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Further Training for Teachers in Inclusive Physical Education

The Importance of Collaboration and Lesson Design

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ABSTRACT

Physical education (PE) holds great potential for promoting social participation, yet it also carries a heightened risk of exclusion due to its strong emphasis on performance norms. This research project developed, implemented, and evaluated an evidence-based training programme to support teachers in inclusive PE settings. The main research question focused on how participants applied the training content regarding framework conditions and lesson design, and what effects emerged. Primarily, qualitative interview data were collected before, during, and after the four-part training and analysed using Kuckartz's content analysis. Participant development was examined through a case study and cross-case comparison.

The findings show that inclusive PE can help to increase the social participation of children with disabilities when special educational needs (SEN) teachers share responsibility for motor skill development and general educators maintain accountability for all children. However, the study also reveals that there was no support in this regard from specialists such as SEN teachers or psychomotor therapists. If these experts were to support more in inclusive settings, both teachers and children could benefit. This support could involve choosing peer-tutoring as an appropriate form of organisation and tasks should be differentiated, cooperative, open and adapted to enable participation. The evaluation offers significant insights for refining the training concept and enhancing teacher training regarding inclusive practice.

1. Introduction

Since the adoption of the UN Convention on the Rights of Persons with Disabilities (United Nations, 2006) and the associated demand to enable equal participation of all people with disabilities in society, there has also been a commitment to an inclusive education system. Since then, children with disabilities have been increasingly integrated[1] into mainstream schools in Switzerland (Lanners, 2024). Social participation[2] is an important goal for children with disabilities (Schürer, 2020), as it is one of the basic human needs and considered an important prerequisite for well-being and health (Dean et al., 2016). A lack of relationships with peers can have a negative impact on social-emotional

development and therefore also on school performance (Wentzel & Watkins, 2002). It is therefore not surprising that from an educational perspective, promoting social participation, particularly by increasing positive interactions between children with and without disabilities, is seen as one of the most important tasks of inclusion (Boban & Hinz, 2003). However, many studies point to the problematic effects of inclusive teaching. It has become obvious inclusive education does not guarantee that children with and without disabilities are equally included in social interaction (Garrote et al., 2017; Krawinkel et al., 2017).

Regarding the promotion of social participation, PE is considered to have particularly high potential, and it has been shown that social contacts and interactions can be promoted in this space (Block et al., 2016; Seymour et al., 2009). On the other hand, the risk of exclusion for people with disabilities can be more pronounced in PE than in other contexts because PE is strongly characterised by prevailing performance standards, which in turn depend on physical performance and communication skills (Meier et al., 2016; Rischke, 2013).

Further studies show that the success of social inclusion depends heavily on the teacher (Farmer et al., 2011). However, dealing with social processes in PE lessons in a class characterised by large diversity (e.g., integrated children with disabilities) is a challenging undertaking. Many teachers are unsure how to deal with the significant heterogeneity this entails and feel overwhelmed (Hutzler et al., 2019; Reuker et al., 2016). However, a positive attitude toward diversity is considered an essential prerequisite for successful inclusive PE (Braksiek et al., 2018). It therefore seems important to support teachers in inclusive PE. Only a limited number of studies have been conducted which show how important well-functioning team teaching is, in which all teachers feel responsible for all children (Seitz & Haas, 2014).

In addition to the framework conditions, the lesson design is also very important. It has been shown that a combination of peer tutoring[3] and class assistance has a positive effect on the engagement and knowledge of children with disabilities (Murata & Jansma, 1997). Moreover, peer tutoring enables social interactions, which can have a positive effect on the classroom climate (Klavina et al., 2014; Tindall, 2013). Cooperation is of central importance in inclusive PE as well. There are various studies that have investigated the effect of cooperative forms of learning in PE lessons and have shown positive effects in many respects (André et al., 2011).

In addition to cooperative forms such as peer tutoring, cooperative tasks can also increase contact between children. Cooperative tasks can not only initiate contact between children with and without disabilities, the contact can also be influenced positively, so that the contact is a good experience. The basis of this assumption is the contact hypothesis (Allport, 1954). This states that prejudices can be reduced through frequent and high-quality contact, provided there is consensus regarding goals, positive interdependence and equal status of the group members, as well as support from those responsible. However, answers to the question of how inclusive PE lessons with children with disabilities should be organised are scarce (Giese & Weigelt, 2015). In addition to the apparent lack of concepts, teachers face increased demands in areas of professional knowledge, such as diagnosis, intervention and counselling skills (König et al., 2017).

One possible form of support could be further training for teachers in inclusive PE. According to Baumert and Kunter (2006), teachers' professional competence can be changed. It develops based on the knowledge and skills acquired during initial and further training, as well as professional experience. Lipowsky (2014) states that the quality of learning opportunities utilised, as well as reflection on the learning processes, are decisive factors in this development. However, there is a lack of evidence-based training and further training concepts for inclusive PE. Due to this research gap, the present study has developed and analyzed an evidence-based further training concept. This article presents the concept and evaluates parts of its implementation in terms of specialist collaboration and cooperative lesson design. These findings provide valuable insights into how inclusive practices in PE can be optimised to support the teachers.

2. Concept of Further Training

Changes in participants' behaviour during further training can only be partially attributed to the content of the training itself. They are mostly the result of a variety of interrelated causes (Lipowsky, 2010). To understand learning processes in initial and further training, the offer-and-use model (Helmke, 2009) was established, which was expanded by other researchers (Göb, 2018; Lipowsky, 2010) to explain the effectiveness of further training. Lipowsky (2010) shows, among other things, that the intensity of the context-adapted training programmes has a positive influence on the yield. The extent to which participants utilise the offer depends on its quality and the subjective evaluation of the participants. For further training to be effective, there also needs to be opportunities to transfer what has been learnt.

Göb (2018) suggests the literature-based recommendations for concrete implementation: Effective training programmes should be long-term, involve multiple events and be led by an expert. Timperely et al. (2007) recommend a minimum duration of six months. It is important to combine input, testing and reflection phases. The content should be at the centre and based on subject-specific didactic and scientific findings with practical relevance, as well as being thematically focused (Möller et al., 2006). It should also be orientated towards the needs of the participants and be curriculum-based (Lipowsky, 2006). Furthermore, participants should be encouraged both cognitively and behaviourally through activities such as case work, reflections, observations, forming learning communities, etc.

Based on these considerations, a four-part (four hours a part) training programme was designed with the aim of promoting social participation. Three main goals were pursued. The first objective concerned *attitude*: participants develop a positive attitude towards inclusive PE. They view diversity as a positive factor and strive to provide equal opportunities for everyone. The second objective concerned the *framework conditions*: The teachers make effective use of collegial and institutional resources in further training and in their school environment/school team. The third objective concerned the *lesson planning*: the participants are familiar with conditions that promote inclusion and engage effective methodological and didactic measures in depth. They plan PE lessons accordingly, thereby working to create a positive classroom atmosphere. To reach these goals a circular approach was chosen, meaning that important aspects were repeated and explored in greater depth. Between the four meetings (implementation phase) the teachers were invited to implement everything in their own classes.

During the meetings, different topics like cooperative tasks and peer tutoring implementation were carried out in practice and then reflected upon. The importance of providing positive, individualised feedback to promote the social acceptance of integrated children was also discussed (Huber, 2009a; 2009b). Since many children with cognitive disabilities have motor difficulties (Maïano et al., 2019), differentiation is another key component. PE can be differentiated by offering more difficult or easier variations and options, thus making it more needs-oriented. Another focus was the 6+1 model (Tiemann, 2015), which is helpful when adapting PE to children's individual needs. The model contains six components: materials, learning environment, rules, task design/setting, social forms, and communication. Regarding the "tasks" adjustment, the advantages of cooperative, open and differentiated tasks were discussed, as well as the importance of reflection phases to work with the class and include all players. The "+1" in the model represents a teacher's respectful and positive attitude toward children with disabilities. Since a positive attitude toward people with disabilities is an important prerequisite for teachers (Braksiek et al., 2018; Hennemann & Leidig, 2018), the implementation tasks aimed to intensify contact between the integrated children and theteachers. Exclusionary situations were addressed through case studies. The previous considerations led to the following research question of the present study: What effect does the designed further training programme have on teachers and their inclusive PE lessons in terms of framework conditions and lesson design?

3. Method

The research approach was based on a multiple case study design (Yin, 2009) and a cross-case comparison. Each teacher represented a case.

3.1. Sampling and Research Design

Various measures were taken to achieve the target sample size of twelve teachers (grade 3-6 of primary school). First, a flyer advertising the training was designed and sent to all teachers who participated in the SoPariS[4] survey as part of the Swiss National Science Foundation research project at University of Bern and Bern University of Teacher Education. Teachers were then contacted by telephone. Finally, the training was advertised in the newsletters of the Lucerne Association for Sport in Schools and the Lucerne University of Teacher Education. Specialists in subject didactics, school administrators and teachers were emailed about the training programme and asked to forward the information to interested parties.

Initially, ten teachers started the training programme. Three dropped out due to the Covid-19 pandemic, so data from only seven of the teachers could be evaluated. Of these, two were male and five were female. Three of these female teachers worked as subject teachers. Two had sports-specific education and one did not have any pedagogical education. Further information is provided in Table 1.

Table 1

Overview of the Participating Teachers.

Name/ Code	Age	Function	Formation	Years of experience / with children with disabilities	Grade of primary school	Work quota	Work quota in PE	Assistant present in PE
Daniel Dm29	29	Class teacher	Primary school teacher	3 / 1	5	100%	10%	No
Beatrice Bw38	38	Class teacher	Primary school teacher	7 / 2	4	80%	10%	Yes
Hans Hm59	59	Class teacher	Primary school teacher	36 / 2	4	80%	10%	Yes
Gisela Gw53	53	Class teacher	Primary school teacher	30 / 8	6	90%	10%	No
Vladana Vw35	35	Subject teacher of PE	PE teacher (foreign formation)	8 / 2	3	75%	50%	No
Ingrid Iw39	39	Subject teacher of PE	Pharma assistant	9 / 5	4	35%	35%	No
Ruth Rw56	56	Subject teacher of PE and textile design	PE teacher (short formation) and textile design	35 / 3	4	86%	19%	Yes

Notes. All names have been changed to protect anonymity. The code consists of the first letter of the name, gender (German), and age. "Assistant" refers to an untrained classroom assistant who supports the teacher.
Abbreviation: PE = Physical Education.

The training programme lasted a total of six months. The three measurement points took place before, during and after the training programme. Various instruments were used to collect the data (see Fig. 1). The procedure is explained in the following chapter.

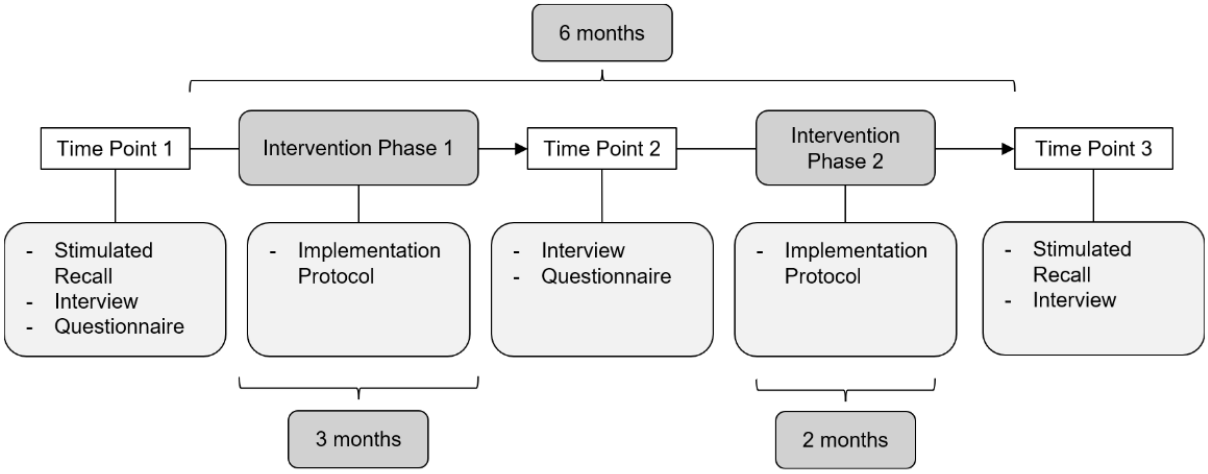

Figure 1 *Research Design*

3.2. Data Collection and Instruments

Shortly before the start of the four-part training programme and one month after the training, a guided interview was conducted with the teachers. It started with a stimulated recall (SR)[5]. The teachers were shown a selected, videotaped scene from their PE lesson, in which the child with a disability did not participate on an equal footing. The teachers had to describe the situation and explain their actions and thoughts. Finally, the teachers were also asked about possible alternative actions.

In the present study, the SR had various functions. On the one hand, it served as a tool for data collection to find out how teachers thought about critical events (Messmer, 2015). This also allowed attitudes to be expressed that were of interest in the context of this study. On the other hand, by repeating the SR at T3, this tool also enabled a comparison to be made to determine whether they had developed new alternative courses of action due to the training or whether, for example, changes in attitude had taken place. This approach served to obtain an outside perspective on the practical knowledge of the individual teachers.

The SR was followed by more questions that were closely related to the theoretical concept of the further training. The teachers completed a written online survey using a tried-and-tested questionnaire from the SoPariS project. Personal details (gender, age, class level, workload), training and further training, as well as experiences on the topic were of interest. The teachers also recorded their experiences of implementing the training content in an implementation protocol. They were asked about this in an online interview after the first implementation phase (T2) and after the training (T3).

3.3. Data Analysis

The written questionnaires were analysed descriptively. As mentioned above, they were used for triangulation in part by correlating the data on attitudes with the interview statements. The implementation protocols were used to record the implementation phases to prepare for the T2 and T3 interviews. They provided an initial overview of the implementation phases and were not evaluated further. To analyse the interviews, the content-structuring content analysis method by Kuckartz (2016) was used. As certain categories of interest were evident and could be formed deductively based on the existing training concept and its corresponding questions, this method was deemed appropriate. Two forms of analysis were chosen. Daniel's case analysis provides the most detailed insight as possible into a specific development process. This case was chosen because of the interesting findings related to the research question. Additionally, this selection allows for an in-depth examination. A cross-case comparison was then carried out across all seven cases in order to relate the results of the case analysis to the other cases.

4. Results

4.1. Case Analysis: Daniel

The 29-year-old class teacher was certified three years ago. He made a particularly positive impression during the training programme, as he implemented all suggestions very conscientiously. Daniel's class included a foreign-language female pupil called Selma with a diagnosed cognitive disability. The SEN teacher and the assistant supported Selma in the classroom, but not in PE lessons. Daniel said that he had never been given any advice on how to deal with the pupil in PE lessons. The other artistic subjects, such as textiles, had also never been discussed with the SEN teacher. The child concerned was simply "dragged along". However, Daniel only realised this because of the interview (Dm29_t1, paragraph 349-360[6]).

As a result of the training, Daniel realised on the one hand that Selma was not involved enough in PE lessons. On the other hand, he realised that he could also use the SEN teacher for teaching objectives in movement and sport: As he could not integrate the SEN teacher into PE lessons during the implementation phase for organisational reasons, he instructed the SEN teacher to practice ball skills with Selma in a playful way in classroom lessons (Dm29_t3, A31[7]). As a result, Selma became much more confident with the ball, as the following quote shows:

> And now (...) after the further training, (...) the idea of addressing topics with the remedial teacher (...) especially today in handball. At the beginning she was in the goal and she caught every ball, every ball (...)! It really was such a huge wow effect ... and she was also really happy. (...) I can see that she is better integrated. (t3, A103ff)

Daniel had learnt how helpful it is to exchange ideas with others. Leaving children to practise unaccompanied is not enough to adequately support children with disabilities. The exchange and cooperation with other professionals from the fields of psychomotor skills, special education and with parents is therefore important (t3, A111). It would also help to talk to someone about this if the teacher was not making progress with a child and self-doubt arose as a result (t3, A121).

Daniel's PE lessons before the further training appeared to be characterised by various forms of competition, as the children like to compete (T1, A47) and learn to assess themselves in the process. He admitted: "I think we are a meritocracy, and you compare yourself with others" (T1, A50ff). Another statement shows that he closely associated the educational perspective of "togetherness" mentioned in the curriculum with "performance" (T1, A235). It was also important to him that the children got to know many types of sport and were encouraged to join a club. This promoted integration (A116f).

During the implementation phases, he implemented a lot of training content on the topic of cooperation with his class. Selma had initially been a rather passive member but had taken instructions from the group and carried them out, whereupon she had been praised by the group (t2, A120). The focus was increasingly on working together (t3, A27). The children had great fun doing the cooperative tasks. Rank was suddenly no longer as important as achieving a common goal (t3, A26f). Selma was able to participate well, as clear tasks were allocated in the groups. She was happy and was more active. Daniel said that it was easier for Selma to participate in cooperative tasks than in sports games, where the role on the field was not so clearly defined and stronger players often dominated (t3, A29).

Daniel's intense engagement with the learning opportunities was also reflected in the fact that he incorporated cooperative forms of play not only in PE lessons, but also in classroom lessons in the form of movement breaks (t3, A165). The "togetherness" now seemed to have taken on an independent and even integrative value. The increased contact between the children through the cooperative content and the peer tutoring method led to more child-centred PE lessons. This is expressed particularly clearly in the following quote, when Daniel responded to the question of how you would notice that he had developed further if you were to observe his PE lessons:

> So everyone can take part. Everyone is actively involved. (...) That children who are weaker (...) don't just stand around and wait (...) No more frontal teaching, showing off, imitating, but really in the group, analysing, doing and supporting each other (...). Not performance-orientated, but (...) achieving a goal together. (...) It's not always just about winning, but (...) reaching the goal and not just being under this pressure, I have to be the fast one. (t3, A184ff)

Daniel seemed to grasp the mission of PE as multi-perspective teaching (Kurz, 2008) more clearly: “And now also through this further training (...) togetherness. That would be incredibly important (...) especially in school sport (...). You shouldn't just focus on performance. There are other areas where children can do sport in their free time (...) (t3, A206).”

Another implementation task was to implement peer tutoring in his own class. Daniel realised that he had barely used this in PE lessons, although he had done so in some other subjects (t2, A54ff). Inspired by the training, he had now also implemented it in music and PE lessons (t3, A74f). He was convinced that this method was also justified in PE lessons because the heterogeneity in the class was very high. Children who are in a club often have particularly good skills. The tutors could then demonstrate their knowledge and repeat it straight away. He would now like to continue using this form of organisation in PE lessons (t2, A30). He is convinced that peer tutoring had improved the class climate and Selma's integration (t2, A126ff).

Effects relating to lesson design, among other things, are also evident in the statements made in the context of the SR. Before the further training, when first considering the critical incident in which Selma was barely able to master the required task in a competition situation due to her motor difficulties, Daniel named two competition-orientated alternative courses of action. This one-sided solution finding was extended when he looked at the critical situation again after further training. He suggested various non-competitive tasks with varying degrees of difficulty to adapt the task to individual abilities. In this way, he believed that an embarrassing situation could be avoided (t3, A7) and the pressure to perform could be reduced (t3, A17). Other possible courses of action included adapting rules and materials that apply to everyone to prevent the integrated child from having a special status.

4.2. Cross-case Comparison

Regarding support in PE lessons, a distinction can be made between two groups prior to further training: four teachers were partially supported by an assistant. The others taught the subject PE alone. Looking at the collaboration between the teacher and assistant, it is noticeable that three teachers tended to delegate responsibility for the child with a disability to the assistant and took little leadership in collaboration. They trusted the assistant to get involved and recognise where they were needed. None of the teachers received advice on diagnosis and the associated difficulties in PE lessons before the further training (e.g., Iw39_t1, A389ff). The use of specialist advice suggested in the further training was perceived positively and, in some cases, expanded the understanding of the child with a disability (Vw_t2, A146ff; Vw_t2, A275ff).

Many of the teachers' statements show that, like with Daniel, PE was primarily associated with performance before the further training (e.g., Rw56_t3). Many teachers realised the pedagogical value of cooperative tasks during the implementation phase. For the most part, they were able to successfully implement the examples carried out in the training and reported predominantly positive experiences (e.g., improvement in social participation and the classroom climate, more variety, fun and a sense of achievement, e.g., Rw56_t3). However, some teachers have implemented ideas that do not fulfil the criteria of co-operative tasks[8] (e.g., Vw35_t3, A58; Bw35_t3, A139f).

Peer tutoring as a form of organisation rarely took place before the teachers' further training in PE lessons. When it did occur, it happened spontaneously, with individual children being used as helpers (e.g., Rw56_t1) or offering to support the integrated child themselves (Vw35_t1, A326ff). The situation was quite different in the classroom where peer tutoring seemed to occur frequently (e.g., Gw53_t1). Through the further training, teachers also implemented it in PE lessons (e.g., Iw39_t3, A70) and had consistently good experiences with it (e.g., Bw38_t3) and wanted to use it more in the future (e.g., Hm59_t3). Some teachers recognised that the children related to each other when supporting each other, which contributed to a better class climate (e.g., Rw56_t2, A62ff). The prevention of special treatment through the special support of the teacher and the advantage of motivation using a learner as a tutor were also mentioned several times (Bw38_t3, A240ff; Gw_t2, A103ff). Almost all teachers showed a clearly positive development when naming alternative

courses of action in the context of the critical incident described in the SR. Some perceived the marginalising situation in a more differentiated way and viewed their own actions more critically or were able to name significantly more alternative courses of action and diverse solutions (e.g. Bw38_t3, A35ff; Vw35_t3, A12).

5. Discussion

The study makes an innovative contribution to the design of further training to promote the participation of all children in inclusive PE. The findings show that peer tutoring, as an organisational method, and cooperative and open tasks, as content, have proven successful. Support measures from specialist experts would also be useful. The results suggest that there is great potential in providing support in PE lessons and the associated motor skills development for children with disability. However, it also highlights the lack of support from SEN teachers and psychomotor therapists in this inclusive setting, encouraging us to question their role.

The results showed that, during the training, all the teachers were motivated to engage in dialogue with the SEN teacher about how to deal with the child with a disability – and found this to be beneficial. Inspired by the training, a school-based SEN teacher was also recruited to promote physical activity. This shows that it is worthwhile to promote cooperation with the SEN teachers in the subject of PE. This successful example of intervention further shows that motor skills (especially for ball games) can be crucial in terms of social participation. Sports skills of children with disabilities are obviously central in terms of social relationships (Steiger et al., 2021). Giese and Weigelt (2015) emphasise the importance of skill acquisition as an important prerequisite for participation.

However, this study also revealed that teachers of PE are not supported or advised by SEN teachers on how to deal with integrated children. Accordingly, Rischke et al. (2017) were able to show that there is less support in the subject of PE compared to other subjects. This is problematic, as PE teachers often do not feel able to integrate children with disabilities appropriately (Popcock & Miyahara, 2018). It is therefore not surprising that children with disabilities do not feel supported in PE lessons (Giese & Timberlake, 2021). If SEN teachers lack support because they feel incompetent when it comes to developing motor skills, then this raises the question of whether this topic is covered adequately in their education. It also raises the question of the extent to which the psychomotor therapist could take on an advisory role instead of working in a separate room with the children.

The present study found that teachers were either not supported at all, or they were supported by untrained assistants. The findings showed that the collaboration with the assistant was not organised as team teaching. As a rule, the assistant took care of the child with a disability. This special treatment can lead to segregation. This appears to be exacerbated if support assistants have little or no pedagogical training (Lienert et al., 2001; Walter-Klose, 2012).

The findings regarding *lesson design* show that the participants' ideas of good PE prior to the further training were closely associated with performance and competition. According to the teachers' assessment, the pedagogical perspective of "togetherness" also plays an important role, but mostly in connection with competition. The observed focus on performance is typical (e.g., Meier et al., 2016; Rischke, 2013).

During the training, the teachers recognised the value of cooperative forms of play for inclusive PE lessons and implemented them with motivation. They reported various positive effects, such as a better class climate, a greater sense of achievement and improved social participation, and began to critically scrutinise the effects of strongly performance-oriented PE lessons. Studies showed that teachers need to reflect on their own sports biography and associated unconscious beliefs about good PE to question performance-orientated and physical ideals in particular (Erhorn et al., 2020; Grenier & Giese, 2023). An unreflected teaching style can cause barriers to participation (Meier et al., 2017; Ruin, 2017).

Peer tutoring was taught as a helpful method of inclusive PE. This had not been used in the participants' PE lessons before the training, in contrast to classroom teaching. After the training, the teachers were motivated to use it more often due to the many positive experiences. They mentioned, among other things, that the problem of special treatment due to individual support from the

teacher did not materialise with peer tutoring. On the other hand, the children could socialise together when helping each other. Similar positive effects were also demonstrated by Garotte (2017). Through cooperative learning, social skills and interactions between children with and without disabilities could be promoted, and the risk of exclusion of integrated children in the classroom could be minimised (André et al., 2011; 2013). In conclusion, the study makes a valuable contribution to our understanding of how to optimise current inclusive PE practice and support teachers more effectively.

6. Limitations and Outlook

One limitation of the study is that the only one teacher's results were reported in depth. This teacher was selected because of his particularly promising results. As this is an exploratory study, no general conclusions can be drawn from it. Nevertheless, a successful case study can provide inspiration.

Regarding training content, it should be noted that implementation could still be optimised: to develop learning tasks for one's own class from the examples of cooperative forms of teaching, more support is needed from the training leader. In addition, an even more self-critical examination of one's own ideas of norms and performance requirements in PE lessons would have been necessary. In this respect, the inclusion of the model of multi-perspective PE, which served to scrutinise one's own PE lessons and the priorities that apply would be beneficial (Grenier & Giese, 2023). The findings also show that the diagnostic, intervention and counselling skills of school-based SEN teachers still need to be developed specifically for PE. A possible expansion of the understanding of their role could also be helpful if SEN teachers are not aware of their responsibilities in inclusive PE. In addition, counselling and support from other specialists (e.g., psychomotor therapists) should be considered. Why do psychomotor therapists not engage more frequently in inclusive PE? Why do they still work separately in the therapy room? Given their expertise, they could make a real contribution to psychomotor development, particularly in inclusive PE classes. Providing more support from psychomotor therapists in inclusive settings, such as inclusive PE classes, could lead to valuable synergistic effects. Both teachers and children with disabilities could benefit from this.

The present study shows, among other things, that the development of motor skills in children with pronounced motor difficulties is rarely examined in inclusive schools. In addition, teachers do not feel adequately prepared and supported for inclusive PE. It is therefore necessary to examine more closely whether and in what form the basic teacher education addresses social participation in inclusive PE lessons.

This article underwent a double-blind peer review process.

1 The terms are defined according to the sociological perspective, following Luder (2017). "Inclusion" is used when the focus is on the accessibility of a system or an institution, while "integration" is used when attention is paid to the situation of the person with special needs.

2 The term "social participation" is based on Koster et al. (2009). They summarise the social dimension of inclusion as social participation, which consists of the four core aspects: interactions, friendships, social self-perception and acceptance by peers.

3 This is a pedagogical method in which children help each other to learn. Usually, one student is the expert who supports a less experienced one (Topping, 2015).

4 www.soparis.ch: The SoPariS training programme was developed and evaluated as part of Sonja Lienert Wolfisberg's doctoral thesis, which has not yet been published.

5 This method was developed by Bloom (1953). It makes possible to record and explore the thoughts of study participants about challenging teaching situations (Messmer, 2015). In a SR, subjects are presented with an audio or video recording of a situation they have experienced themselves to refresh their memory (Busse & Borromeo Ferri, 2003).

6 The following references in the first section refer to this transcript. Therefore, only the paragraphs are referred to below.

7 All subsequent references in this first section refer to the transcripts t2 and t3. Therefore, not only the paragraphs are labelled below, but also the measurement times. They can be found in Appendix E.

8 Described in chapter 1: consensus regarding goals, positive interdependence and equal status of the group members, as well as support from those responsible.

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