



Micro-processes in social and learning activities at school generate exclusions for children with disabilities

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ABSTRACT

This study explores children's everyday life activities in their first year at school, revealing a variety of situated activities that involved interactions between the child, peers and (para) professionals. We sought to examine how a child with a disability encounters opportunities and space for participation in these peer interactions and multi-professional encounters. We observed eight children with disabilities (six years of age) in a primary mainstream school and conducted interviews/dialogue with the children, professionals and paraprofessional assistants. Observation of a variety of activities revealed that seemingly insignificant processes of exclusion during the day could have implications far beyond the singular situations. Professional actions to support the child with a disability may produce micro-processes that hamper participation. The study's key messages include the need to pay attention to how socio-material and pedagogical environments are organized and to use observational sensitivity to the micro-processes at play during the school day to improve the learning environment for all children.

ARTICLE HISTORY

Received 3 July 2015
Accepted 13 December 2016

KEYWORDS

Social participation; disability; inclusive education; therapy; mainstream school

Introduction

In the 1970s, Norway provided children with disabilities with the legal right to an education within mainstream schools (Nilsen 2010; Fasting 2012). This policy implies that the education system is responsible for all children, and that teaching must be adjusted to each pupil's ability and aptitude, which is the principle of 'adapted teaching' (Nilsen 2010). Although this policy was aimed at inclusion, a number of special education provisions both inside and outside the mainstream school were allowed. About 20 years later, the principle of a unitary school, 'one school for all', was clearly stipulated by law (Nilsen 2010) with two central requirements: All pupils should attend their local schools (principle of proximity) and should belong to a class and to the school community (principle of group belonging).

Today about 99 per cent of all children in Norway enter their mainstream schools; however, the ambition to transform the educational system into an inclusive socio-educational environment for all pupils, which encompasses the physical, psychosocial and academic milieus, remains unfulfilled. The unsuccessful completion of such a goal is also a matter of discussion and concern in several other countries (Estell et al. 2008; Wendelborg and Tøssebro 2010; Devecchi et al. 2012; Göransson and Nilholm 2014). One line of discussion has examined the meanings that teachers in mainstream

schools may project onto 'inclusion' (Holt 2003). In Holt's study, primary school teachers considered including children with various individual characteristics to involve various forms of exclusion, often justified by a discourse of meeting the children's needs. Therefore, an exploration of barriers and facilitators for an inclusive learning environment is still pertinent. Of particular interest is how socio-educational organizations and therapeutic interventions during school activities may influence the child's opportunities for social participation.

Further development of inclusive education is largely supported internationally, as represented in UNESCO's policy guidelines on inclusion in education (UNESCO 2009): 'Inclusive schools are able to change attitudes towards diversities by educating all children together, and form the basis of a just and non-discriminative society' (10).

At the onset of their school careers, young children with disabilities entering mainstream schools may already face social exclusions, which accentuates the need to explore how peer interactions, learning environments and professionals working across disciplines may contribute to the creation of an inclusive institution. Parents and teachers report that children with disabilities experience greater marginalization and lower peer acceptance compared with other children (Pijl, Frostad, and Flem 2008; Wendelborg and Tøssebro 2010). Lower acceptance and marginalization may influence development of social skills and self-perception, which in turn may affect school performance and the child's sense of belonging throughout their school life (Koster et al. 2009, 2010).

A sense of belonging or connectedness is defined as 'the extent to which individuals feel personally accepted, respected, included and supported by others in their social environment' (Baumeister and Leary 1995). Social participation in activities – the child's daily interactions with peers, professionals and the educational environment – may nurture a sense of school belonging, and is regarded among sociocultural theorists as a prerequisite for development and learning (Rogoff 2003). The significance of social spaces for child development is also highlighted in the field of social and cultural geography (Holt 2004), which emphasizes that children need to have 'transient child spaces to play out their own cultures'. Therefore, on-site studies of how participation is evolving in activities during everyday life in the school environment are important. How the educational space is organized to embrace the abilities of all children is interrelated with how disability is understood. From a relational perspective, the child's disability can be viewed within the relationship of the issues specific to the individual child and the demands and support the child derives from the environment (Norwich 2002; Ulvik 2009).

For children with disabilities, the school environment comprises additional professionals besides the classroom teacher, such as paraprofessional assistants, special education teachers and health professionals, all of whom affect the child's social and academic participation. Special education teachers provide guidance to the local school or serve the individual child to achieve the aims of the general education curriculum (Nilsen 2010). Paraprofessional assistants support the child with disabilities and the teacher (Angelides, Constantinou, and Leigh 2009; Veck 2009; Giangreco, Suter, and Doyle 2010), but are not supposed to have primary responsibility for the child's pedagogic or therapeutic needs and must be regularly supervised. Their tasks may include implementation of instructions from teachers, health professionals (mainly occupational therapists and physiotherapists) and sometimes parents. The extensive use has prompted discussions about the wide-ranging responsibilities they may be given and whether their tasks may interfere with the child's interactions with peers and with educational activities (Lacey 2001; Angelides, Constantinou, and Leigh 2009; Giangreco 2010).

Typically, therapists provide supervision and assistive devices or special equipment to facilitate access to the curriculum and to participation in general. In addition, implementing therapeutic programmes during school time may be prescribed. In their noteworthy commentary on 'educationally relevant occupational and physical therapy services in school settings', Laverdure and Rose (2012) described therapy as teamwork, with objectives designed 'not to remediate impairments in body functions and structures, but to ensure that a student can access and participate effectively in school activities of choice and benefit from learning objectives'. However, to our knowledge, few researchers have studied how paediatric rehabilitation and therapeutic services may interfere with

the learning environment and the child's opportunities for social participation. Professional actions to support the child with a disability may produce micro-processes that hamper participation (Giangreco 2010; D'Alessio 2012) which may be less visible forms of exclusion, for example, in processes related to the organization and use of place, and in the child's dynamic interactions with peers and professionals (D'Alessio 2012).

In order to increase our knowledge of how professional approaches may enhance social and academic participation for all children, we need to explore local school practices and children's experiences with these practices. Recently, Söderström (2014) performed classroom observations of interactions between pupils (aged 11–15 years) and their teachers to examine how pupils related to material objects. Their findings indicated that socio-material practices in the classroom may lead to both social participation and social isolation among pupils with disabilities, which underlines the relevance of increased knowledge about the concrete interactions and processes that is going on.

The child's *everyday life* includes the concrete settings and encounters within the local school practices. Presenting everyday life as a theoretical concept, social anthropologist Gullestad (1989) emphasized two relevant dimensions: everyday life as the concrete organization of tasks and activities and everyday life as experience. The concept of experience is connected to meaning and the processes of meaning making (Bruner 1990), which means that the dimensions of socially organized activities and meaning making are intertwined in the theoretical concept of everyday life. In addition, everyday life may be studied 'from below' as concrete micro-processes embedded in and producing sociocultural patterns of activities and cultural ideas as well as personal experiences. Therefore, our study explores how social encounters are constructed and experienced in everyday life at school, as we aim to generate knowledge about how socio-material organizations and professional work across disciplines may hamper an inclusive learning environment for all children. The key questions in this paper are: How do processes of exclusion evolve in school activities involving children with disabilities, their peers and professionals? How do children with disabilities experience these processes when starting school?

Methods

Using an ethnographic approach, we applied multiple sources of information (Greene and Hogan 2005) to capture the inherent interdependence between individual development and culturally embedded social interactions (Rogoff 2003). Our sources included observations of children, peers and professionals in activities within everyday life at school, and interviews with the children. Three researchers, all physiotherapists with clinical experience working with children with disabilities, operated in pairs during fieldwork. Our approach to observations rests on the premises that children are embedded within social and cultural contexts and that the relationship between the child and these contexts is transactional (Tudge and Hogan 2005).

During observations, researchers took photos that were used as a visible platform for creating and exchanging meanings in interviews with the children (Clark 2011). Also, the photos eased communication with some children who had speech impairments by providing opportunities to point to visual representations of situations, thus reducing the demands on the child's ability to provide verbal formulations and elaborations. We used the 'Life Mode Interview' approach developed by Haavind (Hauge and Haavind 2011; Ulvik 2014), which focuses on everyday concrete activities and interactions and the child's experience and understanding of them. This approach to exploring everyday activities at school allowed us to recognize episodes in situated settings in which noteworthy processes of participation or exclusion occurred, leading to certain 'micro-orientations', as termed by Gullestad (1989).

Participants

We recruited eight children with cerebral palsy from a collaborating rehabilitation unit, and their parents, teachers, assistants and physiotherapists. The children were first graders, ages five to six

years, who were mildly to moderately motor impaired. Three of the children had severe language and/or speech impairments. All eight children attended public mainstream schools, six located in rural municipalities, one in a midsized city and one in a larger city. Seven children attended an ordinary class full-time, and one child attended both part-time an ordinary class and a special unit at the mainstream school. The children received between two and five hours of special teaching and had the support of an assistant between two hours and 100 per cent of the time each week.

Regional Committees for Medical and Health Research Ethics (southeast) approved the study. This approval comprised acknowledgement of the studies' routines for professional secrecy, storing of data, anonymization of the informants in written and oral reporting from the study as well as general considerations of the well-being of the informants during the project period. We composed an age-adapted information letter that was presented to the child as a prerequisite for informed consent from the parents. Parents and adult participants signed a written consent.

Procedure

We visited the schools for three full days during their first year at school, in early autumn and late spring, observing classroom activities, gym, recesses and the After School Activity (ASA/SFO) period. We applied an interactive approach to observation, changing between a passive and active role depending on the situation; that is, when the children sat in a circle around the teacher or were at their desks as the teacher was teaching/talking, the researchers sat in the background, but at recesses, the researchers participated in activities, such as turning a jump rope, when invited by the children. During the observations, two researchers made notes and took photos of the particular child with disabilities in these activities. We interviewed the child at the end of the last day.

The Life Mode Interview uses a timeline throughout the day of interest as a guiding principle for the interview. In this study, the interviewer used photos from the observations as the organizing timeline. The other researcher took notes, and the interviews were tape-recorded. We began the session with an explanation about the purpose of the interview: 'to learn how it is to be a first-grade school-child, we want to talk to you about your activities at school'. We encouraged the child to describe what was happening in the photos: who was present and what was required to participate, that is, the child's meaning making of and preferences for activities and interactions. Our intention was to provide opportunities for the child to extend the dialogue about other activities and wishes beyond those in the photo. We also conducted short dialogues with the children's teachers and assistants during our visit at the school.

Analysis

Immediately after field observations at the school, the two researchers summarized their individual notes. The second author transcribed the recorded interviews. For interviews with the children with speech impairments, the two attending researchers cooperated to produce the transcripts. Long pauses (greater than three seconds) and the child's emotional expressions were included in the transcripts. We ordered our field notes, photos and transcripts chronologically into one document for each child.

By using a socio-material perspective in the analysis, the researchers paid attention to the physical environment, interactions and time. In line with Gullestad's (1989) first and second dimensions of everyday life, we posed analytical questions regarding how tasks and activities were organized and implemented during classes and outdoor recesses and then addressed the child's understanding of its actions and interactions throughout the school day and in the ASA period. We included questions related to participation: How are interactions carried out between the child and professionals, peers and the physical environment and how do processes of exclusion evolve?

Results

The school day consisted of three to four hours of classroom instruction in the morning, with recesses in between. In the afternoon, children attended the After School Activity (ASA) programme within the same school environment, which included both indoor and outdoor play under supervision. Once a week, the ASA usually arranged a trip to an outdoor neighbourhood recreational area.

Class sizes in this study varied between 15 and 28 pupils. In addition, teachers often divided their classes into smaller groups during the day or week. Usually only one teacher was present in the classroom, with an assistant very often in attendance primarily to provide practical and pedagogical support to the children with disabilities. This shared responsibility between teachers and assistants appeared to be a key element in the children's everyday activities and experiences. In addition to the teacher and an assistant, special pedagogues and physiotherapists also were involved in school activities, sometimes as direct participants, but more often as consultants to the teachers and assistants, reflecting a more distant expert position.

Throughout the day in all the schools, we observed minor or major changes in pedagogical and social organization of the class, as well as physical transitions between activities and places. We further explored these observations, utilizing Gullestad's (1989) first dimension of everyday life as a daily organization of tasks and activities and the second dimension as experience, or processes of meaning making. As a result, we identified a variety of participatory processes in which the children with disabilities seemed to be particularly vulnerable for exclusion.

Socio-material and pedagogical organization within classrooms

We observed an association between the socio-material organization and the pedagogical organization in several classrooms, with Anne's and Peder's classrooms exemplifying two extremes. In Anne's classroom, children sat around tables in groups of four to six. Anne and another child in need of extra pedagogical attention sat in a group in the middle of the room. Moving around the classroom, the teacher frequently passed by this table and afforded support when a child seemed to struggle. The teacher explained that she created this setting to have easy access to those who needed additional qualified pedagogic support, while she guided the assistant to serve all children. 'A systematic academic progression necessitates the presence of the teacher, not solely the paraprofessional assistant, in order to fulfil the child's rights', the teacher told us. This teacher's awareness of the necessity of pedagogic competence and presence guided her to provide opportunities for academic inclusion of the child. Also, the socio-material organization offered opportunities for peer interactions and access to qualified pedagogic support for all children while providing the child with disability a sense of belonging to the larger group.

In Peder's classroom, the children sat in pairs at desks organized in rows facing the blackboard. In the following incident, the teacher instructed the pupils to colour individual Norwegian flags to decorate the windows for the Constitution Day celebration. In Norway, schools are one of the social arenas for this celebration in which children play the key role. Decorating the classroom is an important preparation for the day when parents, siblings and other community members are invited to visit. In this observation of Peder and his assistant, we perceived that the assistant probably was instructed to teach concepts of numbers and colours:

The children sit in pairs at the desks and Peder is sitting at the back together with the assistant. The assistant is holding the crayons, asking him to count the number and name the colours before he can start colouring his flag. It takes him long time to respond to the questions and colour the flag, and he does not finish in time to hang his flag in the window (observation in the classroom).

Unlike Anne's position in her classroom, Peder sat with the assistant at the back of the room, which signalled a difference between him and the other children. Although the intention was for all children to participate equally in decorating the windows, Peder was given an additional task with another

aim, requiring his time and attention. Although we could assume that learning concepts was relevant for him, we discovered a dilemma between his participation in the social and the cultural act of decorating the classroom for Constitution Day and his practicing concepts of numbers and colours. No doubt, decorating the room represented an opportunity to develop a sense of belonging to the class community. However, adding another aim of learning concepts of numbers and colours produced a special pedagogic space. Thus, the organization of the socio-material and pedagogical settings generated processes that excluded Peder and his assistant from the common pedagogical aim of the class. Because assistants are assigned their tasks not only by the teacher but also by external professionals, such as special education teachers or physiotherapists, their assignments may entail competing goals that require decision-making competence beyond their training and ability.

Throughout the day in all schools, we observed implementation of changes and rearrangements that seemed routine. For example, children may change positions from time to time, sitting in rows at ordinary desks, sitting on low benches in a circle around the teacher or lying on the floor to do assignments. These rearrangements may serve the well-founded purposes of breaking up the day and providing variation in activity and positions for young bodies; however, the structure, space and timing of these routine movements seemed to hamper participation for some children:

The subject is math in Eva's class; the theme is concepts of length and width. The teacher sits on the floor, all children are in the prone position on the floor around her, while she instructs them to measure objects and write in the assignment book. Eva is sitting behind the other students in her wheelchair together with her assistant while doing the same assignments. She has no table in this setting and the assistant has to support both her book and her pencil grasp during the performance. The positioning makes independent use of the pencil impossible (observation in classroom).

The structure of the physical learning environment (distance, position and material) conveyed a lack of awareness of inclusive teaching. Although sitting on the floor invites the majority of children to vary their body positions and to share ideas, Eva was restricted both in her capability to do the assignment independently and in her ability to participate in the social and pedagogic interactions between her teacher and her peers. In this example, the teacher did not consider the contextual interactions between the child's impairment and the characteristics of the physical and social environment (Lawlor et al. 2006).

In another floor setting the theme is free play. Eva's assistant, Ada, is absent, and replaced with a stand-in, Ida. Eva is in her wheelchair, wearing orthoses. She wants to get down on the floor and play with girls already sitting there, but Ida hesitates and wants to ask someone if she can take off the orthoses. (observation in classroom).

During our interview, Eva talked about the photo of her playing on the floor with another girl:

- I: What is happening here?
 E: It is the pupil's choice.
 I: The pupil's choice, yes it is.
 I: Ada was not present, and you said to Ida (stand-in), 'I want to play on the floor'. Ida hesitated, and I told her it is ok. You told her you wanted to play on the floor and you made it. Would it be possible to be on the floor wearing orthoses?
 E: It is painful.
 I: If Ada had been there could you tell her: Take off the orthosis I want to play on the floor, please. What do you think she would answer?
 E: No.
 I: And you would say?
 E: Nothing.

In this floor setting, the paraprofessional hesitated to prioritize participation in children's space for 'playing out their culture' (Holt 2004). The two floor activities, one for education and one for play, show how (para)professional agency and decision-making can create exclusions, and thus, augment disability in the classroom. Noteworthy, too, in this excerpt is how the interviewer co-constructed meaning with Eva, who had severe articulation problems, by repeating and interpreting her few, short arguments to illuminate her experiences.

In some of the schools we studied, the children left their school backpacks in the hall outside the classroom. When transitions occurred between topics in the classroom, the children would return to their backpacks in the hall to retrieve needed materials. Here are two examples of this transition, one involving Eva and the other Anne:

In the classroom, Eva is sitting amongst the classmates in her electric wheelchair next to her assistant. The teacher asks the children to get their papers in the backpacks; they go chatting together into the hall. The assistant asks Eva if she wants to do it herself. She nods and drives out by herself. The assistant helps her with the backpack and meanwhile her peers are already back in the classroom (observation in Eva's class in the autumn. In an observation half a year later, the assistant goes and gets the material in the hall while Eva stays in the classroom.)

The teacher asks the children to take a paper from the backpack. Anne rushes together with her peers into the hall. She strives to open the backpack, gives up and, finds a toy and starts to play with it. Meanwhile her peers are back in the classroom, continuing their assignment. After a short while, an assistant comes and looks for her and brings her back to the classroom: Anne needs time and help to concentrate on the assignment again (observation in the classroom).

Classroom transitions create opportunities for participation or constraints, which necessitate reorientation to establish a common focus of attention for further activity. In the examples above, the routines rendered opportunities for spontaneous activity and for small peer interactions for all children. However, the interaction between time, distance and functional ability restrained Eva's and Anne's opportunities for participation. In the first setting, the time needed to transition and establish a common focus of attention on social chatting with peers was too short for Eva. For Anne, the material structures, time and distance created distraction and ultimately hampered her pedagogic involvement. These transitions during the day seemed to denote sensitive events in which positions and forms of participation could be threatened. Change, whether initiated by the child or others, can affect the creation of new sequences of activities and relationships.

Participation in outdoor activities

As we followed the children and their classmates throughout the school day, we observed outdoor activities and transitions between indoor/outdoor places, which were part of the child's school day, and thus, part of the school's socio-educational space. Outdoor excursions to the neighbourhood landscape usually occur weekly for children either in the elementary schools or the ASA in Norway. These excursions are intended to stimulate play, exploration, social interactions and physical activity under diverse environmental conditions (Framework Plan, Oslo Municipality). However, the children with disabilities in our study usually used a wheelchair on these excursions, and the intended opportunities were not a matter of course for all children in attendance.

The theme for the day is a course in whittling and free play in the forest. The terrain is rugged and it is almost impossible for Ben to walk alone. He is holding hands with the adults. Ben approaches two other boys and invites them to play 'Batman'. Ben is a popular playmate in 'fantasy play', being very creative and verbal. The two boys agree, but before the play starts, they have disappeared into the forest. The adults walk around with Ben in the forest. He does whittle together with his peers, but most of the time he sits in the shelter with his assistant.

The following day, Ben examined the photos taken by the researchers on the excursion. The researcher asked him to tell about a photo showing Ben sitting in the shelter side by side with his assistant:

B: This is an outing.

I: When you arrived, you went around the wooden shelter.

B: Umm

I: Is there anything you miss around the shelter, which you think should be there? So you could walk without anybody being with you?

B: Yees. Hmm frankly, it was rather boring being on the outing.

I: If this outing was boring, what could be done to make it less boring?

B: It is very noisy; I would like it to be quieter and that we were allowed to bring more toys.

It is assumed that outdoor experiences are beneficial for children: They can be physically active; they can move freely; their play is more creative and their motor skills develop during play in nature's rough terrain (Fjørtoft 2001; Fjørtoft and Gundersen 2007). Specific environments, such as a rough terrain, can support certain affordances, such as climbing and balancing, but this is not necessarily true for all children (Kyttä 2004). In Ben's experience, the outing was 'boring' because the physical environment functioned as a constraint. His suggestion to bring play materials that are less dependent on the environment could be a way to actualize alternative affordances and to handle the environmental constraints that regularly occurs in everyday life of many children with disabilities.

Extra services entering school

In our dialogues, the assistants talked about their collaboration with therapists concerning follow-up of children with physical disabilities in the school environment. The academic structure in kindergarten is open, and time is plentiful; however, in school settings, the pedagogic aims and the tight schedule presented a challenge to implementing decontextualized therapeutic programmes with different goals. During our visits, we observed that prescribed walking exercises were implemented during transitions between buildings or classrooms, which may seem reasonable. In Ben's class, all children had to move from one building to another to enter the gym and the music classroom. The assistant had chosen this event and distance to implement walking exercise for Ben:

Ben walks slowly together with his assistant, lagging behind his peers. His peers run together chatting, arrive at the gym hall, dress, and enter the class when Ben arrives and starts to dress for the class (outdoor/gym observation).

Eva usually moved independently either with a wheeled assistive device or a wheelchair. At the time of our study, she participated in an alternative therapeutic program which included daily walking exercises in a device without wheels to provide resistance as she walked:

It is morning session: The assistant supports Eva in undressing and moves Eva out of her wheelchair and gives her the specific assistive device for walk training. She walks from the hall into the classroom. Eva who otherwise moves independently into the classroom with her other devices, now receives help from the assistant who supports and manoeuvres the device over the doorsill and lifts her into the wheelchair in the classroom (observation).

Both of these examples highlight how seemingly contextualized interventions, like walking during transitions, became decontextualized exercises in the school environment and prevented the child's independent activity. In dialogue with Ben's teacher, we discussed the observed inadequate timing of the activity, consequently, the teacher prioritized peer activities and participation in the gym class. Interviews of parents of five- to seven-year-old students with disabilities (Coster et al. 2013) did also highlight physical and social barriers as limiting factors for their children's participation in school activities. Thus, questions arise regarding the aims of health professionals' interventions within the school environment: Are they congruent with the child's needs, and do they contribute to the child's access, social participation and ability to benefit from the educational curriculum?

As we observed children during recesses, we could engage in spontaneous dialogue with them about ongoing activities, their experiences and the things they would like to do. These dialogues sometimes revealed opportunities for physical activity and skill learning. For example, Anne pointed to the bars on the playground where several of her peers had gathered. She said, 'I can only get halfway around the bar and I want to figure out how to do as they do and train myself'. Her statement directed our attention to where peer interactions were occurring and the requirements for Anne to participate.

Following the observation, we spoke with Anne's physiotherapist, who had arrived at the school to make an appointment for the yearly motor assessment, a national routine. During our dialogue, she expressed uncertainty regarding therapy for the girl and had not explored or included the child's

situated experiences of what could be done to enable her to participate in peer activities. Alternatively, Laverdure and Rose (2012) suggested that on-site explorations with the child, or 'bringing the child to the centre of the practice, and empowering them in decision-making', can increase our understanding of the child's perspective and enable professionals to identify factors that may facilitate or hamper participation in everyday school activities.

Conclusion

In this paper, we explored everyday life activities in children's first year at school, revealing a variety of situated activities that involved interactions between the child, peers and (para) professionals. We focused on how a child with a disability finds opportunities and space for participation in these peer interactions and multi-professional encounters. Through our analyses, we identified seemingly insignificant processes of exclusions during the day that may have implications far beyond these singular situations. Situated activities may hamper as well as facilitate participation, leaving the child with a disability particularly vulnerable. With this knowledge, professionals can increase their sensitivity to intended as well as unintended or unpredictable consequences of pedagogic and social organizations during the school day. Although an occasional exclusionary activity may seem insignificant, an accumulation of exclusions can jeopardize the child's sense of belonging and of being capable. Also, enabling exclusionary actions conflicts with the value of pedagogic and social participation as a means of stimulating personal identity, social skills and learning (Rogoff 2003).

The key messages of this study are that professionals must pay attention to the situated micro-processes in action and use observational sensitivity to perceive the details at play in these situated processes. Creating a universal learning environment for all involves planning an inclusionary physical environment, being available to all students and observing interactions among pupils throughout the day. In other words, an inclusive environment in which all participants are valued and have important roles to play contributes to all children's well-being and developmental opportunities.

The question remains whether children with complex problems receive academic training in accordance with their abilities and premises from paraprofessional assistants. In our study, the assistants faced making many on-site evaluations and decisions, which did not always support an inclusive educational or social setting. In their recent book, McDonnell et al. (2014) discussed the need to improve decisions regarding when and how to use paraprofessionals. External professional interventions that may be in the child's best interest also may challenge the child's participation, a finding supported by other studies about paraprofessionals and special teaching (Angelides, Constantinou, and Leigh 2009; Giangreco, Suter, and Doyle 2010; Devecchi et al. 2012). However, our study revealed that health professionals' prescribed or performed interventions also can create barriers for the child's participation in school activities, and few studies have examined how these professionals may challenge the child's inclusion. Therefore, the entire professional team must analyze how organized activities and settings may produce exclusions, when and where they are produced and in which types of interactions exclusions occur during the school day. Close observations and an exploration of the child's understanding of school-anchored situations may support professionals to develop inclusive settings that also comprise social, pedagogical and rehabilitation aims. Professional teamwork centred on a common understanding of the operating goals at the school needs further elaboration.

Our analysis may indicate the need for more emphasis on professional working methods organized from the bottom up in search of relevant contextual experiences for children with disabilities. Observing children in action and exploring their interests, their reflections on actions and their embodied knowledge can direct collaborative decision-making with the child, enabling their empowerment and sense of belonging, which are the goal of educational plans for inclusive schools. Knowledge 'from below' (Gullestad 1989) inherently presupposes many perspectives from involved participants, from theory and from the practices of professionals who in turn are expected to use the results. Thus, a combination of knowledge 'from below' with the principles of an inclusive learning environment is pertinent for reflecting principles of proximity and group belonging.

Acknowledgements

The authors would like to thank the children, their parents, and professionals who participated in this project. This work is part of the interdisciplinary research project, *Professional practices and children's participation* affiliated at Oslo and Akershus University College of Applied Sciences, which has contributed inspiration and support.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Research Council of Norway, under [grant number 182711] and by Oslo and Akershus University College of Applied Sciences.

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