022). These core values and their areas of competences are described in detail by underpinning attitudes and beliefs, essential knowledge and crucial skills (European Agency for Special Needs and Inclusive Education, 2022; for more detail see Müller, 2024, p. 39/40).

Gebauer (2019) emphasizes the importance of positive attitudes towards the handling of certain aspects for lessons and everyday life at school. In regard of teacher education for inclusion, studies found neutral up to positive beliefs of student teachers towards inclusive education. As contributing factors for the attitude towards inclusive education instructional experiences with inclusion and a longer period of studies so far were identified (Bosse & Spörer, 2014; Scharenberg & Liebner, 2019). Gebauer (2019) and Lehmann-Grube et al. (2019) refer to little knowledge so far about the development of student teachers' attitudes in course of their studies and through certain measures of teacher education. Referring to inclusion, Scharenberg and Liebner (2019) found a positive development of student teachers' beliefs towards inclusion through formats of teacher education with a focus on inclusion.

Research findings show that there is a potential of internationalization for teacher education to support competences which are necessary for inclusion. Most studies conducted so far focused especially on students' stays abroad (*Deutscher Akademischer Austauschdienst* e.V., German Academic Exchange Service e.V. [DAAD], 2023; European Union, 2019; Janert, 2022; Kercher & Schifferings, 2019). They show that students improve abroad in-depth knowl-

edges, language abilities, and also personal teaching competences such as professional self-reflection, self-confidence in teaching abilities, and pedagogical self-efficacy. Additionally, students improve intercultural competences, which can be seen as specifically important for working with pupils from diverse cultural backgrounds.

Amrhein and Badstieber (2013) concluded that there are not a lot of long-term and scientifically evaluated formats to qualify teachers for inclusive education. There is a lack of knowledge of how to educate teachers for inclusion in different countries and of how concretely teaching competences for inclusion can be supported. Studies referring to the Estonian system suggest that particularly collaboration skills between teachers and support specialists need more emphasis (Räis et al., 2016; Silm et al., 2024). According to Biederbeck and Rothland (2018) it is important that intensive forms of cooperation are developed long-ranging and multifactorial as these cannot be built through single measures of intervention.

There is a lack of research on the effects of teacher education formats on attitudes in general (Gebauer, 2019; Lehmann-Grube et al., 2019), on inclusion (Amrhein & Badstieber, 2013), and on the internationalization of teacher education – particularly internationalization at home and participants' perspectives (Gerlach & Lüke, 2021; Abraham & von Brömssen, 2018). This gap is especially evident regarding the combined effects of internationalized teacher education formats for inclusion.

To contribute to this gap of knowledge, research on the international seminar *View: Transition and Inclusion* with its special focus on inclusive education and inclusive school development has been conducted.

5 Methodology

5.1 Research Design

The three authors of the article have been part of the seminar management team since the first seminar started in April 2023. From the beginning of the first *View: Transition and Inclusion*-seminar a mixed-method research paradigm¹ was used to evaluate the seminar format and effects for students' competence development. Central for the evaluation is a pre-post online survey for all students (Brück-Hübner et al., 2024). In this paper evaluations of quantitative and qualitative data of the pre-post survey in summer term 2023, in winter term 2023/24 and in summer term 2024 will be presented.

1 For further information on the development of the research paradigm see Müller, 2025; Müller et al., 2023.

5.2 Research Questions

The central research question for this article is: How do future teachers' inclusive competences and attitudes develop in a digital international seminar?

1. How does the attitude towards inclusion develop in course of the seminar?
What have students learned in regard of inclusion in course of the seminar?
2. What are personal and institutional factors that contribute to students' attitude towards inclusion?
3. What are the levels of cooperation in group work (see Gräsel et al., 2006)?
4. What are the differences between Estonian and German students in regard of attitude towards inclusion and cooperation?

5.3 Research Context: Seminar View (Virtual international exchange worldwide): Transition and Inclusion

Data for this article were collected in context of the digital seminar "Virtual international exchange worldwide (View) – Transition and Inclusion". The seminar was designed for teacher education in context of the Virtual International Program (VIP) at Justus Liebig University Giessen (JLU; Müller et al., 2023; Kopp et al., 2024) by incorporating the concepts of COIL (Rubin & Guth, 2017) and flipped classroom (Akçayır & Akçayır, 2018). A German and two Estonian lecturers planned and executed the 3 ECTS seminar in sense of COIL in summer term 2023, in winter term 2023/24 and in summer term 2024 in a concentrated course format. A continuous work in eight to ten international groups of three to five students was established to let the students cooperate and communicate actively on a formal and an informal level with the task to prepare an oral presentation. Informal compulsory sessions were led by a student tutor especially to promote a constant intercultural exchange.² One module of the seminar focused on the topic of inclusion by concentrating on aspects of teaching assistants, teacher's role, teacher education and use of educational robotics. An e-portfolio was worked on all through the seminar by all students for self-reflection on learning processes and on cooperation in groups. All students of the seminar in summer term 2023, in winter term 2023/24 and in summer term 2024 – Germans, Estonians and a few further students from other countries – were asked to answer an online survey right at the beginning and at the end of the seminar (see also Müller, 2025; Müller, 2024; Brück-Hübner, et al. 2024; Brück-Hübner & Müller, 2024).

2 For further information on the seminar organisation, see Müller, 2025; Brück-Hübner et al., 2024.

5.4 Sample

Out of 125 university students who took part in the survey, there were 83 students in sum of three semesters who gave answers to both parts of the online survey, pre and post. Altogether, there were 48 German students, 30 Estonian students and 5 other international students from further partner universities of JLU. Most students were enrolled in primary school education ($n = 47$), others in early childhood education ($n = 20$), special or inclusive education ($n = 11$) and in other fields of studies ($n = 5$). While all Germans were close to the end of their study time, most Estonians were quite at the beginning of their studies. More than 50 % of the students had practical experience at (pre)school (for more details of the relations between country, study programme and practical experience see Table 2). The average age was 26 years ($M = 26.42$, $SD = 6.51$, range = 20-46; $M_{\text{Germans}} = 24.13$, $M_{\text{Estonians}} = 31.00$, $M_{\text{others}} = 21.00$). There were 74 female, 8 male and 1 without a clear indication of gender. 13.3 % ($n = 11$) of the students had more than one mother tongue.

Table 2: Sample Specification (Country, Study Programme and Practical Experience)

		Country			
		Germany	Estonia	Other	Sum
Study programme	Primary school education	47	0	0	47
	Early childhood education	1	19	0	20
	Special or inclusive education	0	11	0	11
	Other	0	0	5	5
Practical experience at (pre)school	Non	9	7	5	21
	≤ 12 months	22	7	0	29
	> 12 months	17	16	0	33
Sum		48	30	5	83

5.5 Instruments

An online survey was run right at the beginning of the first seminar session (pre) and in the last seminar session (post). All students of the seminar, Germans and internationals, were asked to make an individual code and to select the appropriate answer referring to their seminar and to them personally (country, field of studies, semester, stay abroad, gender, age, mother tongue).

The pre-questionnaire was designed to measure the constructs *Attitude towards dealing with diversity* and *Attitude towards inclusion*. For the first scale, the students were asked to answer the following question using a 5-point Likert scale (1 = disagree to 5 = agree): "Please indicate how much you agree with the following statements: If there are many children with different special needs in a class ... I think it to be an enrichment for the engagement as a teacher"³ (item 1 out of 6). The second scale was measured by asking them: "How important is it for you during your studies in general ... to deal with inclusion in educational contexts?" (item 1 out of 5). For this self-designed set of questions participants were asked to respond using a 5-point Likert scale ranging from 1 "not important at all" to 5 "very important"; see Table 3 for descriptive statistics of both scales.

Table 3: Descriptive Statistics of Scales

Scale	Number of items	M	SD	Range	Cronbach's α
Attitude Diversity	6	3.42	.59	2.33 to 4.67	.74
Attitude Inclusion (pre)	5	4.52	.52	3 to 5	.85
Attitude Inclusion (post)	5	4.66	.46	3 to 5	.87

Note. *M* = mean, *SD* = standard deviation, *N* = 80

In the post-survey the construct *Attitude towards inclusion* of the pre-survey was asked again and the construct intercultural "cooperation" was added. To measure students' intercultural cooperation in group work, they were asked to describe their cooperation by choosing one out of four given formulations: "There was (1) hardly any exchange and cooperation (2) a basic exchange of information and material (3) an exchange of common tasks, which were organized separately (4) a close, intensive exchange with a common work and reflection on the tasks". The formulations were designed based on the levels of cooperation by Gräsel et al. (2006). In order to get more information about students' intercultural cooperation in detail, they were asked to give reasons for their choice in an open-ended question.

To find out more about aspects which students have learned referring to the topic of inclusion, they were interrogated by the open-ended question: "What are the most important aspects of inclusion that you have learned in the View seminar?"

3 This scale is a translation taken out of the Institute for School Quality of the States of Berlin and Brandenburg (*Institut für Schulqualität der Länder Berlin und Brandenburg*; ISQ, 2017). Items 4 to 6 had to be re-coded due to a negative formulation.

5.6 Data Analysis

The pre-post-survey was conducted by Limesurvey and all datasets were transferred from Limesurvey to SPSS afterwards. Data management and analyses were carried out using SPSS (version 27). After a combination of the six datasets (pre and post of all three semesters), factor analyses and analyses of Cronbach's α were worked out to transform the data into scales. T-tests and analyses of variance (repeated measures) were calculated to compare means of constructs and scales. Linear regression analyses were run to analyse cross-sectional relations. Students' answers to open-ended questions of the online survey are used to exemplify the quantitative findings. The answers to the question towards the inclusive aspects learned in the seminar were evaluated by a structured content analysis with inductive main categories (Mayring, 2022).

6 Research Findings on Students' Development of Competences and Attitudes

The presentation of results in this article is structured according to the research questions. Thus, 1) the development of the attitude towards inclusion and answers given to the open-ended question referring to learning aspects of inclusion are described. Afterwards, 2) results of the analyses of personal and institutional factors for the attitude of inclusion are presented before 3) intercultural cooperation of group work is reported. Finally, answers of 4) Estonian and German students are compared.

6.1 Development of the Attitude Towards Inclusion and Knowledge of Inclusion

In comparison of students' attitude towards inclusion at the beginning and at the end of the seminar, a significant change of mean gets obvious (Scale Attitude Inclusion: $M_{pre} = 4.52$, $M_{post} = 4.66$, $p = .025$; $N = 80$). This result means concretely that for students of the seminar aspects of inclusion, tolerance, heterogeneity and appreciation get more important in course of the seminar. This importance of inclusive behaviour gets obvious in students' answers to the open-ended question also as this was given as one of the most important aspects they have learned in the seminar, for example: "Most important thing to me is to give everyone the feeling that he or she is welcome" (Student DA06SI, summer term 2023). Additionally, many students stated directly that inclusion is important for them now. Further aspects, which were indicated by the students most, were technology and robots, challenges to handle inclusion, the diversity of children and the impact of the teacher, for example:

“Very important role in inclusion is the teachers. They set the environment in classroom and need to be prepared to handle different type of situations and set an example with their own behaviour.” (Student SI04TA, winter term 2023/24). Other aspects, which were stated quite often, were the international perspective, handling of inclusion and definitions/conceptions of inclusion, for instance: “Inclusion is not the same like integration, exclusion, segregation, it means to accept and appreciate the individuality of everyone and use it as a resource” (Student IN09WI, summer term 2024). Additionally, aspects of co-operation, communication and readiness for change were given also.

6.2 Personal and Institutional Factors

There were hardly any specific, significant contributing factors to the attitude towards inclusion. All personal and institutional factors (country, field of studies, semester, stay abroad, gender, age, mother tongue, practical experience at (pre)school) were checked, in addition the attitude towards dealing with diversity. When taking all data of all students involved in the survey, attitude towards dealing with diversity and practical experience at (pre)school showed to be the only analysed, contributing factors to the attitude towards inclusion (see Table 4). This means that students with a more positive attitude towards dealing with diversity in class and a longer practical experience regard aspects of inclusion, acceptance, and tolerance to be more important than students with less positive and less experience do.

Table 4: Linear Regression Predicting Attitudes Towards Inclusion (Pre; Cross-Sectional)

	β	$SE(B)$
<i>Attitude Diversity</i>	.21*	.08
<i>Practical experience at (pre)school</i>	.21*	.06
R^2	.06	

Note. *: $p \leq .05$, $N = 109$

6.3 Intercultural Cooperation in Group Work

Cooperation in group work was estimated by the largest group of students to be at the most intensive level of cooperation, according to the concept of Gräsel et al. (2006): 43.2 % of the students ($n = 35$ out of 81) chose the cooperation to be a close, intensive exchange with a common work and reflection on the tasks. Secondly, 39.5 % ($n = 32$) decided for the option of cooperation to be an exchange of common tasks, which were organised separately. Only

13.6 % ($n = 11$) chose the option that cooperation in their group work was a basic exchange of information and material. 3.7 % ($n = 3$) stated their group work to be hardly any form of exchange and cooperation. Thus, cooperation in the fixed intercultural groups of the course was seen on quite or really high level by more than 80 % of the students.

As reasons for their choice, the following statements were given (for example): "The German students in my group were highly engaged and provided detailed feedback on everyone's work. I'm delighted to have collaborated with them as I gained some skills about making a good presentation." (Student MA04TA, summer term 2024).

"We couldn't get in touch so closely because of individual situations." (Student FF06MR, summer term 2023).

6.4 Comparison of Estonian and German Students: Contributing factors to students' attitude towards inclusion and to cooperation

When comparing means of scales between Estonian and German students, there is no significant difference. Yet, there is an interesting tendency to observe. While there is a quite high mean for the scale of Attitude towards Inclusion for German students at the beginning of the seminar already, Estonian and other students' Attitude towards Inclusion is lower. At the end of the seminar, all students state to have a quite similar Attitude towards Inclusion (see fig. 1). Thus, German students regard inclusion, acceptance and tolerance as quite important at the beginning of the seminar and this importance only rises a bit, while Estonian and other international students set less store by inclusion at the start of the seminar but this attitude seems to rise quite a lot in course of the seminar. Yet, as this comparison of means is not significant, it can only be regarded as a tendency. When comparing Estonian and German students' Attitude towards handling of diversity and practical experience at (pre)school – as those appeared to be contributing factors to the Attitude of inclusion (see 6.2) – there are no significant differences to be found: *Attitude towards handling of diversity* $M_{\text{Estonians}} = 3.35$, $M_{\text{Germans}} = 3.41$, $p = \text{n.s.}$, $n = 82$; *practical experience at (pre)school* $M_{\text{Estonians}} = 2.30$, $M_{\text{Germans}} = 2.17$, $p = \text{n.s.}$, $n = 83$.

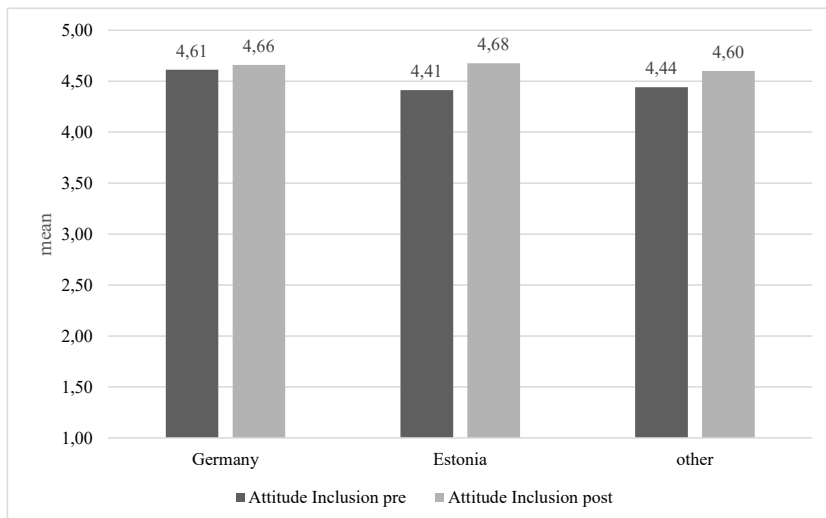


Figure 1: Means of the scale Attitude towards Inclusion (pre and post), distinguished by country (Estonia, Germany, and Other Countries)

Note. n.s. (not significant), $N = 81$.

If cooperation in group work is differentiated by country (Estonia, Germany and other countries), there are no extreme differences to be found. The largest group of Estonian and most of the German students regarded the group work to be an intensive exchange, followed in numbers by the second highest level, exchange of common tasks (see figure 2).

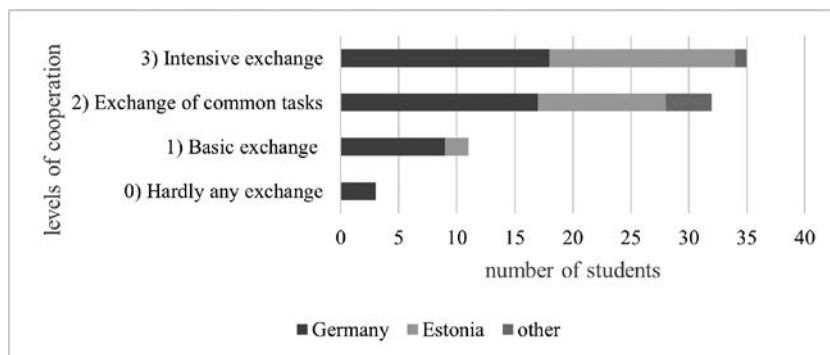


Figure 2: Levels of cooperation in group work, number of students differentiated by country (Estonia, Germany, and Other Countries)

Note. $N = 81$ (Germans: $n = 47$, Estonians: $n = 29$, other: $n = 5$)

7 Discussion of Findings in Context of Inclusive Education

7.1 Discussion of Results

Research question 1 was: How does the attitude towards inclusion develop in course of the seminar? What have students learned in regard of inclusion in course of the seminar? The analysis showed that the attitude towards inclusion developed positively in course of the seminar. This significant result was supported by the aspects which students named to be the most important aspects they have learned in reference to inclusion: inclusive behaviour and importance of inclusion at all. When having a closer look at further aspects named, e.g. technology and robots and the impact of the teacher, these can be identified back as topics of the group work and their oral presentations (robotics and teacher's role). The international perspective, named as an aspect as well, was dealt with all over the time of the seminar. Further aspects – definitions/conceptions of inclusion, challenges to handle inclusion and diversity of children –, can be discussed in context of the European Agency's profile for inclusive teacher professional learning (European Agency for Special Needs and Inclusive Education, 2022; see section 4). The first and the second core value of the profile by the European Agency focus on valuing learner diversity and supporting all learnings. These two core values seemed to have been addressed by the seminar work. Above that, students named cooperation, communication and readiness for change as important aspects they have learned. The third and the last core value of the European Agency's profile highlight working with others and professional development. Thus, in reference to these two core values the seminar had contributed also.

Thus, these research findings mainly show an improvement of students' in-depth knowledge in the field of inclusion in course of the seminar. An improvement of in-depth knowledge was something studies in context of internationalization had indicated as effects for students also (*Deutscher Akademischer Austauschdienst e.V.*, German Academic Exchange Service e.V. [DAAD], 2023; European Union, 2019; Janert, 2022; Kercher & Schifferings, 2019). Further research on the View-seminar has identified a positive development of students' intercultural competences, which can be seen as specifically important for working with pupils from diverse cultural backgrounds. In addition, language abilities and personal teaching competences such as professional self-reflection were found to have developed in a positive way also (for further reading see Müller, 2025).

In research question 2, personal and institutional factors that contributed to students' attitude towards inclusion, were concentrated on. Out of the contributing factors – field of studies, semester, stay abroad, gender, age, mother tongue, practical experience and attitude towards diversity – only attitude to-

wards dealing with diversity in class and practical experience in (pre)school revealed to have an influence on the students' attitude towards inclusion. This seems quite plausible as a positive attitude towards handling different pupils at school and longer practical experience at (pre)school can support an attitude to view acceptance, tolerance and appreciation (items of the scale attitude towards inclusion) positively. Bosse and Spörer (2014) found a positive interrelation between students' attitude towards inclusion and practical experience at school as well.

Research question 3 dealt with the levels of cooperation in group work of the seminar. The analysis of the cooperation in the intercultural group work showed that more than 80 % of the students stated it to be on quite or really high level, which means that it was regarded as intensive exchange or an exchange of common tasks. In a study of Richter and Pant (2016) in Germany, about 80 % of teachers cooperate only in form of a basic exchange. As the ability to cooperate intensively is not easy to foster (Biederbeck & Rothland, 2018), the seminar's international and multi-professional combination of students in groups seemed to have supported effective and important group work processes for future teachers. This seems to be of special importance as Lütje-Klose and Neumann (2018) found out that successful inclusive schools more often cooperate on higher levels. Thus, the students of the seminar might have gained cooperative competences to work successfully in inclusive schools.

The last research question focused on differences between Estonian and German students in regard of attitude towards inclusion and cooperation. In regard of the attitude to inclusion, there is no significant difference between Estonian and German students and thus, of course, further interpretations have to be taken cautiously. When having a closer look at the means of the two student groups towards this concept (see fig. 1), all students have a quite similar mean at the end of the seminar while the rise of mean is higher for Estonian students. For the factors Attitude towards dealing with diversity and Practical experience at (pre)school as contributing factors there are no significant differences between Estonian and German students to be found. This is supported by Estonian data, which indicated generally positive attitudes of school and kindergarten staff toward inclusive education (Silm et al., 2024). Both countries, in contrast to Italy for instance, started quite late with the transition to inclusive education so that Estonian and German students have not experienced inclusive education themselves when they were pupils at primary school. Yet, German students were younger than Estonians ones in average ($M_{\text{Germans}} = 24.13$, $M_{\text{Estonians}} = 31.00$), so that German students might have experienced first steps of inclusion themselves as pupils in primary school. A possible explanation for this slight difference between means referring to attitude

towards inclusion might be that German students were closer to the end of their studies than Estonian students were. This is an interrelation Bosse and Spörer (2014) found as well for Master students had a more positive attitude towards inclusion than Bachelor students had.

The largest group of Estonian and German students regarded the group work to be an intensive exchange, followed in numbers by the second highest level, exchange of common tasks. Thus, there is no difference between the two student groups to be found in the estimation of the group work processes.

7.2 Limitations

There are some limitations to be seen in the sample as the evaluations are based on students' perspectives only. Estonia and Germany cannot be seen as only factors of background for differences as most Estonian students studied Early childhood or Special Education and German students Primary school education so that differences might be led back to differences in the study programmes. Means of the scale attitude towards inclusion might have been quite high for students at the beginning of the seminar already as students took part voluntarily as it was one of many seminars of the study module which could be chosen. Thus, students' motivation to take part and their openness towards the seminar aims to cooperate interculturally and to deal with the topic of inclusion might have been higher than for other student teachers. A higher number of students, especially from more international contexts, could be supportive to be able to state more general conclusions.

8 Conclusion

The central research question for this article was: How do future teachers' inclusive competences and attitudes develop in a digital international seminar? The results of the evaluations, which have been presented in this article, indicate a positive development of students' attitude towards inclusion and an enhancement of their in-depth knowledge in the field of inclusion. As contributing factors to the attitude towards inclusion students' attitude towards diversity and practical experience have been identified. Cooperation of the group work in the seminar has predominantly been described as being on a quite high level. Differences between answers of Estonian and German students have only been slight, e.g. in the development of students' attitude towards inclusion. Yet it is hardly possible to lead it back to differences of the countries and their development of inclusive education. Further research will be necessary to get deeper insights.

In conclusion, the international seminar *View – transition and inclusion* contributes to the knowledge about formats in higher education to qualify teachers for inclusive education. Aims which were stated to be central for teacher education for inclusion by KMK and HRK (2015) – knowledge and skills, attitudes towards diversity, and professional cooperation – have been fostered by the seminar. In particular, collaboration skills, which were demanded by Räis et al. (2016) and Silm et al. (2024) for Estonia, and a cooperative basic understanding (Tellisch, 2020, Germany) seemed to have been promoted by the seminar. This addresses the aspect Biederbeck and Rothland (2018) expressed that intensive forms of cooperation should be developed long-ranging and multifactorial as these cannot be built through single measures of intervention. For an inclusive school development in all countries, community involvement and administration but in particular the use of evidence and inclusion and equity as principles, are important factors which can “help in determining levers for change” to further develop schools inclusively (Ainscow, 2020, p. 8).

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