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Journal

International Journal of Disability, Development and Education, 66(3)

ISSN

1034-912X

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Publication Date

2019-05-04

DOI

10.1080/1034912x.2018.1562158

Peer reviewed

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To cite this article: Susanne Schwab, Tanja Wimberger & Christoforos Mamas (2019): Fostering Social Participation in Inclusive Classrooms of Students who are Deaf, International Journal of Disability, Development and Education, DOI: [10.1080/1034912X.2018.1562158](https://doi.org/10.1080/1034912X.2018.1562158)

To link to this article: <https://doi.org/10.1080/1034912X.2018.1562158>

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Fostering Social Participation in Inclusive Classrooms of Students who are Deaf

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ABSTRACT

Research indicates that children with hearing impairment are at higher risk regarding their social participation in school compared to their hearing peers. The purpose of this study was to investigate the social participation of 7th Grade students with hearing impairment in inclusive classrooms. Data from 62 7th Grade students across three classrooms and teachers were collected via paper-and-pencil questionnaires and from regular and special needs teachers via interviews. Results from the single case studies in three classrooms indicate that students with hearing impairment feel less socially integrated and less accepted by their peers. They do, however, interact more with other students with special needs and most students with hearing impairment have friends in their class. Teachers evaluated social integration, acceptance, interaction and friendships of their students with hearing impairment as average or as above average. The teachers' evaluations only partly correspond to the self-perceptions of the students. Factors that either promote or hinder participation on an institutional, teacher, teaching and student level were exposed, which may have important practice and policy implications.

KEYWORDS

Inclusion; social participation; students with hearing impairment

Inclusion and Social Participation

In the federal state of Styria (Austria), about 80% of the students with special educational needs (SEN) are included in regular education classrooms (Schwab 2018a; Statistik Austria, 2014). The predominance of inclusive education results from political trends, such as the ratification of the United Nations Convention on the Rights of Persons With Disabilities. Especially students with hearing impairment (HI) benefit from recent technological developments in sensory aids and assistive hearing devices (assistive technologies, e.g. cochlear implants, hereafter CI; see e.g. Batten, Oakes, & Alexander, 2014). A great number of studies concerning the interests of students with SEN, e.g. with learning disabilities, have been published, but even if many students with HI are educated in inclusive classes only few studies examine their experiences in these settings. Research has demonstrated that students with SEN show greater learning

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progress when educated in inclusive settings, in contrast to students with SEN educated in special educational classes (Dessemontet & Bless, 2013; Kocaj, Kuhl, Kroth, Pant, & Stanat, 2014; Ruijs & Peetsma, 2009). Ironically, research has also shown that students with SEN are at risk of social exclusion, whereas social participation has always been evoked as one of the most important reasons for inclusive education. According to the literature reviews of Koster, Nakken, Pijl, and van Houten (2009) as well as Bossaert, Colpin, Pijl, and Petry (2013), social participation can be defined by four key themes: having friendships/relationships, having interactions/contacts, being accepted by classmates and the self-perception of the students' social participation. For three of these topics research clearly pointed out that students with SEN are at high risk of low social participation compared to their peers without SEN. Students with SEN have fewer friends, show fewer interactions and they are less accepted by their peers (Koster, Pijl, Nakken, & van Houten, 2010; Schwab, 2015a). For example, the risk that a student with SEN does not have at least one reciprocal friendship with a classmate is about 15% (Frostad, Mjaavatn, & Pijl, 2011; Schwab, 2015a). The research literature concerning the students' self-perception of social participation is less clear. While some studies found a lower self-perception for students with SEN (Bossaert, Colpin, Pijl, & Petry, 2012; Schwab, 2015b), others did not (Koster et al., 2010). With regard to teachers' perceptions of students' social participation, studies show considerable disagreement between students' self-assessments and teachers' assessments. Koster, Pijl, van Houten, and Nakken (2007) as well as de Monchy, Pijl, and Zandberg (2004) reported that teachers overestimate the social participation of students with SEN. Schwab and Gebhardt (2016) further showed that ratings by regular and special needs teachers agree only slightly, which indicates that the two teachers in class each have their own particular view of the students. Finally, research clearly shows that the group of students with SEN is very heterogeneous and that the kind of disability plays a significant role in relation to social participation. Students with social and emotional disorders especially seem to be at a higher risk for low social participation (e.g. Chamberlain, Kasari, & Rotheram-Fuller, 2007).

Social Participation of Students with Hearing Impairment

For students with HI, social participation with peers can be difficult due to frequently existing communication problems. Group-interactions in noisy environments, especially are much more difficult for them compared to one-to-one interactions (Martin & Bat-Chava, 2003). Problems in social participation were pointed out for students with other types of SEN, as well as for students with HI (Kent & Smith, 2006; Most, 2007; Wheeler, Archbold, Gregory, & Skipp, 2007). Here too, results for self-perception of students with HI are not very clear. For instance, Schorr (2006) showed that students with HI rated their loneliness at a similar level as their hearing classmates. Additionally, a correlation was found between feelings of loneliness and the time of implantation of a CI. The study by Leigh, Maxwell-McCaw, Bat-Chava, and Christiansen (2009) reported no differences in loneliness of students with and without CI.

Punch and Hyde (2011) reported that students with HI have positive experiences with peers. Nevertheless, they also mentioned difficulties with communication in groups of people and that some children had little contact with other non-hearing children. The

researchers further indicated that children who are attending school with other deaf children valued friendships with both deaf and hearing peers. Most, Ingber, and Heled-Ariam (2012) compared students with HI (a) in classes where a small group of students with HI were educated with peers without HI and (b) in classes where they were individually integrated into a standard classroom with their hearing classmates. Loneliness was not different between settings (a) and (b), but in setting (b), speech intelligibility was related to perceived loneliness. In their review of 14 studies, Batten et al. (2014) pointed out that communication competency, age, and level of mainstreaming of students with HI were positively associated with peer interactions (p. 287). Therefore, interaction and social participation of student with HI may be influenced by an array of factors.

Purpose of this Study

The main purpose of the current study is to investigate social participation of students with HI in inclusive classrooms, by examining the four subthemes that constitute social participation; (a) having friendships/relationships, (b) having interactions/contacts, (c) being accepted by classmates and (d) the self-perception of the students' social participation. Our first aim was to determine if social participation is evaluated differently when using self-perception, peer-perception, and teacher-perception. We also wanted to know how regular teachers and special needs teachers perceive the social participation of students with HI. Furthermore, by using a mixed method approach, combining quantitative and qualitative results, we wanted to provide a more in-depth understanding of the social participation of students with HI. In doing so, we point out factors that may hinder social participation, but also provide insights that may foster social participation of students with HI by analysing teacher interviews.

Method

A mixed-method, multiple-case study design was chosen, as case studies have been found to be suitable for describing persons and situations in-depth. Three classes, in which students with HI were educated together with peers without HI, were selected from an ongoing longitudinal study out of 63 classes. Other findings from this longitudinal study have been reported elsewhere (Hessels & Schwab, 2016; Schwab, 2015a, 2015b, 2015c, 2015d, 2016, 2017, 2018b, 2018c, 2018d; Schwab, Eckstein, & Reusser, 2018; Schwab & Gebhardt, 2016; Schwab & Helm, 2015; Schwab et al., 2015). In the selected three classrooms, about three to five students with SEN were educated together with peers without SEN and two teachers (a regular and a special needs teacher) were responsible for all students in these classes. Students needed approximately one school lesson (50 minutes) to complete the paper-pencil questionnaire. The regular teacher completed a questionnaire for each student in order to rate their social participation which took approximately five to ten minutes to complete per student. Furthermore, 20-to-30-minute interviews were conducted with the regular and special needs teachers in each of the three classes.

Participants

Students from three 7th grade inclusive classes in Styria (a federal state in Austria) and their teachers took part in this study. Informed consent was obtained from all teachers and all parents whose child(ren) participated in the study.

Class 1

Class 1 consisted of 13 boys (by chance, girls were completely absent in this class). Five of the students had SEN and one of these was a student with HI. As the class is located in a rural area of Styria, all students also attended the same primary school. The student with HI was hearing impaired since birth and had a CI since early childhood. The CI is regularly readjusted. His parents and his sibling have no HI and he does not make use of sign language. At home as well as in school, German is the only language used for communication. According to his teachers, he understands everything very well, even if he sometimes has to rely on lip-reading. He is regarded as a very motivated student who will receive an education according to the regular curriculum from the beginning of next school year. At the time of the survey, he was still taught according to the curriculum for students with special needs. Both the regular teacher and the special needs teacher of the class emphasised that the latter was not only responsible for the students with SEN but, like the general teacher, responsible for all students. The teachers indicated that students with SEN are never being separated from their classmates.

Class 2

Class 2 was attended by 24 students (12 girls and 12 boys). Of the six students with SEN, five had a HI. One boy and one girl had mild HI since birth. Both primarily spoke German, but the girl also made use of sign language. The boy had an 'in-the-ear hearing device', but the girl had no hearing aid. A second girl had a moderate HI since her early childhood and had a hearing aid (behind the ear). German was her primary language of communication. The last two students were deaf since birth and primarily used sign language. One of them had a CI and the other one a hearing aid (behind the ear). None of the parents of these five students had a HI. In four of these families only German language is used to communicate and one family practiced sign language. The peers in this class without HI can use basic sign language, but they also use German to communicate with the students with HI. During class assignments, German and sign language are used interchangeably. The special needs teacher is specialised in teaching students with a HI. She is mainly responsible for the students with HI and simultaneously translates all lessons into sign language. According to the teachers, the boy with HI additionally showed behavioural problems.

Class 3

The third class was attended by 25 students (17 boys and 8 girls) and had a focus on sports and creativity. Seven students (only boys) were diagnosed as having SEN and one of them had a moderate HI. He was equipped with a hearing aid (behind the ear).

According to the teachers, the student with HI sometimes had problems with comprehension and understanding of language. His German language skills, however had much improved since his hearing aid had been readjusted last year. He was quite confident in sports, but he exhibited behavioural difficulties (he was in a clinical service because of psychological problems some months before the data were collected).

Quantitative Measures

Student Questionnaire

Two subscales were used to measure students' self-perception of their social participation. We used the subscale social integration from the German 'Questionnaire for measuring emotional and social school experiences in third and fourth grade' ('Fragebogen zur Erfassung Emotionaler und Sozialer Schulerfahrungen von Grundschulkindern dritter und vierter Klassen', FEES 3–4; Rauer & Schuck, 2003; $\alpha = .84$). The instrument consists of 11 items (e.g. 'I have only few friends in my class') and has to be answered on a four-point-Likert scale (with anchors from 1 = 'not true at all' to 4 = 'completely true'). Additionally, loneliness was assessed by using four items from the Illinois Loneliness and Social Satisfaction Scale (ILSS; Asher, Hymel, & Renshaw, 1984; for the German Version see Schwab, 2015b). The four-item version (example: 'I feel alone') showed acceptable internal consistence (e.g. $\alpha = .86$ in the study by Qualter et al., 2012). The items are rated on a five-point Likert scale (1 = 'not true at all' to 5 = 'always true').

To assess friendships, reciprocal nominations based on free recall were used with the question: 'Which students in class are your best friends?'. Following Pijl, Frostad, and Flem (2008), we limited the nomination to a semi-fixed choice of maximum five peers.

Peer acceptance was examined with the same question that evaluates friendship, but for this purpose only the number of nominations by others was used. We calculated an index of social acceptance (Moreno, 1974), in which the status of peer acceptance is calculated using the following mathematical formula (Dollase, 1976; Petillon, 1978):

$$\text{Status of peer acceptance} = \frac{1 + (\text{Number of elections} - \text{mean number of elections of the peers in the class})}{\text{maximum number of elections}}$$

Students' interactions with their classmates were measured by means of a sociometric rating scale using a five-point Likert scale (with anchors from 1 = 'never' to 5 = 'every time'; see Roberts & Smith, 1999). Students rate for each classmate with following question: "How often do you spend school breaks with the following students?". The mean score of classmates' rating for a student was used as measure.

Teacher Questionnaire

To assess the teachers' rating of students' social participation, a German translation (see Schwab, 2015c), of the Social Participation Questionnaire (SPQ; Bossaert, Martens, Vanmarsenille, Vertessen, & Petry, 2013 see also Koster, Timmerman, Nakken, Pijl, & van Houten, 2009) was used. This teacher questionnaire evaluates the social participation in all four main domains, namely, (1) relationships (5 items, e.g. 'The child has one or several good friends in the group'), (2) interactions (9 items; e.g. "Classmates ask the

child to join in a game”), (3) perception of the students (5 items, e.g. ‘The child feels lonely at school’) and (4) acceptance by classmates (5 items, e.g. ‘When necessary, classmates are willing to adapt the rules of a game to allow the child to join in’). A five-point rating scale (1 = ‘not true at all’ to 5 = ‘always true’) was used as answer format. Reliability analyses showed satisfactory results for all subscales for teachers from secondary schools ($\alpha = .80-.95$; Hessels & Schwab, 2016; Schwab & Gebhardt, 2016).

Interview Procedure with Teachers

Qualitative data from teachers was obtained through face-to-face interviews. The questions followed a semi-structured guideline and focused on two categories: first, like in the quantitative survey, teachers were asked about the social participation of the students with HI. Second, questions relating to the teacher’s experiences of working with children with HI and factors which hinder or foster the social participation of these students were asked. The interviews with all six teachers were conducted by the second author, who had been trained in counselling and has experience in conducting semi-structured interviews. Initial contact was made with each teacher by means of face-to-face visits after the quantitative research had been completed. Interviews typically were about 20–30 minutes in length. Interviews were tape-recorded and transcribed verbatim. The data was categorised and analysed following the procedure for qualitative content analysis by Mayring (2012) using the programme MAXQDA 11. Qualitative Content Analysis is an approach of systematic, rule guided qualitative text analysis.

Quantitative Results

Self-Perception of Social Participation

Regarding the self-perception of social integration, the total mean for all three classes showed that the students generally felt socially well integrated and not lonely. Teachers rated the social integration of their students higher than the theoretical mean of the scales (cf. Table 1).

In class 1, the students with SEN reported a higher score on loneliness than the student with HI and the students without SEN. The self-perception of social integration of students without SEN appears to be the highest, followed by the students with SEN. The student with HI had the lowest score on self-perception. In contrast, the teachers rated the social integration of the student with HI higher. Teachers and students with SEN gave comparable ratings of social integration. Students without SEN received lower ratings of social integration from their teachers than from themselves.

In class 2, the self-perception of social participation of students with HI is higher than that of students without SEN, both for self-ratings and teachers’ ratings. Teachers rated the social integration of the students generally higher than the students themselves.

The student with HI in class 3 indicated feeling relatively lonely and not very well socially integrated. The teachers’ perceptions of social integration are also lower for the student with HI, followed by the students with SEN. Teachers’ perception of the social integration of students without SEN is higher. However, the distance between the self-perceptions of the student with HI and the self-ratings of his peers is greater than it is according to the teachers.

Table 1. Mean scores of the students' ratings of loneliness and social integration and teachers' ratings of the students' social integration.

	Students' ratings of loneliness ^a				Students' ratings of social integration ^b				Teachers' ratings of social integration ^c			
	students with HI M(SD)	students with SEN M(SD)	students with out SEN M(SD)	Total class 1 M(SD)	students with HI M(SD)	students with SEN M(SD)	students with out SEN M(SD)	Total class 1 M(SD)	students with HI M(SD)	students with SEN M(SD)	students with out SEN M(SD)	Total class 1 M(SD)
Class 1	1.00 (-) N = 1	1.69 (1.07)	1 (0)	1.21 (0.63)	2.82 (-)	3.27 (0.27)	3.60 (0.17)	3.44 (0.31)	5 (-)	3.9 (0.77)	3.93 (0.91)	4 (0.85)
Class 2	1.36 (0.59)	-	1.60 (0.82)	1.41 (0.63)	3.55 (0.47)	-	3.49 (0.38)	3.50 (0.39)	4.72 (0.41)	-	4.40 (0.66)	4.47 (0.63)
Class 3	3.50 (-)	1.46 (0.56)	1.43 (0.53)	1.52 (0.66)	2.27 (-)	2.97 (0.74)	3.28 (0.41)	3.16 (0.54)	3.2 (-)	3.43 (0.41)	3.84 (0.48)	3.72 (0.49)

^amin = 1, max = 5; ^bmin = 1, max = 4; ^cmin = 1, max = 5.

Friendships

To illustrate reciprocal friendships of the students, sociometric networks were drawn (see Figure 1).

In class 1, the approximate mean number of reciprocal friendships is 2.77. Each student has at least one reciprocal friendship and no cohesive subgroups exist in this class. Two students (one of them had SEN) are 'type II isolated' (Pijl et al., 2008), meaning they have only one reciprocal friendship ('type I isolated' means the students has no reciprocal friendships at all). The student with HI has three reciprocal friendships, two of them to students with SEN. The mean value for the friendship-subscale of class 1 is 3.72 ($SD = 0.76$), the value for the student with HI is 4.60, the value for students with SEN is 3.9 ($SD = 1.24$) and the value for the students without SEN is 3.53 ($SD = 0.38$), all according to the teachers' ratings.

The mean number of reciprocal friendships in class 2 is 3.00, and the sociometric network shows several cohesive subgroups, that are partially connected. Especially, a subgroup of three girls with HI exists, and they are completely unconnected to other peers. The boy with HI has just one reciprocal friendship and is the only 'type II isolated' student in class 2. The mean of the friendship-subscale according to the teachers' rating is 3.76 ($SD = 0.55$). The mean score for the students with HI is 3.52 ($SD = 0.56$) and that of the students without SEN is 3.82 ($SD = 0.55$).

The mean number of reciprocal friendships in class 3 is a bit lower compared to class 1 and 2 ($M = 1.92$). It is noteworthy that a number of isolated cohesive groups exist. The student with HI is the only 'type I isolated' student (and has not one reciprocal friendship) in class and in the entire sample. Further, there are two groups in this class, which can be classified as 'type II isolated'. Each of them consists of one student with SEN and one without SEN. Five more students (two with SEN) are 'type II isolated'. The mean of the teachers' rating is similar to the mean of the other two classes ($M = 3.89$, $SD = 0.52$). The scores show a slightly lower value for the student with HI ($M = 3.6$) and the students with SEN ($M = 3.43$, $SD = 0.32$) compared to the students without SEN ($M = 4.06$, $SD = 0.49$). Finally, it should be mentioned that the teachers of class 3 rate six students lower than the student with HI and two students at the same level as the student with HI.

Figure 1. Sociometric networks of reciprocal friendships.

Acceptance

In class 1 the student with HI receives 5 nominations, the students with SEN receive approximately 4 and those without SEN receive on average 4.6 nominations. The status of acceptance is quite similar in the three groups of students (cf. Table 2). The teachers' ratings show neutral scores for all groups, but the score for students without SEN is a bit lower.

In class 2, the boy with HI receives only 1 nomination, while the girls with HI have approximately 2.5. For students without SEN the mean number of nominations is 5.14. The status of peer acceptance for students with HI is a bit lower than for students without HI (cf. Table 2). The teachers' ratings for peer acceptance are rather similar to the students' status.

Table 2. Mean scores of the students' ratings of peer acceptance and teachers' rating of acceptance.

	Students' status of peer acceptance ^a				Teachers' ratings of social acceptance			
	students with HI M(SD)	students with SEN M(SD)	students without SEN M(SD)	Total class 1 M(SD)	students with HI M(SD)	students with SEN M(SD)	students without SEN M(SD)	Total class 1 M(SD)
Class 1	1.04	0.96	1.00	1.00 (0.17)	4.00 (-)	3.8 (0.69)	3.08 (0.47)	3.37 (0.76)
Class 2	0.90	-	1.03	1.00 (0.09)	3.56 (0.57)	-	3.63 (0.43)	3.62 (0.45)
Class 3	0.92	0.99	1.02	1.00 (0.07)	3.2 (-)	2.87 (0.24)	2.96 (0.16)	2.94 (0.19)

In the third class, the boy with HI receives 2 nominations, the boys with SEN approximately 3.5 and the students without SEN receive an average of 4.09 nominations. The status of peer acceptance of the student with HI is a little lower than the status of his peers (cf. Table 2). Teachers rate the peer acceptance of their students with SEN lowest, followed by their students without SEN and the acceptance of the student with HI as highest.

Interactions

In the first class, the students' ratings for interactions indicate that the student with HI has most interactions with his classmates, while the students with SEN have the fewest interactions. The student with HI also receives the highest teacher's rating, but in this case, the students without SEN have the lowest score (see Table 3).

Table 3. Mean scores of the students' and teachers' rating of interactions with peers.

	Students' ratings of interactions				Teachers' ratings of interactions			
	students with HI	students with SEN (M)	students without SEN (M)	Total class 1 M(SD)	students with HI (M)	students with SEN (M)	students without SEN (M)	Total class 1 M(SD)
Class 1	3.25 (-)	2.88 (0.57)	3.22 (0.09)	2.99 (0.40)	3.15 (-)	2.85 (0.38)	2.74 (0.54)	2.80 (0.47)
Class 2	2.05 (0.21)	-	2.56 (0.28)	2.46 (0.34)	4.20 (0.37)	-	4.15 (0.65)	4.16 (0.60)
Class 3	2.04 (-)	1.89 (0.40)	2.13 (0.27)	2.10 (0.35)	3.67 (-)	3.52 (0.51)	3.91 (0.42)	3.81 (0.46)

In class 2, the mean score of students' ratings for interactions is a bit lower than in class 1, whereas the teacher's ratings are much higher. The students with HI show a lower mean peer rating of interactions compared to their classmates without SEN (see Table 3).

In class 3, the students' ratings of interactions, as well as the teacher's ratings are lowest for the students with SEN, followed by the boy with HI. The students without SEN have the highest score (see Table 3).

Qualitative Results

Social Participation of the Students with HI

The regular and the special needs teacher of class 1 indicated that the student with HI is well integrated in the classroom community. The student likes going to school. The regular teacher underlines that his social integration is like that of the other students in this class – *‘all of them are normally integrated, no exceptions exist’*. Both teachers confirmed that the student with HI has friends with and without SEN. The student with HI is accepted by his peers and not rejected. Both teachers noted that the boy with HI interacts with his peers at different times during the day. For example, he plays football with them and spends time with his peers during the break. The special needs teacher adds that he also has contact with his peers after school time.

In class 2, both teachers stressed the high social integration of the students with HI. They mentioned that all girls (with and without HI) hug each other in the morning. The social integration of the students with HI seems to be ‘normal’ for the hearing peers. The regular teacher adds: *‘Excluded students were those with behavioural problems, those who get on the nerves, but not the students with HI’*. However, for one boy with HI, the teachers indicated that his social integration is problematic: *‘His behaviour is challenging, for himself and his surroundings’* (special needs teacher, class 2). The regular teacher indicates that the students with HI have the same number of friendships as their peers and that no differences exist. The special needs teacher made a slight nuance by indicating that they have lots of friends, but that they prefer to be amongst themselves. The special needs teacher doubts that the depth of the friendships of students with HI amongst each other is at the same level as between students with HI and students without HI. For the boy with HI, the special needs teacher indicates that he has enough friends, but that he is not invited by the peers to join in activities. Both teachers perceive acceptance as a very limited form of social participation. However, they have different perceptions of social participation in their class. Whereas the regular teacher underlines that the students with HI are more than just accepted (*‘they all belong together’*), the special needs teacher on the contrary, indicates that the boy with HI is just accepted and *‘that’s all’* (even if she believes that in general all students with HI are accepted). With regard to interactions, the special needs teacher indicates that the students with HI frequently change their interaction partners. Especially in learning assignments, the students with HI interact more amongst each other, because communication is easier. The teachers underline that all students prefer contact with students who speak the same language. Therefore, students with HI using sign language have more interactions with those who also use sign language, no matter if they have a HI or not. Especially during breaks, students with HI have more interactions with other students with HI.

Both teachers in class 3 believe that the student with HI feels socially well integrated and does not feel excluded. The special needs teacher indicates that some of the students with SEN are socially not well integrated, but the student with HI is not part of them; *‘If a stranger enters the classroom, he will not recognise that the student with HI is a student with SEN, because he is much better integrated and shows better behaviour than other students’* (Special needs teacher, class 3). Nevertheless, the teachers’ rating of the social

participation of the student with HI was the lowest of all. According to the special needs teacher the student with HI has friends in his class. The regular teacher specified that he is in a triangle of friends with two students without SEN. The special needs teacher further indicated that the boy with HI has a deep friendship with a boy who does not attend the same school and she generally thinks that he has deeper friendships with students outside of his class. She also adds that he rather has friendships with students with SEN and that the girls do not like him very much. The regular teacher believes that the boy with HI is not discriminated against because of his HI. In fact, the teacher is not even sure whether all his peers know that he has a HI. After his psychological crisis, he was not rejected by his peers nor he was stigmatised. Both teachers believe that he interacts with classmates just as frequently as his peers and also interacts with some of them in his spare time.

Aspects that Foster Social Participation

The answers of all six teachers (regular and special needs teachers) regarding aspects that foster social participation were summarised and the following important aspects emerged:

Aspects Related to the Institutional-Level

For inclusion and social participation to work, early institutional integration (e.g. in kindergarten or preschool) and early contact is needed. Additionally, inclusion and social participation have to be fostered by everybody (educators, teachers, students, parents, principals, politicians, general population, etc.) who is involved in the educational process, without considering if a student has a disability or not. Cooperation with parents and social workers or other specialists has also been found to be key to the overall success of inclusion. Modifications are also necessary; such as courses being offered in sign language if needed.

Aspects Related to the Teachers

Teachers should consider social participation as a continuous process and not incidentally. In doing so, they should provide ample opportunities for students to learn from each other and motivate them to foster learning and a sense of active participation in the learning community.

It is imperative that the impairment is not emphasised, so to avoid stigma. Existing stigma and bias towards all students, not just those with SEN, should be challenged and minimised. Social participation may be fostered if teachers underline common features of the students (e.g. the student with HI likes football like the others) and the individuality of all students. *'I believe that it is good for the student with HI that he sees that he is not that 'poor', that he is just like all others, he has got this problem and others have something else'* (regular teacher, class 3). Teachers should also be role models for students when interacting with students with HI by not emphasising the perceived deficit of students with HI. The role of the special needs teacher is especially important. *'It is positive that the special needs teacher is in this class and, what I have to add, it is important that he also considers all other students. That he is not just sitting next to "his students" with SEN, but also coaches the best students of the class'* (regular teacher, class 1). Teachers' pedagogical arrangements should

holistically cater for training students' competencies, such as communication and be aware of the specifics of HI. Finally, teachers should set high learning expectations for all students in the class, including students with HI and SEN.

Aspects Related to Teaching

Teachers have highlighted the importance of the special needs teacher in fostering social participation and inclusion for all students. They emphasised that the special needs teacher should provide support to all students and to the general teacher. Attention should also be paid to where the student with HI sits in the classroom and how he or she works in the class. A special needs teacher argued for joint education: *'Giving students, especially students with HI, the chance to work like all the others. He should not be treated differently all the time. If he or she is treated like all the others nobody pays attention to the disabilities'* (special needs teacher, class 3). Additionally, projects should be implemented with all students in mind and particularly cater for the specific learning needs of students with HI. For example, a classroom project could be learning sign language. Furthermore, teaching should be conducted at a pace and manner that enables the active and meaningful participation of all students, particularly those with SEN and HI. For example, teachers should speak clearly, slowly and facing the class so students can do lip reading.

Aspects Related to the Students

According to teachers, students should also speak clearly and be well-articulated, so that their peers with HI can understand them better. All students should help each other during lessons and awareness should be cultivated among peers, as to the challenges and strengths of classmates with HI. Creating an inclusive classroom certainly involves students being accepted and respectful of diversity.

Aspects that Hinder Social Participation

Aspects Related to the Institutional-Level

During interviews with teachers, some aspects that hinder social participation have been discussed. A primary one was the lack of resources concerning different needs. This, coupled with too large class sizes is a significant barrier to meaningful social participation. Another barrier mentioned was not considering the strengths and difficulties of all students with HI as equal. Teachers also mentioned bad classroom acoustics as hindering participation in teaching and learning.

Aspects Related to the Teachers

Social participation has also been reported as being hindered by categorisation of students by the teachers. The problem with categorising and labelling students is that it may trigger stereotyping behaviours and promote fixed notions of ability. For example, students with HI may be seen as incapable of learning or that their ability is limited or fixed due to their HI. In practice, this may be seen when some teachers may be telling

a student that she or he is not able to accomplish a task due to their HI. Another way of doing this is by putting the HI in the spotlight; *'what they do not like – I recognise this – is when the students with SEN have a preferential position'* (regular teacher, class 1). Teachers may also express feelings of sympathy and sorrow towards students with HI, lower learning expectations and not maximally foster their learning and participation. Additionally, they may be protecting the students with HI more than others.

Aspects Related to Teaching

There have also been some aspects related to teaching that may hinder social participation. These include technical problems, such as when using technical communication aids and segregation of students with HI during teaching. For example, when students are pulled out of the regular class to receive specialised lessons by special education staff.

Aspects Related to the Students

Teachers elaborated on aspects related to students that hinder social participation for students with HI. They mentioned categories

of students with HI by their peers as well as limited disposition for integration and acceptance of these students by peers. Non-HI students were also reported as not considering certain basic rules when interacting with classmates with HI, such as speaking face to face to the students with HI. Another aspect was overprotecting the student with HI or letting others be overprotective. If the student is able to do something by him- or herself, then he or she should be allowed to do it like all other students. For example, a teacher said: *'if his pencil case falls on the floor, the student should pick it up by himself and his peers should not do that for him, because he can do it by himself'* (special needs teacher, class 2). Therefore, peers have a significant role to play in the successful social participation and inclusion of students with HI.

Discussion

In this multiple-case study with a mixed-method approach, we analysed the social participation (feeling of social participation, friendships, acceptance and interactions) of students with HI, as assessed by themselves, their peers and their teachers.

In general, the findings confirm what has been found previously in the literature (Kent & Smith, 2006; Most, 2007; Wheeler et al., 2007) in that students with HI (and also those with other kinds of SEN) are at a higher risk for lower social participation. Nevertheless, high variability has also appeared. First of all, it is important to evoke that most of the students (both students with HI or SEN) indicated that they did not feel very lonely, that they feel socially integrated, have friends, interact with their peers and are accepted. Therefore, the small differences found between (heterogeneous) groups should not be overinterpreted. Moreover, the social participation of some students with HI was very similar or even higher compared to their hearing peers. This means that a student with HI is not automatically excluded from the social world of the hearing peers (Schorr, 2006). Additionally, the findings indicate that the personal characteristics of some students (e.g. the social behaviour of the boy with HI in the third class) are of significant

importance for social participation (Oberle, Schonert-Reichl, & Thomson, 2010; Punch & Hyde, 2011). Thus, research should not only paying attention to one aspect of students' identity, in this case HI, but to look at students in a holistic manner.

The results differ substantially when considering each of the four aspects of social participation. Moreover, the study showed that the ratings of the students and those of the teachers concur relatively little and at times are even contradictory. This may be partly related to the overestimation by students with SEN of their social participation, which has been shown previously by Koster et al. (2007) and de Monchy et al. (2004). When comparing the teachers' quantitative and qualitative assessment, we see that in some cases, too, considerable disagreement exists. Of course, one can wonder why do teachers' during the interview state that the social participation of a student with HI is like that of all others, but indicate the contrary in a questionnaire with Likert-type items? We presume that teachers mostly prefer to speak about positive situations of social participation in the case of students with HI and this can be interpreted as a strong social desirability bias, especially in the qualitative interviews. This effect might be related to the shifting standard models, which has implications of stereotype accuracy for social judgment (Biernat, 1995). The theory of shifting standards implies that judgment based on an objective rating scale shows stronger evidence of assimilation to stereotypes, compared with the same judgments on subjective scales.

With regard to the interpretation of research results, this study shows that it is necessary to have a broad assessment and to include multiple sources of information (e.g. students' or teachers' views), because the outcome will be strongly influenced by the method of data collection. Nevertheless, it remains difficult to estimate the 'real' situation of students. Students with SEN have the tendency to underestimate their peer problems (Schwab, Gebhardt, Hessels, & Nusser, 2016) or overestimate their own social participation (Schwab, 2016). Similarly, teachers do not always have a good objective view of their students' participation in social processes, especially those outside the lessons. Moreover, this case study made clear that it is difficult to judge the social participation of a single student (e.g. one with HI) without focussing on the peers in the class as a complex system and we believe that simply interpreting numbers (e.g. counting reciprocal friendships) is not enough when judging social participation. It is possible to define a student with HI as socially included if his or her friends also have a HI, but they can also be defined as being 'alone together'. Friendship of students with the same difficulties can also be defined in a different light, e.g. when we think of the homophily principle, presuming that we all prefer friends who are much like ourselves. As Punch and Hyde (2011, p. 489) state, 'parents and teachers generally perceived benefits for children and adolescents from contact with others who are deaf, with or without cochlear implants'. Following McPherson, Smith-Lovin, and Cook (2001, p. 415), it must be remembered that 'Homophily limits people's social worlds in a way that has powerful implications for the information they receive, the attitudes they form, and the interactions they experience.' These findings have important implications for practice that are discussed in the following section.

Implications for Practice

Factors that hinder or foster social participation were summarised above. Some of these factors are often taken for granted, but in practice they are challenging to fulfil.

For example, it was mentioned that the students with HI should be treated like all other students and their impairment should not be overemphasised. The presence of a special needs teacher, who is responsible for this subgroup in the class, inevitably places a student with HI or SEN in the spotlight, which may hinder social participation. Additionally, class resources such as having a special needs teacher, is also a factor that fosters social participation. Thus, it depends on the teaching approach being implemented and how one makes use of the competences of a special needs teacher in an inclusive setting, in order to increase positive aspects and decrease negative influences on social participation. It must be remembered that this study focused on classes with high resources only (as the special needs teacher was always available during teaching hours). Further, the results clearly showed that one cannot consider social participation separately from teaching.

Limitations and Future Research

First, the choice of classes should be mentioned as a limitation. All three classes had two teachers available during all teaching hours, who are responsible for all students. However, this would not be the case in all classes in Austria, e.g. when only one student with HI is included. Second, like all other studies on the topic, we were not able to grasp the complete picture of social participation in inclusive classes. Especially the heterogeneity of the groups influences the results and the impact of results. To get a deeper insight into the process of social participation, next to interviews with the teachers, also the students themselves and the parents could be interviewed. We believe that it is not helpful to conduct again more quantitative studies with larger samples when we are not sure what the numbers are telling us. Does a low number of reciprocal friendships indicate a low social participation? Or could one friend be enough, if the quality of this friendship is very high?

To conclude, we can say that we need to look more closely at the complex processes of social participation in terms of learning how we can improve it. The results of this study underline that data about social participation of students with or without SEN should be carefully interpreted. Nevertheless, it can be argued that an active, structured focus by teachers, students and parents on the social participation of all students is needed.

Disclosure statement

No potential conflict of interest was reported by the authors.

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