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The Social Participation of Hearing Impaired Children in Regular Primary Education: A
Teachers' Perspective.

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Abstract

As the rate of hearing impaired children in regular education is increasing, it becomes increasingly important to look into the social participation of hearing impaired children in regular education. Throughout this research, the social participation of hearing impaired children was explored. The aim of this research was to examine the social participation of hearing impaired students in regular education: How do teachers perceive the social participation of hearing impaired students and what techniques do they apply to increase it? To do so, a mixed methods combining questionnaires and interviews was used which combined results of the Social Participation Questionnaire and interviews with teachers about instructional techniques teachers use and what their attitudes, knowledge and experiences are regarding hearing impaired children. Results showed that teachers believe that hearing impaired students are socially participant very often. Namely, all dimensions of social participation (friendships, communication & interactions, social self-perception and acceptance) add more to the social participation rate than expected. Regarding the role of the teacher, it was found that teachers have a large role in improving the social participation and that the teachers believe they have enough knowledge and experience to do so. Results of this study can contribute to support for teachers, in order for them to facilitate the right classroom structure for social participation of a hearing impaired child.

Keywords: Social Participation, SPQ, hearing impairment, social inclusion, primary education, teachers.

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Introduction

The rate of hearing impaired children in regular primary schools has rapidly increased over the years (Eriks-Brophy & Whittingham, 2013). In 2017 nearly 90% of the hearing impaired children attended regular education in the Netherlands (www.stichtinginfodesk.nl, 2018). The increase can be attributed to several technological and legislative developments. Firstly, technological developments such as the increased use of Cochlear Implants (CI) have changed the rate of hearing impaired children in regular education. This can be attributed to the rising number of children with a CI implant (Antia, Jones, Luckner, Kreimeyer & Reed, 2011) and to the increased quality of the CI technology (Caldwell, Jiam, & Limb, 2017). Secondly, there are (global and national) legal incentives for the increase of deaf children in higher education in the Netherlands. A global legal incentive is the ‘2030 agenda for sustainable development’ formulated by the United Nations. The goals referring to education state that education should be inclusive and equitable, which also refers to the inclusion of hearing impaired children (www.sustainabledevelopment.un.org, nd). On a national level, a new law regarding tailored education was introduced in 2013 (*Wet passend onderwijs, 2013*), which states that all children will attend regular schools when possible (www.rijksoverheid.nl, nd).

Although there has been a steep increase of hearing impaired children in regular education over the last decades, reluctance to include children with a hearing impairment in regular education still exists (Knoors, 2004). These concerns relate to the fear that deaf children will not be able to socially participate in the general classroom: Children might have a lack of access to communication, language and information and might end up in social isolation (Knoors, 2004). However, little research has been done into the inclusion of hearing impaired children (Alasim & Paul, 2018; Knoors, 2007). Research that has been done in the Netherlands, mainly focused on social and emotional development (Ketelaar, Rieffe, Wiefferink & Frijns, 2013; Wiefferink, Raeve, & Spaai, 2007) or on their language

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development (Boons, Wieringen, Raeve, Peeraer & Wouters, 2011; Rodenburg, 2017) and does not focus on the social dimension. Performing research into the social dimension of inclusion of hearing impaired children, offered insights in the issues surrounding social inclusion of the hearing impaired and might lead the way to solutions and new teaching techniques to accommodate the hearing impaired in a regular classroom.

As an increasingly amount of hearing impaired students is attending and will attend regular primary schools in the future, it becomes more and more important to find ways and best practices to facilitate, accommodate and include them. Thereby, the social aspect of inclusion, further referred to as social participation, plays an important role. Namely, social participation influences the academic success of the student, their wellbeing and their attitude towards school (De Leeuw, de Boer & Minnaert, 2018; Long, Stinson & Braeges, 1991). This study will explore the social participation of hearing impaired children in regular primary schools. This will be done by means of a questionnaire and interviews.

Social Participation

In describing the social dimension of inclusion, terms such as social inclusion, social participation and social integration are often used interchangeably, which leads to unclarity regarding their meaning (Koster, Pijl, Nakken & van Houten, 2009). After a literature analysis Koster et. al (2009) proposed to use the term ‘social participation’ and identified four dimensions of social participation: ‘friendships’, ‘interactions and contacts’, ‘self-perception of the pupil with special needs’ and ‘acceptance by classmates’.

Friendships. The dimension ‘friendships and relationships’ includes friendships and memberships of social networks (Koster, Minnaert, Nakken, Pijl & van Houten, 2011).

Research shows that barriers to developing friendships for an hearing impaired child in a regular classroom exist (Antia et. al., 2011; Piso, Knoors & Vervloed, 2009). These barriers could result in less friendships, a higher likelihood for sporadic friendships and a

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lower quality of friendships, compared to their hearing peers (Antia, et. al., 2011; Wauter & Knoors, 2007; Batten, Oaks & Alexander, 2014). A research done into friendships of hearing impaired adolescents in the Netherlands, showed that friendships of deaf youth are of lower quality in comparison to their hearing counterparts and that the deaf youth was aware of missing friendships (Piso, et. al., 2009). This can be attributed to the lack of knowledge regarding the 'rules of friendships' and social rules as described by Piso et. al. (2009).

Interactions and contacts. The dimension 'interactions and contacts' points out the importance of playing, having fun together and working together (Koster, et. al., 2011). Interactions and contacts are considered important to social participation, as the frequency and nature of interactions influence all factors of social participation (Ring & Travers, 2005).

Research showed that hearing impaired children are prone to develop language delays, which affects the development of communication strategies, empathy of other children's feelings and their ability to self-regulate (Batten, et. al., 2014). Other research also shows that language delays have a negative effect on the students' interactions and contacts: It complicates interactions in spoken language and results in less social behavior and being more withdrawn in social interactions (Alasim & Paul, 2018; Wauters & Knoors, 2008).

Social self-perception. The dimension 'students social self-perception' focusses on the feelings of the student, such as feelings of belonging and loneliness (Koster, et. al., 2011).

The social self-perception of students with a special educational need (SEN), is often described in research as being lower compared to their classmates (Pijl, Skaalvik & Flem, 2010) More precisely, it is reported that SEN-students have a lower self-esteem regarding friendships and interactions (Pijls, et. al., 2010). However, other research showed that, despite a lower rate of friendships and interactions was reported, social self-perception of the SEN-students is similar to the social self-perception of their classmates (Avramidis, 2013). This contradiction can be explained by the fact that SEN-students focus on the positive side of their

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social participation and see the value of a few close friends over a larger group of friends (Avramadis, 2013).

Acceptance by classmates. The dimension ‘acceptance by classmates’ points at the classmates and their behaviors towards the student and their willingness to assist or include the student. (Koster et. al., 2011).

Research done into the acceptance of the hearing impaired child by their peers, shows mixed results (Batten, et., al., 2014; Capelli, 1995; Wauters & Knoors, 2008). On the one hand, literature described that hearing impaired children are more often rejected and neglected than their hearing peers and have a lower acceptance, likeability and social preference (Batten, et. al., 2014; Capelli, 1995). On the other hand, it was found that there were no differences between hearing impaired children and their hearing classmates regarding peer acceptance, social status or mutual antipathies in the classroom (Wauters & Knoors, 2008). The difference in the results can be attributed to the difference in communication skills of hearing impaired children (Wauters & Knoors, 2008).

Factors influencing Social Participation

The social participation of hearing impaired children is influenced by several mechanisms: problems regarding communication, the attitude of teachers, the degree of hearing loss, the teachers’ knowledge about inclusion and disabilities, the awareness of hearing students about their deaf classmate, and the classroom organization (Alasim & Paul, 2018; Koster et. Al., 2011). From these factors, the factor ‘communication’ is often described as one of the main elements influencing social participation and all of its’ aspects (Alasim & Paul, 2018; Antia, et. al., 2011, Batten, et. al., 2014).

According to Antia et. al. (2011), communication difficulties might hinder children with a hearing impairment in developing social skills and social/peer relationships, which

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decreases the likelihood of hearing impaired children to have friends in their class (Antia et. al., 2011).

The findings of Antia et. al. (2011) are contrasted by the findings of Wauters and Knoors (2008), who researched social integration of hearing impaired children in inclusive settings in the Netherlands. The findings showed that hearing impaired students seemed to have a similar peer acceptance, social status and friendship status whilst in an inclusive environment. The authors explained the contrasting findings by stating that hearing impaired children in the Netherlands who attend regular education often have good oral communication skills, as opposed to other countries. Moreover, social inclusion of deaf children is often well prepared and proper educational support is offered (Wauters, Knoors, 2008).

The role of the teacher. Most of the mechanisms that influence social participation can be influenced by the teacher. One of the main effects on social participation which was identified is communication skills (Antia et. al., 2011). The teacher has a key role in fostering communication between the students and in socially including students with special educational needs (SEN) (De Leeuw, de Boer & Minnaert, 2018; Rouse, 2008). Moreover, it is described that schoolteachers are the first people who can detect difficulties in social participation of students and to create 'disability awareness' within the classroom (De Leeuw, et. al., 2018; Lindsay & Edwards, 2013). The attitude of children towards peers with a SEN is strongly influenced by the degree of knowledge on the disability and the amount of support and encouragement they receive from their social environment. As a part of their social environment, teachers have an important role in creating awareness which can be done by offering information about deafness and the characteristics to the class (Alasim & Paul, 2018, Lindsay & Edwards, 2013). Alasim and Paul (2018) described that all teachers should create ideal conditions for hearing impaired children in the classroom, by developing strategies and a

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regulatory framework to improve the positive interactions between the hearing impaired student and their classmates.

In creating an inclusive classroom, it is important to increase the knowledge and confidence of teachers, but also to encourage them to change attitudes and beliefs (Rouse, 2008). Namely, the attitudes of teachers towards including students with SEN are essential in how they design their classroom, what instructional techniques they apply and how they act towards the children with SEN (Alasim & Paul, 2018; Ericks-Brophy & Whittingham, 2013; Vermeulen, Denessen, Knoors, 2011). Research found that some teachers had a negative attitude towards including a hearing impaired child in their classroom, because of a strong set of interconnected negative emotions caused by problems in integrating the child in the classroom (Vermeulen, et. al., 2011). Despite possible negative attitudes, the results showed that teachers put effort in changing their communication and classroom organization to the needs of the hearing impaired student and often checked whether the student had understood the task or assignment (Vermeulen, et. al., 2011). Regarding the knowledge of teachers, research concluded that teachers have a lack of knowledge on deafness and its characteristics, and that some teachers are not able to create a classroom structure that facilitates the inclusion of a deaf child (Alasim & Paul, 2018).

The concerns regarding the lack of knowledge and skills of teachers expressed by Alasim & Paul (2018) is contrasted by findings of Eriks-Brophy and Whittingham (2013). They showed that teachers felt confident in teaching children with hearing loss and felt like they had enough knowledge on the effect of hearing loss on classroom performance. This difference might be caused by the difference in research methodology and different surroundings in the school and home environments (Alasim & Paul, 2018).

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The Effect of Social Participation on Academic and Personal Development

The rate of social participation can influence many factors regarding students' wellbeing and performance. Regardless of any SEN, social participation plays an important role in the development of the student (De Leeuw et. al., 2018). To start with, (non)participation affects the learning and academic success of the student (Long, Stinson & Braeges, 1991). Two elements of participation are considered important for the academic success of the student: The social self-perception of the student and their feelings towards participating in the classroom (Antia, et. al., 2011). More precisely, students who have a positive self-image regarding communication with classmates are more likely to be engaged since they will have a sense of control over their own learning process (Antia, et. al., 2011). Furthermore, if children are able to socially participate and have more friends, this results in higher academic achievements and a more positive attitude towards school (Bierman, 2004; Knoors, 2008). If children are not able to do so, this can lead to negative effects such as mental, social developmental and behavioral problems and feelings of depression (Bierman, 2004).

Summarizing, social participation in the classroom plays an important role in the academic success and wellbeing of a student (Bierman; 2004, Long et. al., 2009). Whether a hearing impaired child is able to socially participate in a classroom depends on many mechanisms, such as communication, the classroom environment and attitudes of teachers (Alasim & Paul, 2018; Antia et. al., 2011; Vermeulen et. al., 2011). The teacher has an important role to detect issues regarding social participation (De Leeuw, et. al., 2018) and to create ideal circumstances for the hearing impaired child to be socially included (Alasim & Paul, 2018).

This study contributes to the developing research base on social inclusion of hearing impaired children in regular education. Throughout this research four dimensions of social

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participation (Koster, et. al., 2011) were examined in relation to hearing impaired children in regular education. The relating research question that was answered is as follows: What dimensions contribute to the social participation of hearing impaired children in regular primary schools according to their teacher? This question is divided in two sub-questions: Which dimensions from the Social Participation Questionnaire are contributing to the social participation of the hearing impaired child? And: what mechanisms influence these dimensions? The dimensions in this question refer to the four dimensions of Koster. et. al. (2011): 'friendships and relationships', 'interactions and contacts', 'social self-perception' and 'acceptance by classmates'. Based on the literature, it was expected that the average social participation score will indicate that the deaf or hard of hearing child is and feels included mediocly or merely some of the time. More precisely, it was expected that all dimensions contribute mediocly to the social participation of the hearing impaired child. Namely, throughout the literature several mechanisms which affects the constructs negatively, such as communication problems, were identified. These mechanisms were explored by answering the second sub-question. Following the literature, the hypothesis for all four constructs is: H_0 : Test Value = 3. In this hypothesis, the number three is based on a five point Likert Scale which is used for the questionnaire, which one meaning a very low social participation and 5 a very high one.

Additionally, instructional techniques that teachers apply to foster social participation were explored in relation to the four dimensions. With this, the teachers' perspective on the social participation and inclusion of a hearing impaired child were examined. The relating research question that was answered is as follows: What instructional techniques do teachers apply to foster social participation of hearing impaired children in a regular classroom? Based on the literature, it was expected that teachers might experience difficulties in applying appropriate instructional techniques to increase social participation of the hearing impaired

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child, as it is predicted that they do not have enough knowledge and experience. In answering the second research question, teachers are asked to identify best practices in relation to the constructs of the SPQ.

By answering the research questions, the current research contributes to a deeper insight in social participation of hearing impaired children and contributes to support for teachers in including hearing impaired children in their classrooms.

Method

Design

The goal of this study was to gain deeper insights into the social participation of hearing impaired children in regular primary schools and to explore the role of the teacher in increasing the social participation. To do so, a mixed method design with a descriptive character was selected. A mixed methods approach allows for a combination of the strengths of both a quantitative and a qualitative approach, and thereby minimizes the weaknesses of both methods (Johnson, Onwuegbuzie, 2004). Firstly, questionnaires were conducted among teachers who teach or have taught hearing impaired children. Following, semi-structured interviews were administered to gain deeper insights regarding the themes presented in the questionnaire and to discover best practices from teachers. In answering the first research question, ‘What constructs contribute to the social participation of hearing impaired children in regular primary schools according to their teacher?’, the quantitative data from the questionnaires and the qualitative data from interviews were combined to offer deeper insights in the teachers’ observations and the underlying mechanisms affecting social participation. In answering the second research question, ‘What instructional techniques do teachers apply to foster social participation of hearing impaired children in a regular

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classroom?', the quantitative data was used as an interpretive framework to give meaning to the qualitative data of the interviews.

Participants

The population where the participants were drawn from are regular primary school teachers who have taught or currently teach (a) hearing impaired child(ren). The participants did not receive any compensation for their participation.

Questionnaire. Before the questionnaire was administered, it was determined with the sample size calculator tool of Qualtrics, that a sample size of minimal 65 respondents was needed. This estimation is based on the population size, confidence interval and margin of error ($n=1000$, $CI=.90$, $MOE = .10$). The population estimation is based on the insights of an expert in the field and the confidence interval is set at .90 and the margin of error is set at .10, as the population is small. In total, 60 respondents filled in the questionnaire. The margin of error calculated with the actual sample size ($n=60$), remains the same as expected (.10).

The participants were on average 36 years old and the majority was female. The sample includes teachers of all grades of primary school (1 to 8). However group 4 (25%) and group 7 (21,7%) are overrepresented, whereas group 1 (3,3%) and group 2 (3,3%) are underrepresented. An explanation of the underrepresentation of group 1 and 2 can be that hearing deficiencies might not have been discovered yet or that the teachers of these groups are not connected to instances such as Kentalis and Auris, as the hearing impairment is not seen as problematic yet. The overrepresentation of two groups could be explained by the fact that the questionnaire was shared via individual professionals of Auris and Kentalis, which have expertise in certain age categories. Individual professionals that have shared the questionnaire, might therefore have lead to an overrepresentation of certain groups. A more detailed description of the demographics can be found in table 1.

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Interviews. Before the interviews were conducted, it was determined that the number of participants should lead to theoretical saturation. Theoretical saturation is defined as “the point in coding when you find that no new codes occur in the data (Urquhart, p. 194, 2013). Interviews were coded after five and again after ten interviews. After ten interviews theoretical saturation was reached. The participants were selected from the participants who filled in the questionnaire, by taking diversity and availability in consideration. The participants were on average 33 years old and 90% of the participants was female. The sample includes the grades 3,4,6,7 and 8. The grades 1, 2 and 5 are missing, as no suitable respondent for this grade indicated to be available for an interview. More information on the demographics can be found in table 2.

Table 1

Overview of background information of participants in the interviews (n=60)

Gender		Age		Teach/taught hearing impaired child now/in past		Grade of hearing impaired child (G = grade).								
Male	Female	Mean	Range	Currently	Past	G1	G2	G3	G4	G5	G6	G7	G8	Other*
8	52	36	22-64	35	25	2	2	6	15	5	7	13	5	5

*This category refers to teachers who have taught children in e.g. grade transcending classes and combination groups.

Table 2

Overview of background information of participants in the interviews (n=10)

Gender		Age		Teach/taught hearing impaired child now/in past		Grade of hearing impaired child (G = grade).*								
Male	Female	Mean	Range	Currently	Past	G1	G2	G3	G4	G5	G6	G7	G8	Other
1	9	33	22-57	8	2	0	0	1	4	0	1	5	1	0

*as one respondent referred to more hearing impaired children, n >10 for this factor.

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Instruments

Questionnaire. The questionnaire can be found in Appendix A. The first 8 items of the questionnaire were aimed at collecting demographic information.

For the body of the questionnaire, the Social Participation Questionnaire (SPQ) of Koster et. al. (2011) was used to gather data. The SPQ was suitable as it takes the total concept of social participation into account and is designed for teachers (Koster et. al., 2011). The questionnaire has been used to measure the social dimension of inclusion in other research, focused on speech and language disorders (Karakosta, 2014) and on SEN in a regular classroom (Hessels & Swab, 2016). By means of performing a Confirmatory Factor Analysis the convergent validity of the questionnaire was proven (Koster et. al., 2011).

The SPQ consists of four subscales: Friendships, contacts/interactions, student's social self-perception and acceptance by classmates and contains 24 statements. Participants were asked to indicate whether a statement applies to the student or situation with a 5 point Likert scale, and the possible answers ranged from 'this does not apply at all' (score 1) to 'this strongly applies' (score 5). The statements were all formulated in line with the following example: "The games of the children will be adjusted to the handicap of the student" (statement 17).

Interviews. The interview guideline can be found in Appendix B. It started with seven background questions focusing on education, employment, work experience, the school environment and the hearing impaired child. The remainder of the interview is divided in two parts. The first part focused on examining the attitudes towards, knowledge and experience of the teachers in teaching hearing impaired children. To illustrate, one of the questions was 'Do you believe that regular primary schools offer suitable education to hearing impaired children?'. To formulate the questions, the questionnaire of Ericks-Brophy (2013) has been used for inspiration. The second part of the interview focused on two topics: gaining deeper

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insights in the context regarding the questions presented in the questionnaire and on examining the instructional techniques that teachers use to increase social participation. In this part, the interview questions were on the four constructs of the SPQ (Koster, et. al., 2011). Teachers were asked to determine and elaborate on the social participation per construct and to indicate if and what best practices they apply per construct. To illustrate, one question that was asked was: ‘Do you have the feeling that the hearing impaired student has friendships and connections within the classroom?’

Procedure

Questionnaires. To acquire participants for the questionnaire, it was shared on social media (LinkedIn and Facebook), in specific Facebook groups, with instances such as Kentalis and Auris and via connections. The questionnaires were conducted in Dutch, as Dutch is the mother tongue of all participants. To do so, the questionnaire was translated from English to Dutch by using the expertise of a native speaker, which ensures face validity. The questionnaires were administered through Qualtrics, which ensures privacy and data protection. Before starting the questionnaire, participants were informed on their anonymity and confidentiality. An outline of this informed consent can be found in Appendix C. To give the participants the freedom to fill in the questionnaire at a suitable moment and on a preferable device, the questionnaire was conducted digitally. In total, 60 participants filled in the questionnaire, after deleting questionnaires with missing values.

Interviews. The participants of the interviews were selected via the questionnaire: Participants were asked to indicate whether they were willing to participate in an interview. In total, ten participants were selected by taking into account diversity in age, school and grade, to enlarge the generalizability of the data.

The interviews lasted approximately 30 minutes, and were conducted via a video call or phone call. It was decided not to administer the interviews in person due to time restrictions

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and the corona virus. To ensure reliability, each participant was interviewed individually so the participants did not influence each other. Before holding the interviews, the participants received an e-mail with information on the research, their anonymity and their confidentiality. This information e-mail can be found in Appendix C. At the beginning of the interview, the participant was ensured of their confidentiality and anonymity and asked to approve of the conditions. The informed consent is recorded in the audio recordings. All interviews were recorded with a tape recorder, which increases the reliability and the internal consistency. The audio recordings were transcribed by use of the verbatim principle. After transcribing, the transcripts were pseudonymized for the teacher and the hearing impaired child. All data was stored in a secure and safe way.

Analysis

Questionnaires. In analyzing the data from the questionnaires, a few steps were taken.

Firstly, the data was checked on missing values and variables were renamed. One data-entry was removed, many values were missing. The four constructs were renamed as: FR (Friendships) COI (Contacts and Interactions), SELFP (Social Self-perception) and AC (Acceptance). The questions belonging to one construct were assigned a number, for example the first question in the construct 'Friendships' was named FR1.

Secondly, negatively asked statements were reversed by recoding the variables. In total, 6 variables were recoded: COI2, COI3, COI5, COI7, SELFP2 and SELFP4.

Thirdly, the internal consistency of the questionnaires was measured. To do so, the interrater reliability of the questionnaire was measured by using Cronbach's Alpha. In determining the meaning of the Cronbach's Alpha scores, the guide from the Book 'SPSS explained' by Brownlow and McMurray (2004) was used: A score above .90 shows excellent reliability, between .70 and .90 shows high reliability and between .50 and .70 shows moderate reliability. The internal consistency was measured for the whole questionnaire and

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per construct (table 3). The internal consistency of the whole questionnaire was excellent. An analysis per construct showed that the construct ‘Friendships’ had an excellent reliability, the construct ‘Contacts and Interactions’ a high reliability and the constructs ‘Social Self-perception’ and ‘Acceptance’ a moderate reliability (Brownlow & McMurray, 2004).

Table 3

Cronbach’s Alpha scores for the whole questionnaire and per construct.

Cronbach’s Alpha				
Friendships	Contacts and Interactions	Social Self-perception	Acceptance	Total
.95	.84	.67	.68	.92

A score between 0.6 and 0.7 for the constructs ‘Social Self-perception’ and ‘Acceptance’ is acceptable, as the research performed can be categorized as an explanatory research (Nunally & Bernstein, 1994). For the constructs ‘Social Self-Perception’ and ‘Acceptance’, it was checked whether a removal of a question would lead to a higher internal consistency. No items were removed from the questionnaire, as it was shown that a deletion of an item would not increase the internal consistency.

Fourthly, the data regarding the four constructs were translated into descriptive statistics by means of SPSS, which gave insights in the social participation rate. The descriptive statistics can be found in appendix D. Data regarding the demographical information of the participants was also translated in descriptive statistics, to paint a more detailed picture of the sample.

Fifthly, a one sample-T-test was used to test the four hypotheses related to the four constructs of the SPQ. An outline of the results can be found in appendix D. An independent sample-T-test was used, as it allows to compare the expected Test value, formulated in the

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hypothesis, to the actual value. In this T-test, all variables regarding the four constructs (FR1 t/m FR5, COI1 t/m COI9, SELFP1 t/m SELFP5, AC1 t/m AC5) were taken into account. The one sample T-test was executed per construct. For the constructs Friendships, Contacts and Interactions and Acceptance, Test Value 3 was used, which is in line with the hypotheses mentioned in the theoretical framework. For the construct Social Self-Perception, the Test Value 4 was used, which is also in line with the hypothesis.

Interviews. The data collected through interviews were coded by means of Nvivo. Using Nvivo allowed for a systematic analysis of the data. The data of the interviews was coded per research question. Both a deductive and an inductive coding method were used. Below, the process of coding is presented per research question.

The first research question, ‘What constructs contribute to the social participation of hearing impaired children in regular primary schools according to their teacher?’, is divided in two sub-questions. For the sub-question, ‘Which constructs from the Social Participation Questionnaire are contributing to the social participation of the hearing impaired child?’, the coding process was based on the four constructs of the Social Participation Questionnaire (Koster, et. al., 2011). For each construct a code was applied, which led to a total of four codes: Friendships, Contacts and Interactions, Social Self-perception and Acceptance. The coding process for this sub-question can be defined as deductive coding, as the codes were developed before the process (Chandra & Shang, 2017). In total, 35 fragments were coded with one of the four mentioned codes. After coding, the fragments were analyzed by use of a schematic set-up. This schematic set-up can be found in appendix E. For the second sub-question, ‘What mechanisms influence these constructs?’, codes were formulated based on the literature. Before the coding process for this sub-question started, the codes were identified from the literature described in the theoretical framework. The codes and the coding scheme can be found in Appendix E. The coding process for this sub-question, is deductive coding, as

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the codes were determined before starting the coding process (Chandra & Shang, 2017). In total, 74 fragments were coded in regard to the second sub-question. After coding, the fragments were analysed by use of a schematic set-up and a frequency table, which can be found in appendix E.

For the second research question, ‘What instructional techniques do teachers apply to foster social participation of hearing impaired children in a regular classroom?’, an inductive coding method was used. An inductive coding method was chosen here, as the best practices do not necessarily rely on scientific literature or theories (Chandra & Shang, 2017). The coding process started with open coding: Every fragment related to a best practice was coded. Following, axial coding was applied, which lead to eleven codes, which can be found in Appendix E. The codes were created in an iterative way, in which open and axial coding were used alternately. In total, 74 fragments were coded. After coding, a frequency table was used to analyse the results. This frequency table can be found in Appendix E.

Reporting the results. After analysing the data, the results were reported in the result section below. The results have been presented per (sub) research question. In answering the first research question, specifically the first sub-question of the first research question, the results from the questionnaire and the interviews were combined. Here, quotes from the interviews were used to offer deeper insights in, and to clarify the results brought forward by the questionnaire. In the remaining two research questions, the interviews were the main source of data in formulating the results. Here, frequencies from the frequency tables were used and quotes were presented as backing.

Results

Social Participation

The data from the questionnaires show that the average social participation score is 3.94 (table 4). The interviews provided a more detailed description per factor and deeper insights from the teachers. This information will be presented per factor (friendships and connections, interactions, social self-perception and acceptance). More insights in the descriptive statistics and the Sample T-test can be found in Appendix D.

Table 4

Mean average scores per factor

Friendships	Interactions and contacts	Social self-perception	Acceptance	Total average
3.78	4.26	3.98	3.72	3.94

Friendships.

Questionnaire. In total, five questions were asked regarding this factor. On average, teachers seem positive regarding friendships and contacts of the deaf/hard of hearing child in the classroom. The average score that teachers give to friendships is 3.78. This score indicates that the teachers believe that the deaf/hard of hearing student often or always has friendships in the class. The One-Sample T test showed that average score is significantly higher than the expected Test Value 3 ($p < .001$). Therefore, the alternative hypothesis (H_1 : Test Value \neq 3) can be accepted. In interpreting the scores, it is important to realize that the variation in the chosen answers is high ($SD = 0.97 - 1.03$). The high variety indicates that the consensus considering the construct 'friendships' was low.

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Interviews. In half of the interviews, teachers indicated barriers regarding the development of friendships. These barriers mostly relate to difficulties in interactions. It is mentioned that interactions cost a lot of energy for the hearing impaired student (interview 3), the hearing impaired student has more anxiety in making contact with other students (interview 5), the hearing impaired student is more sensitive (interview 5) and that problems in building friendships arise during free time and play time (interview 9).

“The mother of the child indicated that the child is tired after a day of school. It costs her a lot of energy to be in a classroom. I asked the mother if she attributes the lack of friends to her being deaf, but the mother said that the lack of friendships is mostly caused by her being tired.” Interview 3.

In interviews, it also became clear that the teachers believe that whether or not the student has friends within the classroom, depends more on the character of the student than on their hearing deficiencies (interview 2,3,4,7,10). Some teachers indicated that they believe that the lack or presence of friendships is not strongly affected by the deafness of the student. This phenomenon is mentioned in half of the interviews and supports the high mean average from the questionnaire.

“The child has difficulties to make connection in the class and finds it hard to make playdates with other children after school and play with children during breaks...I personally believe that the character of the child plays a leading factor in this, she is very intelligent and likes things to happen in her way.” Interview 10.

Communication and interactions.

Questionnaire. The average score of this factor is 4.26, which indicates that the teachers believe that it is often or always the case that the hearing impaired child can join in

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interactions. The One-Sample T test showed that the mean difference was significantly higher than expected for all questions, with a test value of 3 ($p < .001$). Therefore, the alternative hypothesis (H_1 : Test Value \neq 3) can be accepted. The question with a high variation was ‘is the student excluded from activities of classmates’ ($SD = 0.92$), which shows that teachers did not reach consensus on this question.

The questions which contributed the most to the construct ‘communication and interactions’ were the negatively phrased ones: ‘The student is excluded from activities of classmates’ (4.10), ‘the student is provoked by classmates’ (4.50), ‘the student is teased by classmates’ (4.80) and ‘classmates are making fun of the student’ (4.80). The scores reported are the scores from the reversed variables, the non-reversed scores can be found in appendix D. The high scores show that negative interactions or communication expressions were almost never or never present.

Interviews. In the interviews, difficulties were expressed in the interactions and communications of the students. More than half of the participants indicated communication issues at a group level. These difficulties often refer to communication barriers, caused by the hearing impairment of the student (interview 1,3,5,9,10).

“He finds it hard to connect with other students. Because the sounds often comes in later, he often misunderstands something and might interpret something as angry whilst it is not meant like that. He also has anxiety to make contact: Can I trust this person? Je really notice a barricade there for him” Interview 5.

Social self-perception.

Questionnaire. In total, five questions were asked regarding this factor. The average score for this factor is 3.98, which indicates that the teachers believe that the hearing impaired student often had a positive self-perception. The One-Sample T test showed that average

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score is significantly higher than the expected Test Value 3 ($p < .001$). Therefore, the alternative hypothesis (H_1 : Test Value \neq 3) can be accepted. The question with a high variation in answers was ‘The student feels lonely’ ($SD = 0.94$), which shows that no clear consensus was reached.

Interviews. All participants in the interviews indicated that the hearing impaired student likes going to school and has fun in the classroom.

“The student feels good in the classroom. He likes everything and does not worry. He does the things that he has to do and he is happy with himself.” Interview 2

However, half of the teachers indicated that they notified negative feelings, such as feeling excluded (interview 3,5,7,9,10), feeling bullied or teased (interview 10), feelings of loneliness (interview 3,9) and insecurities (interview 5). Feeling excluded was notified in half of the interviews. The participants mention feelings of exclusion mostly in connection to group activities.

“The student occasionally felt lonely and excluded. That happened mostly during the break time. When he came back in the class, he was happy that the class would start again. In the classroom environment he felt safe.” Interview 9

Acceptance.

Questionnaires. Acceptance was measured by five questions in the questionnaire. The average score was 3.72. According to a One-Sample T Test this was significantly higher for all questions, with a Test Value of 3 ($p < .05$). Therefore, the alternative hypothesis (H_1 : Test Value \neq 3) can be accepted. The variation of the answers was high in the question ‘the learning activities are adjusted to the handicap of the student’ ($\sigma = 0,962$). The question that scored at least 0,50 higher than the others was the question ‘the classmates are willing to help

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the hearing impaired student': in this question 88,3% of the teachers indicated that the students were always or almost always willing to help the hearing impaired student.

Interviews. In the interviews all teachers indicated that the student and his or her handicap were accepted by the classmates and that this contributes to social participation. They saw this in the classroom by the awareness of the classmates of the SOLO technology (interview 1,3,5,10) and the way in which the classmates help the student (interview 1,9,10). Furthermore, teachers indicated that holding presentations on the hearing impairment helped classmates in accepting it (interview 5,7,8,10).

“Yes, the hearing impaired child is absolutely accepted. For example, if I forget to turn on the SOLO technology, the classmates remind me of it. They really take his impairment into account.” Interview 5

On the contrary, it is mentioned a few times that classmates do not adjust the games to the deaf student (interview 3,9). The participants mention that the age might be a factor in this, as younger children are sometimes less aware of the situation and the handicap of the hearing impaired child.

“In the game, he did already start with not knowing the rules. Young children often adapt the rules of a game during the game, that is quite normal. But for him it is difficult.” Interview 9

Underlying Mechanisms influencing Social Participation

Communication problems. In the interviews, teachers often mention communication problems as one of the reasons for the amount of friendships and problems with interactions. The communication barriers that are mentioned include background noises (interview 3,5,10), the speed of the conversation (interview 3), the placement of the student in the classroom

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(interview 1, 9), misunderstandings (interview 1,3,5,10) and negative emotions such as anger frustration and anxiety (interview 5,8,10).

Most communication problems are linked to group interactions, either in a formal setting in the classroom or in an informal setting. It was indicated that the hearing impaired student would remain aloof during group conversations, does not participate well in a group setting and was not always able to follow the line of the conversation in a group setting (Interviews 2,3,5,6,9,10).

“The student’s impairment is taken into account, but the classmates do not always involve the student in group conversations. When something is discussed at class-level, you notice that the student can not always follow the conversation. Sometimes knowledge is lacking. This makes the communication harder, especially in a group setting.” Interview 10.

Classroom set up. In the interviews, teachers indicated that the classroom set-up contributes to interactions and communication (Interview 1,2,5,8,9). When children are supposed to work together, the hearing impaired student and his or her group can sit somewhere quiet. Moreover, the student is mostly placed in front of the class, so that he or she can more easily follow what is said.

“For him, group interaction within the classroom can be difficult, because he sometimes cannot understand his coworking buddy due to the noise. He can work in the corridor when this happens. This really helps.” Interview 8

Awareness classmates. In the interviews, teachers indicated that the classmates were aware of the handicap of the hearing impaired student, and that this helped them in accepting the handicap and communicating in a right way (Interview 1,3,5,6,7,9). This awareness was

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illustrated by classmates explaining something that the classmate did not hear, their awareness of the SOLO technology and helping the teacher when he or she forgot to turn it on.

“If children know what is going on, they will act upon it. If you explain the children about the handicap and how the child feels, they show understanding. It creates awareness which makes it easier for the hearing impaired student to join in games or interactions.” Interview 7

Attitude teachers. In the interviews, the teachers were asked on their stance towards including students with Special Educational Needs (SEN) and children with a hearing impairment in regular education. All teachers indicated that they believed it was a good trend that more children with a SEN, including hearing impaired children, are attending regular education. A few teachers expressed concerns regarding including SEN children in a regular classroom, considering the work load and the needs of the child (Interview 1,2,4,5,6,7,10). All teachers were positive on including deaf children in a regular classroom.

“I believe it is good that hearing impaired children attend regular schools. In this way, they can learn to be part of society in a safe way.” Interview 5

Knowledge and experience teachers. Most teachers indicate that they have enough experience (interview 1,2,3,6,7,8,9,10), knowledge (1,2,3,7,8,10) and confidence (1,3,4,5,6,7,8,9,10) to teach hearing impaired children. A few teachers mentioned that they gained a lot of knowledge through instances such as Kentalis and Auris, which offer counselling related to hearing impairment to teachers, parents and hearing impaired children. A few teachers mentioned that they felt like they did not have enough experience and knowledge (interview 4,5).

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Best Practices

In the interviews, teachers were asked about the best practices they apply in the classroom to increase the social participation of the hearing impaired child. In this section ten different best practices are described, which have been selected from the interviews. The best practices include practices that specifically focus on the hearing impaired student, but also general educational methods that apply to the whole class.

Creating awareness and acceptance. All teachers indicated measures specifically directed at creating awareness and acceptance. Teachers mentioned that a good way to increase awareness was to hold a presentation (interview 1,5,6,7,8), letting the children experience what hearing loss feels like (interview 1,5,7) and speaking to the class about the handicap (interview 1,3,5,7,8,9,10). Some teachers showed videos on the handicap, or tried to make jokes about the SOLO technology for it to be accepted by all the classmates.

Using technological tools. Most teachers mentioned the use of technological tools such as the SOLO technology (interview 1,2,3,4,7,9,10). Most teachers indicated that the use of this technology is very beneficial for the hearing impaired child: it has impact on the ability to communicate, listen and feel included.

Treat the child as any other child. Some teachers specifically mentioned the need to treat the child normally and to normalize the handicap of the hearing impaired student (interview 1,3,5,7). One participant mentioned the use of humor in normalizing the handicap and the SOLO technology.

Maintaining close bonds with the parents. Teachers indicated the importance of maintaining close relationships with the parents (Interview 2,7,8,10). It helps them in gaining insights in the handicap, notifying problems in school and receiving feedback on their teaching.

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Work together with instances. Teachers indicated that the help of instances such as Auris and Kentalis helped them in gaining information on the handicap and classroom techniques (interview 1,5,8,10). Auris and Kentalis are instances that have expertise on hearing impairment, and offer support to teachers, parents and hearing impaired children. Teachers recommend the courses that the instances offer and the personal help that they offer the hearing impaired student.

Having a good transfer with the previous teacher. Teachers indicated the importance of an elaborate transfer of knowledge and experience with the previous teacher before the new school year starts (Interview 2,7,8).

Being extra observant. Half of the teachers indicated the importance of being observant of the child (Interview 1,3,7,8,10). Paying extra attention to the child and checking regularly whether the student can manage, helps the teachers in detecting (communication) problems in an early stage and to check whether the student heard and understood all the given information.

Personal guidance. More than half of the teachers indicated to give extra personal guidance to the hearing impaired student (interview 1,5,7,8,9,10). The extra guidance focuses on educational and social matters. One participant indicated to have an individual plan to increase the social participation of the student (interview 10).

Classroom set up. Almost all teachers indicated that the student was placed in a strategic place in front of the class and that the student was allowed to find a quiet place when he or she experiences difficulties with the noise of the class (interview 1,2,4,5,6,8,9). According to the teachers, adjusting the classroom set up helped the student in interacting and receiving information.

Instructional techniques. Teachers indicated that they applied specific instructional techniques in teaching the hearing impaired student: talking with your face towards the class,

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articulating clearly, adding a lot of repetition and making things visual (interview 1,3,4,8,10). According to the teachers, these techniques did not only benefit the hearing impaired student, but also the other classmates.

Educational methods. Teachers mentioned the beneficial effects of several educational methods on the hearing impaired child, under which: the use of a social emotional method, a cooperative method and class conversations (interview 2,3,4,6,8).

Discussion and conclusion

The present study explored the social participation of hearing impaired students in a regular school environment and explored the best practices which teachers apply to increase the social participation. Two research questions were formulated: What dimensions contribute to the social participation of hearing impaired children in regular primary schools according to their teacher? And: What instructional techniques to teachers apply to foster social participation of hearing impaired children in a regular classroom? The first research question was divided in two sub-questions: Which dimensions from the Social Participation Questionnaire contribute to the social participation of the hearing impaired child? And: What mechanisms from the scientific literature influences these factors?

Dimensions related to Social Participation

Previous studies showed that hearing impaired students had less friendships than their hearing counterparts, communication difficulties, problems with interacting with classmates, a lower likeability and a lower acceptance (Antia et. al., 2011; Capelli, 1995; Piso et. al., 2009). Contradictory to this, the present study showed that all dimensions significantly contribute to the social participation of the hearing impaired child more than expected.

The difference between the findings from the present study and previous studies, can be attributed to communication skills. Namely, hearing impaired children in the Netherlands

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have better (oral) communication skills than in other parts of the world (Wauters & Knoors, 2008). More precisely, Hearing impaired children in the Netherlands are supported and guided exceptionally well in the development of their (oral) language skills (Wauters & Knoors, 2008). Moreover, since the publication of the study of Wauters and Knoors (2008), recent developments such as an increase in the quality of CI and FM (solo) technology (Caldwell, et. al., 2017) and the amount of hearing impaired children that uses CI technology (Antia et. al., 2017) have increased the communication skills of hearing impaired children even further (Gautam, Naples & Eliades, 2019). Adding to that, it was mentioned by the teachers that the use of SOLO technology is a really good way to improve the communication skills of the hearing impaired child.

Another reason for differences between the recent study and previous studies, is connected to the recently passed *Wet Passend Onderwijs* (2014). Since the *Wet Passend Onderwijs* (2014) was introduced, regular primary schools in the Netherlands receive extra funding (*leerling gebonden budget*) to adjust the classroom to the needs of a student with a SEN. This allows teachers to invest in (technological) tools and spend extra time to improve the social participation.

Underlying Mechanisms and the Role of the Teacher

The current study showed the impact of communication skills, the classroom set-up the awareness of classmates and the experience and knowledge of the teacher.

Respondents indicated in the interviews that they see clear connections between the social participation and communication skills, the classroom set-up and the awareness of classmates. These findings are in line with what has been found in the scientific literature. Regarding communication, several scholars describe that (oral) communication issues might cause a lower acceptance, lower rate of friendships and a lower likeability (Alasim & Paul, 2018, Antia et. al., 2011; Batten et. al., 2014). This is supported by the findings of the study, as we

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see that the dimension ‘communication and interactions’ adds most to social participation, compared to the other three dimensions. Moreover, in the interviews almost all teachers mentioned the effect of communication difficulties in relation to the four dimensions of social participation.

Regarding classroom set-up, scholars mention that it is important that teachers create ideal circumstances for the student to communicate (Alasim, 2018; De Leeuw et. al., 2018; Rouse, 2008). Teachers indicated that a special classroom set-up allowed for better communication.

Regarding awareness classmates, previous research found that teachers should increase the awareness in the classroom (Alasim, 2018). This study shows that teachers apply methods to increase awareness and that it indeed has a positive effect on the social participation. Namely, more than half of the respondents indicated that awareness of the classmates helped them in accepting the handicap and communicating in a right way and all teachers indicated to apply classroom techniques to create awareness.

The attitude of teachers and the knowledge and experience of teachers is very important in creating an inclusive classroom (Rouse, 2008; Vermeulen et. al., 2011). It was expected that teachers might experience difficulties in applying appropriate instructional techniques to increase the social participation, as scientific literature points out that teachers often do not have enough knowledge and experience to facilitate a right classroom structure for the hearing impaired child (Alasim, 2018). Although, the current study showed contradictory results.

Namely, regarding the attitude of the teachers, all teachers were positive towards including SEN and deaf children in their classroom. Furthermore, this study showed that teachers apply numerous best practices in their classroom to increase the social participation of the child. The literature describes that it is important that teachers facilitate a right classroom structure, share knowledge about the handicap with the class, create ideal conditions for the hearing impaired child to participate and to detect difficulties in their social

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participation (Alasim, 2018; De Leeuw et. al., 2018). All these elements were present in the best practices that were identified.

The high number of best practices can be explained by the high knowledge and experience of the teachers. The difference in the expected and actual rate of knowledge and experience, can be declared by the self-assessment bias. As teachers rated their own knowledge and experience in the interviews, it can be expected that they overestimate the extent of their knowledge and experience and underestimate their lack of knowledge and experience (Walfish, McAlister, O'Donnell & Lambert, 2012). Another reason for the higher amount of knowledge and experience, is the fact that teachers described to have a close connection with the parents, with the previous teacher and with instances such as Auris and Kentalis.

Limitations and Recommendations

There are a few limitations to the scope of the research. Firstly, the degree of hearing loss was not taken into account, which means that a whole range of students from a mild hearing loss to severe deafness might have been included. Despite that in regular primary schools students with all rates of deafness are welcome and the rate of deafness does not necessarily influence their social participation, it might be that students with a high degree of hearing loss experience more problems regarding social participation. Secondly, the questionnaire was spread through social media, but also via instances such as Kentalis and Auris. Being spread via instances such as Kentalis and Auris might have resulted in a bias regarding their stance towards help instances, the amount of knowledge and experience, and the best practices that they applied. Thirdly, not all age categories and groups were equally represented in the questionnaire and interviews: Two age categories or groups, were overrepresented (group 4 and 7) and two were underrepresented (group 1 and 2). This decreases the generalizability of the results. Fourthly, the factor 'social self-perception' of the Social Participation

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Questionnaire was merely measured through the experience of the teacher, and not the student him or herself which might have led to possible inaccurate results.

Another recommendation for future research, is conducting the study on a secondary school. Through the interviews, some participants indicated that the transfer from primary school to secondary school was hard for the hearing impaired student they taught: relating to their age, making new friends and having another teacher for every subject. Moreover, it is recommended to include the visions of parents and the children themselves in the interviews. It would be interesting to see until what extent the view of the teachers, the parents and the child will overlap and differ. Lastly, it might be interesting to further explore the effects of the best practices that the teachers apply in their classroom with a quantitative analysis, to find out which best practices have the largest contribution to the social participation.

Implications and Conclusion

The social participation of hearing impaired children paints a promising picture regarding the inclusion of hearing impaired children in regular primary schools in the Netherlands. Good (oral) communication skills play an essential role in the high social participation rate. These communication skills and other mechanisms influencing the social participation, are strongly influenced by the teacher.

This research showed that the teacher plays a vital part in improving the social participation. Teachers should be aware of their role to improve the classroom set-up, facilitate communication and to create awareness. To make the teachers aware of this, they should receive knowledge and gain experience, preferably before starting teaching a hearing impaired child. Currently, information and expertise is offered by instances such as Kentalis and Auris, which specialize in teaching a hearing impaired child. Teachers have indicated that they found the information and help provided by these instances very helpful. However, teachers are not always familiar with these instances which deprives them of important

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knowledge and skills. More awareness of these instances should be created as they are important for the social participation of hearing impaired children. A way to do so, would be to offer information on these instances in the teacher training (PABO) and to allocate more funds to these institutions (in the context of *Wet Passend onderwijs*). More funds for these instances will also allow them to support teachers more regularly and offer courses to a larger amount of teachers.

The best practices that are identified in the course of this research can provide teachers useful information on how to stimulate social participation. It is recommended that instances such as Auris and Kentalis and teacher training instances (such as the PABO) pay attention to these best practices. The list of best practices identified is not exclusive and set in stone, but dynamic and open to change. Therefore, it is recommended that teachers explore these best practices and share experiences in dialogue with their colleagues and experts. By having dialogues and discussions on the social inclusion of hearing impaired children, more awareness and knowledge will be created and possibly more best practices will be identified. A possible way to facilitate dialogue and exchange of knowledge and expertise, is by creating an (online) Professional Learning Community (PLC), which is a learning method characterized by an ongoing process of learning.

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SOCIAL PARTICIPATION OF DEAF CHILDREN IN PRIMARY EDUCATION

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Appendix A: Questionnaire**Officiële vragenlijst***Intro*

Beste deelnemer,

Hartelijk dank voor uw deelname aan mijn onderzoek over de sociale participatie van dove en slechthorende kinderen in het reguliere onderwijs. Het doel van deze vragenlijst is om te kijken hoe u, de leerkracht, de sociale inclusie van het kind in de klas ervaart.

Uw deelname aan dit onderzoek is volledig anoniem en de antwoorden die u geeft zullen niet herleidbaar zijn tot u als persoon. De resultaten zullen alleen gebruikt worden voor het afronden van mijn scriptie voor de MSc onderwijskunde aan de Universiteit van Utrecht.

Het invullen van de vragenlijst zal slechts enkele minuten in beslag nemen.

Nogmaals hartelijk bedankt voor uw deelname.

Met vriendelijke groet,

Anneloes van Delft

a.j.c.p.vandelft@students.uu.nl

Demografische gegevens:

Leeftijd:
Gender:
Hoogst genoten opleiding: WO/HBO/MBO/ANDERS
Wat heb je gestudeerd?:

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Achtergrondinformatie:

Hoeveel uur ben je werkzaam?:
Welke groep geef je les?:
Heb je momenteel een doof of slechthorend kind in de klas?:
Zo niet – Wanneer heb je een doof kind in de klas gehad?:

Stellingen Social Participation Questionnaire (23 stellingen in totaal)

Geef aan in welke mate u het eens bent met de stelling die wordt gepresenteerd door op dezelfde regel links het nummer te omcirkelen dat het meest met uw mening overeenkomt.

Vraag					
	Helemaal mee eens	Mee eens	Geen mening	Niet mee eens	Helemaal niet mee eens
De leerling is onderdeel van een vriendengroepje	1	2	3	4	5
De leerling heeft vrienden in de klas	1	2	3	4	5
De leerling gaat na schooltijd met andere kinderen spelen	1	2	3	4	5
De leerling wordt uitgenodigd om te spelen tijdens vakanties	1	2	3	4	5
De leerling wordt uitgenodigd voor verjaardagsfeestjes	1	2	3	4	5

SOCIAL PARTICIPATION OF DEAF CHILDREN IN PRIMARY EDUCATION

De leerling heeft plezier met zijn of haar klasgenoten	1	2	3	4	5
De leerling wordt buitengesloten van activiteiten die klasgenoten ondernemen	1	2	3	4	5
De leerling wordt geprovoceerd door klasgenoten	1	2	3	4	5
De leerling wordt gevraagd om mee te spelen door klasgenoten	1	2	3	4	5
De leerling wordt geplaagd door klasgenoten	1	2	3	4	5
De leerling doet mee met spelletjes die zijn of haar klasgenoten spelen					
Klasgenoten lachen de leerling uit					
Klasgenoten gaan vrijwillig naast de leerling zitten	1	2	3	4	5
De leerling werkt samen met klasgenoten tijdens het uitvoeren van taken	1	2	3	4	5
De leerling heeft het gevoel erbij te horen	1	2	3	4	5
De leerling voelt zich eenzaam	1	2	3	4	5
De leerling voelt dat hij of zij zichzelf kan zijn					
De leerling heeft het gevoel dat anderen hem of haar uitschelden	1	2	3	4	5
De leerling vindt het leuk om naar school te gaan	1	2	3	4	5

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Klasgenoten zijn bereid om regels van een spelletje aan te passen aan de leerling					
De leeractiviteiten worden aangepast aan de handDe licap van de leerling	1	2	3	4	5
De spelletjes worden aangepast aan de handicap van de leerling					
Klasgenoten komen op voor de leerling	1	2	3	4	5
Klasgenoten zijn bereid om de leerling te helpen					

Slot

Hartelijk bedankt voor het invullen van de vragenlijst. U heeft mij een stapje verder geholpen in mijn onderzoek naar sociale inclusie van dove en slechthorende kinderen in het regulier onderwijs. Als u zelf nog andere leraren kent die ook aan dove of slechthorende kinderen lesgeven of in het verleden lesgegeven hebben, zou ik het heel erg op prijs stellen als u deze vragenlijst met hen zou willen delen.

Om de onderzoeksresultaten te versterken wil ik graag de resultaten van de interviewvragen aanvullen met interviews. Bent u bereid om uw een toelichting te geven bij uw antwoorden in een mondeling interview? Ja – Nee

Appendix B: Interview questions**Interview vragen****1. Introductie**

- Kan je jezelf kort voorstellen (naam, leeftijd, achtergrond)
- Kan je iets vertellen over je dienstverband (bij welke school, parttime of fulltime, hoelang)
- Wat is je vooropleiding?

Relevante ervaring:

- Wat is je ervaring met het lesgeven aan kinderen met een speciale onderwijsbehoefte?
- Heb je ervaring met het lesgeven aan dove kinderen?

Het dove of slechthorende kind:

- Hoelang zit het dove of slechthorende kind hier al op school?
- Hoelang geef je het dove of slechthorende kind al les?
- Heeft het dove of slechthorende kind nog andere speciale onderwijsbehoeftes/ een onderwijsachterstand?

2. Attitude van de docent

- Vind je dat reguliere scholen dove of slechthorende kinderen zouden moeten toelaten?
- Heb je het gevoel dat het reguliere onderwijs een goede onderwijsmethode is voor dove of slechthorende kinderen?

2. Ervaring en kennis over het lesgeven van dove en slechthorende kinderen

- Heb je het gevoel dat je genoeg kennis hebt (over de handicap, over lesstrategieën) om een doof of slechthorend kind les te geven?
- Heb je het gevoel dat je genoeg ervaring hebt om een doof of slechthorend kind les te geven?
- Heb je het gevoel dat je genoeg wordt ondersteund door andere leraren, het schoolbestuur, evt. andere professionals in het lesgeven van een doof of slechthorend kind?
- Voel je je zelfverzekerd in het lesgeven van een doof of slechthorend kind?
- Wat zou er kunnen veranderen aan de voorbereiding op het lesgeven van een doof of slechthorend kind?

3. Sociale participatie

SOCIAL PARTICIPATION OF DEAF CHILDREN IN PRIMARY EDUCATION

Construct 1 (SPQ): Vriendschappen/Relaties

- Heb je het gevoel dat de leerling vriendschappen en connecties heeft in de klas?
 - o Waarom wel/waarom niet?
- Is dit opvallend meer of minder dan bij de horende klasgenoten?
- Wat doe je als leraar om de vriendschappen en interacties tussen de horende leerlingen en de dove of slechthorende leerling te bevorderen?
 - o Heb je het gevoel dat dit werkt?

Construct 2 (SPQ): Contacten/Interacties

- Heb je het gevoel dat de leerling voldoende interacties en contacten heeft binnen de klas? Wordt de leerling betrokken door de klasgenoten?
 - o Waarom wel/waarom niet?
- Is dit opvallend meer of minder dan bij horende klasgenoten?
- Wat doe je als leraar om de contacten en interacties tussen de horende leerlingen en de dove of slechthorende leerlingen te bevorderen?
 - o Heb je het gevoel dat dit werkt?

Construct 3 (SPQ): Sociale zelfperceptie

- Heb je het gevoel dat de leerling zich goed voelt in de klas?
 - o Voelt de leerling zich eenzaam? Buitengesloten? Vindt de leerling het leuk om naar school te gaan?
 - o Waarom wel/waarom niet?
- Is dit opvallend meer of minder dan bij horende klasgenoten?
- Wat doe je als leraar om het zelfbeeld en de gevoelens van het kind te verbeteren?
 - o Heb je het gevoel dat dit werkt?

Construct 4 (SPQ): Acceptatie door klasgenoten

- Heb je het gevoel dat de leerling wordt geaccepteerd door de klasgenoten?
 - o Waarom wel/waarom niet?
- Is dit opvallend meer of minder dan bij andere klasgenoten?
- Wat doe je als leraar om de acceptatie door klasgenoten te vergroten?
 - o Heb je het gevoel dat dit werkt?

Appendix C: Informed Consent

Informed consent voor de vragenlijst

Informatie onderzoek (wordt vooraf via de mail gestuurd)

Beste deelnemer,

Allereerst: Hartelijk bedankt dat u deel wilt nemen aan mijn onderzoek over de sociale participatie van dove en slechthorende kinderen in het reguliere onderwijs. Hieronder volgt wat meer informatie over de opzet en de achtergrond van het onderzoek.

Opzet onderzoek

In dit onderzoek zal bekeken worden welke factoren bijdragen aan de sociale participatie van dove en slechthorende kinderen in het reguliere onderwijs. Dit wil ik onderzoeken doormiddel van een vragenlijst en het houden van interviews.

Achtergrond onderzoek

In de afgelopen jaren is het aantal dove en slechthorende kinderen wat naar het reguliere onderwijs gaat in Nederland, flink gestegen. Om deze reden is het belangrijk om te onderzoeken hoe goed dove en slechthorende kinderen worden opgenomen in het regulier onderwijs. Hebben ze vriendjes in de klas? Worden ze geaccepteerd door hun klasgenootjes? En vinden ze het leuk om naar school te gaan? Dit zijn een aantal zaken die onderzocht zullen worden tijdens dit onderzoek naar de sociale participatie van dove en slechthorende kinderen.

Wat wordt van u verwacht?

Als u aan het onderzoek deelneemt, wordt er van u verwacht dat u een vragenlijst invult. Deze vragenlijst bevat 24 stellingen die gaan over de sociale participatie van het dove of slechthorende kind wat u in de klas heeft of heeft gehad. Het invullen van de vragenlijst zal naar schatting ongeveer 5 minuten in beslag nemen.

Vertrouwelijkheid

Om de onderzoeksvraag goed te kunnen beantwoorden, is het nodig dat we een aantal persoonsgegevens van u verzamelen. Dit betreft informatie over uw dienstverband en demografische gegevens zoals uw leeftijd. Deze informatie zal worden beveiligd en zal niet inzichtelijk zijn dat andere personen naast ik, Anneloes van Delft. De gegevens zelf zullen ook beveiligd worden door een beveiligingscode en zullen niet langer dan een jaar bewaard worden.

Vrijwilligheid

Deelname aan het onderzoek is geheel vrijwillig. Dit betekent dat u op elk moment, zonder een reden op te hoeven geven, kunt stoppen met het invullen van de vragenlijst. De gegevens van de vragen die u tot dan toe al heeft beantwoord, zullen wel meegenomen worden in het onderzoek. Als u dit niet wilt, kunt u dit aangeven.

Als u een klacht wilt indienen over het onderzoek kunt u een e-mail sturen naar klachtenfunctionaris-fetcsowet@uu.nl

Voordat u de vragenlijst invult zal er gevraagd worden om akkoord te gaan met een aantal voorwaarden. Lees bovenstaande mail goed door voordat u begint met het invullen van de vragenlijst.

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Pagina die ondertekend dient te worden (in qualtrics)

Ik verklaar hierbij dat ik goed ingelicht ben over de methode en het doel van het onderzoek.

Daarnaast neem ik geheel vrijwillig deel aan dit onderzoek. Gedurende het onderzoek behoud ik mijn recht om de deelname aan het onderzoek af te breken, hier hoeft ik geen reden voor te geven. Ik besef dat ik dit te allen tijde kan doen.

Mijn onderzoeksresultaten zullen alleen worden gebruikt voor een master thesis van de studie 'Educational sciences' van Utrecht Universiteit. Je gegevens zullen volledig geanonimiseerd worden als gegevens gebruikt worden in het onderzoek. Mijn persoonlijke gegevens zullen niet met derden worden gedeeld zonder dat ik hier uitdrukkelijk toestemming voor geef.

Als ik nu, of in de toekomst, meer informatie wil kan ik me wenden tot Anneloes van Delft. Haar e-mailadres is: a.j.c.p.vandelft@students.uu.nl. Als ik klachten heb over dit onderzoek kan ik mailen naar klachtenfunctionaris-fetsowet@uu.nl

√ **Ik begrijp de bovenstaande tekst volledig en ik ga akkoord met deelname aan het onderzoek**

Informed consent voor de interviews (informatiemail)

Beste,

Allereerst: Hartelijk dank dat u de vragenlijst heeft ingevuld en hierin heeft aangegeven open te staan voor een interview. Ik verstuur u deze mail om u wat meer informatie te verschaffen over het interview en om een datum en tijd met u af te spreken. Hieronder volgt eerst wat meer informatie over het onderzoek. Ik wil u verzoeken deze informatie voor het interview door te lezen, zodat u voor het interview weet wat de standaarden zijn die worden gehanteerd.

Het onderzoek

In dit onderzoek wordt gekeken naar welke factoren bijdragen aan de sociale participatie van dove/slechthorende kinderen in het reguliere onderwijs. Dit wordt onderzocht door middel van een vragenlijst (die u reeds heeft ingevuld) en interviews.

Achtergrond

In de afgelopen jaren is het aantal dove en slechthorende kinderen wat naar het reguliere onderwijs gaat sterk toegenomen. Om deze reden is het belangrijk om te onderzoeken hoe goed dove en slechthorende kinderen worden opgenomen in het regulier onderwijs. Hebben ze vriendjes in de klas? Worden ze geaccepteerd door hun klasgenootjes? En vinden ze het leuk om naar school te gaan? Dit zijn een aantal zaken die onderzocht zullen worden tijdens dit onderzoek naar de sociale participatie van dove en slechthorende kinderen.

Het interview

Het interview zal ongeveer 30 minuten duren. Het onderzoek wordt uitgevoerd door Anneloes van Delft, onder begeleiding van Arjan van Tilborg. Om de data te kunnen verwerken zal het interview worden opgenomen. Als u hier bezwaar tegen hebt, kunt u dat aankaarten.

Tijdens en na het interview...:

- kunt u op elk moment aangeven te willen stoppen

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- zal de informatie die u deelt volledig vertrouwelijk worden behandeld
- worden de gegevens geanonimiseerd zodat niks terug te leiden is tot u als persoon
- zal de data beveiligd worden opgeslagen

De resultaten van de studie zullen gebruikt worden in een master thesis en zullen inzichtelijk zijn voor de begeleider, Arjan van Tilborg, en een tweede lezer. Daarnaast zullen de resultaten in een presentatie op de universiteit en in de database met master thesissen zullen worden opgenomen.

Vragen?

Als u hier vragen over heeft hoor ik het graag. Vragen hierover kunnen ook aan het begin van het interview gesteld worden.

Met vriendelijke groet,

Anneloes van Delft

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Appendix D: Analysis of questionnaires**1. Descriptive statistics***Summary***Social participation mean scores**

Friendships	Contacts and Interactions	Social Self-Perception	Acceptance	Total
3.78	4.26	3.98	3.72	3.94

Friendships

Question	Coding SPSS	Average score (1-5)	Standard deviation
The student is part of a group of friends	FR1	3,97	0,974
The student has friends within the class	FR2	4,13	0,929
The student plays with other children after school	FR3	3,60	1.028
The student is invited to play during holidays	FR4	3,53	1,096
The student is invited for birthday parties	FR5	3,63	1,008
Average score	3,78		

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Contacts and interactions

Question	Coding SPSS	mean (1-5)	Mean of recoded variables	Standard deviation
The student fun with his or her classmates	COI1	4,10	n.v.t.	0,573
The student is excluded from activities that classmates do	COI2	1,90	4,10	0,915
The student is provoked by classmates	COI3	1,50	4,50	0,792
The student is asked to play by classmates	COI4	3,88	n.v.t.	0,885
The student is teased by classmates	COI5	1,57	4,80	0,673
The student joins in playing games with his or her classmates	COI6	4,08	N.v.t.	0,766
Classmates laugh at the student	COI7	1,20	4,80	0,480
Classmates sit next to the student voluntarily	COI8	4,13	N.v.t.	0,769
The student works together with classmates during the execution of tasks	COI9	3,98	N.v.t.	0,725
Average score	4,26			

Social self perception

Question	Coding SPSS	Mean score (1-5)	Mean score of Recoded variables	Standard Deviation
The student has the feeling that he or she is included	SELFP1	3,90	n.v.t.	0,730
The student feels lonely	SELFP2	2,35	3,65	0,936
The student feels that he or she can be him/herself.	SELFP3	3,90	n.v.t.	0,775
The student has the feeling that others scold towards him/her	SELFP4	1,63	4,37	0,758
The student likes going to school	SELFP5	4,07	N.v.t.	0,660
Average score	3,98			

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Acceptance

Question	Coding SPSS	Mean score (1-5)	Standard Deviation
Classmates are willing to adjust the rules of a game to the student	AC1	3,62	0,846
The learning activities are adjusted to the handicap of the student	AC2	3,58	0,962
The games in the classroom are adjusted to the handicap of the student	AC3	3,27	0,880
Classmates stand up for the student	AC4	3,83	0,785
Classmates are willing to help the student	AC5	4,30	0,720
Average score	3,72		

2. One sample T test output

One sample test with Test Value = 3

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
RE_COI_2	9,312	59	,000	1,10000	,8636	1,3364
RE_COI_3	14,672	59	,000	1,50000	1,2954	1,7046
RE_COI_5	16,494	59	,000	1,43333	1,2594	1,6072
RE_COI_7	29,041	59	,000	1,80000	1,6760	1,9240
RE_SELFP_2	5,381	59	,000	,65000	,4083	,8917
RE_SELFP_4	13,959	59	,000	1,36667	1,1708	1,5626
FR_1	7,690	59	,000	,967	,72	1,22
FR_2	9,448	59	,000	1,133	,89	1,37
FR_3	4,519	59	,000	,600	,33	,87
FR_4	3,768	59	,000	,533	,25	,82
FR_5	4,867	59	,000	,633	,37	,89

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COI_1	14,859	59	,000	1,100	,95	1,25
COI_4	7,734	59	,000	,883	,65	1,11
COI_6	10,960	59	,000	1,083	,89	1,28
COI_8	11,409	59	,000	1,133	,93	1,33
COI_9	10,511	59	,000	,983	,80	1,17
SELFP_1	9,556	59	,000	,900	,71	1,09
SELFP_3	9,000	59	,000	,900	,70	1,10
SELFP_5	12,511	59	,000	1,067	,90	1,24
AC_1	5,649	59	,000	,617	,40	,84
AC_2	4,698	59	,000	,583	,33	,83
AC_3	2,346	59	,022	,267	,04	,49
AC_4	8,226	59	,000	,833	,63	1,04
AC_5	13,982	59	,000	1,300	1,11	1,49

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Appendix E: Analysis of interviews**1. Schematic Set-Up.**

The schematic Set-Up was created in Excel and can be found via the hyperlink below.
[analyse interviews.xlsx](#)

2. Code scheme for sub-research question: What mechanisms influence these constructs?

Code/mechanism	Sources
Attitude of teachers towards inclusion of hearing impaired children	Alasim & Paul (2018), Vermeulen et. al., (2011), Rouse (2008)
Attitude of teachers towards inclusion of children with SEN	Alasim & Paul (2018), Vermeulen et. al., (2011), Rouse (2008)
Awareness of classmates of the handicap and the hearing impaired child	Alasim & Paul (2018), De Leeuw, et. al., (2018); Lindsay & Edwards, (2013).
Communication issues	Alasim & Paul (2018), Antia et. al., (2011), Wauters & Knoors (2008), De Leeuw, et. al., (2018), Rouse (2008),
Experience of the teacher regarding the handicap	Alasim & Paul (2018), Ericks-Brophy & Whittingham (2013),
Knowledge of the teacher regarding the handicap	Alasim & Paul (2018), Ericks-Brophy & Whittingham (2013),
Self-confidence in teacher a hearing impaired child	Alasim & Paul (2018), Ericks-Brophy & Whittingham (2013),
Classroom set-up	Alasim & Paul (2018), Vermeulen et. al., (2011)

3. Frequency table for sub-research question: What mechanisms influence these constructs?

Code/mechanism	Topics related to the code	Presence in interviews	Presence in how many interviews
Attitude of teachers towards inclusion of hearing impaired children	Positive attitude	Interview 1,2,3,4,5,6,7,8,9,10	10
Attitude of teachers towards inclusion of children with SEN	Positive attitude	Interview 1,2,3,4,5,6,7,8,9,10	10
	Concerns expressed	Interview 1,2,4,5,6,7,10	7
Awareness of classmates of the handicap and the hearing impaired child	Awareness of the children helped in including the child	Interview 1,3,5,6,7,9	6
Communication issues	Background noises	Interview 3,5,10	3
	Speed of conversation	Interview 3	1
	Placement of student in the classroom	Interview 1,9	2
	misunderstandings	Interview 1,3,5,10	4

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	Negative emotions	Interview 5,8,10	3
	Group conversations	Interview 2,3,5,6,9,10	6
Experience of the teacher regarding the handicap	Enough experience	Interview 1,2,3,6,7,8,9,10	8
	Not enough experience	Interview 4,5	2
Knowledge of the teacher regarding the handicap	Enough knowledge	Interview 1,2,3,6,7,8,9,10	8
	Not enough knowledge	Interview 4,5	2
Self-confidence in teacher a hearing impaired child	Enough self-confidence	Interview 1,3,4,5,6,7,8,9,10	9
	Not (always) enough self-confidence	Interview 2	1
Classroom set-up	Classroom set-up contributes to better communication	Interview 1,2,5,8,9	5

4. Frequency table for the research question: What instructional techniques do teachers apply to foster social participation of hearing impaired children in a regular classroom?

Code	Topic related to code	Presence in interviews	Presence in how many interviews
Creating awareness and acceptance	Holding a presentation	Interview 1,5,6,7,8	5
	Letting the children experience what hearing loss feels like	Interview 1,5,7	3
	Speaking to the class about the handicap	Interview 1,3,5,7,8,9,10	7
Using technological tools	SOLO technology	Interview 1,2,3,4,7,9,10	7
Normalize the handicap	Treat child as any other child	Interview 1,3,5,7	4
	Use humour to normalize	Interview 2	1
Maintaining close bonds with the parents	n.v.t.	Interview 2,7,8,10	4
Work together with instances	N.v.t.	Interview 1,5,8,10	4
Having a good transfer with previous teacher	N.v.t.	Interview 2,7,8	3
Being extra observant	N.v.t.	Interview 1,3,7,8,10	5

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Personal guidance	n.v.t.	Interview 1,5,7,8,9,10	6
Classroom set up	The student was placed in a strategic place in the class	Interview 1,2,4,5,6,8,9	7
	Student is seated in a quiet place when there is much noise	Interview 1,2,4,5,6,8,9	7
Instructional techniques	Speaking with the face towards the class	Interview 1,4	2
	Articulating clearly	Interview 3,8	2
	Making things visual	Interview 10	1
Educational method	Social emotional method	Interview 2,3,6	3
	Cooperative method	Interview 2,4	2
	Class conversations	Interview 2,4,8	3

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Appendix F: FETC form**Section 1: Basic Study Information**

1. Name student:

Anneloes van Delft

2. Name(s) of the supervisor(s):

Arjan van Tilborg

3. Title of the thesis (plan):

The social participation of hearing impaired children in regular primary education: A teachers perspective.

4. Does the study concern a multi-center project, e.g. a collaboration with other organizations, universities, a GGZ mental health care institution, or a university medical center?

No

5. Where will the study (data collection) be conducted? If this is abroad, please note that you have to be sure of the local ethical codes of conducts and permissions.

The data will be conducted at several primary schools in the Netherlands and via an online survey.

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Section 2: Study Details I

6. Will you collect data?

Yes

Yes Continue to question 11

No Continue to question 7

7. Where is the data stored?

Not applicable

8. Is the data publicly available?

Not applicable

9. Can participants be identified by the student? (e.g., does the data contain (indirectly retrievable) personal information, video, or audio data?)

Not applicable

10. If the data is pseudonymized, who has the key to permit re-identification?

Not applicable

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Section 3: Participants

11. What age group is included in your study?

The subjects of the study are children in primary school, the ages thus range from 4 to 12. These children will not be participating in the study, but their teachers will. The teachers that will be interviewed are 18 or older.

12. Will be participants that are recruited be > 16 years? **Yes/No**

13. Will participants be mentally competent (wilsbekwam in Dutch)? **Yes/No**

14. Does the participant population contain vulnerable persons? **Yes/No**
(e.g., incapacitated, children, mentally challenged, traumatized, pregnant)

15. If you answered 'Yes' to any of the three questions above: Please provide reasons to justify why this particular groups of participant is included in your study.

The participants are teachers in primary school, so all participants will be above the age of 16. As the participants are teachers, they can be seen as mentally competent.

16. What possible risk could participating hold for your participants?

The participants could be reluctant to share (sensitive) information regarding a student in their class. Therefore, the participants might answer the questions more positively than in reality.

17. What measures are implemented to minimize risks (or burden) for the participants?

It will be made clear that participants can withdraw from participating in the questionnaire and interview at any time. Moreover, their anonymity and confidentiality will be ensured. No names of the teachers nor the deaf child will be reported anywhere, and the participants will be made sure of that.

18. What time investment and effort will be requested from participants?

For the participants who fill in the questionnaire, it will take about 10 or 15 minutes to fill in the questionnaire. For the participants who are interviewed, approximately 40 minutes is asked as a time investment.

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19. Will be participants be reimbursed for their efforts? If yes, how? (financial reimbursement, travelling expenses, otherwise). What is the amount? Will this compensation depend on certain conditions, such as the completion of the study?

No, as there will be no costs for the participants. The questionnaire will be administered online and in conducting the interviews it will be assured that there are not costs for the participants.

20. How does the burden on the participants compare to the study's potential scientific or practical contribution?

The study is scientifically and societally relevant. The number of hearing impaired children in regular education has steeply increased over the last years (Ericks-Brophy, 2013). It will keep increasing due to legal and technological developments.

Despite the steep increase of hearing impaired children in regular education over the last decades, reluctance to include children with a hearing impairment in regular education exists (Knoors, 2004). These concerns relate to the fear that deaf children will not be able to socially participate in the general classroom: Children might have a lack of access to communication, language and information and might end up in social isolation (Knoors, 2004). Despite these concerns, not enough research has been done into the inclusion of hearing impaired children (Alasim & Paul, 2018; Knoors, 2007). Research that has been done in the Netherlands, mainly focused on social and emotional development (Ketelaar, Rieffe, Wiefferink, Frijns, 2013; Wiefferink, Raeve, Spaai, 2007) or on their language development (Boons, Wieringen, Raeve, Peeraer, Wouters, 2011; Rodenburg, 2017) and does not focus on the social dimension.

By executing this research, more knowledge can be gained on the social participation of hearing impaired children in regular primary schools.

21. What is the number of participants? Provide a power analysis and/or motivation for the number of participants. The current convention is a power of 0.80. If the study deviates from this convention, the FERB would like you to justify why this is necessary.

(Note, you want to include enough participants to be able to answer your research questions adequately, but you do not want to include too many participants and unnecessarily burden participants.)

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The amount of participants for the questionnaire that will be strived for is 50. The amount of participants for the interviews that will be strived for is 15, as theoretical saturation will then be achieved (Guest, Bunce, Johnson, 2006).

22. How will the participants be recruited? Explain and attach the information letter to this document.

Participants will be recruited through different channels: Facebook groups with primary school teachers, via connections, via several instances such as Kentalis. Through these channels the e-mailaddresses will be asked and used for the primary communication.

23. How much time will prospective participants have to decide as to whether they will indeed participate in the study?

The participants will have approximately two weeks to decide whether they want to participate and fill in the questionnaire.

24. Please explain the consent procedures. Note, active consent of participants (or their parents) is in principle mandatory. Enclose the consent letters as attachments. You can use the consent forms on Blackboard.

Participants will be asked to consent actively. Both before the questionnaire and before the interviews, they will be informed of what the study entails and they will have to consent before continuation.

25. Are the participants fully free to participate and terminate their participation whenever they want and without stating their grounds for doing so? Explain.

Yes. The participants decide to contribute on a complete voluntary basis for both the questionnaire and the interviews.

26. Will the participants be in a dependent relationship with the researcher?

No

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27. Is there an independent contact person or a general email address of a complaint officer whom the participant can contact?

No

28. Is there an independent contact person or a general email address of a complaint officer whom the participant can contact in case of complaints?

No

Section 4: Data management

29. Who has access to the data and who will be responsible for managing (access to) the data?

In principle, only me, Anneloes van Delft and my supervisor, Arjan van Tilborg, will have access to the data.

30. What type of data will you collect or create? Please provide a description of the instruments.

<p>In the first part of the study, questionnaires will be conducted. The questionnaire is based on the Social Participation Questionnaire (SPQ) of Koster et. al., (2011). The SPQ consists of four subscales: Friendships/relationships, contacts/interactions, student's social self-perception and acceptance by classmates and contains 24 statements. Participants will be asked to indicate whether a statement applies to the student with a 5 point Likert scale, and the possible answers range from 'this does not apply at all' to 'this strongly applies'. The statements will all be formulated in line with the following example: "The games of the children will be adjusted to the handicap of the student" (statement 17). The questionnaire can be found in appendix A.</p> <p>In the second part of the study, interviews will be conducted. The interview consists of two parts. The first part will focus on examining the attitudes, knowledge and experience of the teachers in teaching hearing impaired children. To formulate the research questions, the questionnaire of Ericks-Brophy (2013) has been used for inspiration. The construct that is measured here, is the teacher perspective. The second part of the interview</p>

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will focus on gaining deeper insights in the context regarding the questions presented in the questionnaire and on examining the instructional techniques that teachers use to increase social participation. Teachers will be asked to clarify their answers which they presented in the questionnaire and will be asked which instructional techniques they apply to create an inclusive classroom environment. In this part, the interview questions will be based on the four constructs of the SPQ (Koster, et. al., 2011).

31. Will you be exchanging (personal) data with organizations/research partners outside the UU?

No

32. If so, will a data processing agreement be made up?

Not applicable

33. Where will the data be stored and for how long?

The data of the questionnaires will be stored in Excel and then SPSS. It will be stored on my personal computer. The data of the interviews will be transcribed and then saved as a word document. Moreover, Envivo will be used to analyze the data. This will also be on my personal computer.

34. Will the data potentially be used for other purposes than the master's thesis? (e.g., publication, reporting back to participants, etc.)

No.

35. Will the data potentially be used for other purposes than the master's thesis? (e.g., publication, reporting back to participants, etc.)

Yes. When participants are interested in the outcome of the research, the outcomes might be shared. The 'raw' data will never be shared.

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Appendix G: Planning Master thesis**Timetable**

Research Phase	Date
Writing the thesis proposal	November 2019 – January 2020
Gathering respondents for the questionnaire	Week 6 t/m 9 (Februari)
Processing the data from the interviews	Week 10 and 11
Selecting and contacting respondents for the questionnaires	Week 10 and 11
Holding the interviews	Week 12 t/m 14
Transcribing and coding the interviews	Week 15 and 16
Combining the data from the interviews with the data from the questionnaires	Week 17
Write result and discussion section	From week 18