

# A teacher performing action research: capturing pupils' perspectives of didactic relations

Reetta Niemi<sup>ab1</sup>

<sup>a</sup> Viikki Teacher Training School, University of Helsinki

<sup>b</sup> Centre for Education Practice Research (CEPR), University of Johannesburg

## Abstract

In this practitioner research, I work as a teacher-researcher and examine my own teaching. In the paper I have answered the question: How can pedagogical action research be used as a methodology in capturing pupils' perceptions of didactic relations? In this article I describe how I was able to implement the goals set in the curriculum and at the same time collect and analyse data with my pupils. The data for this paper is narrative and it comprises 136 pictures and 25 audio-visual artefacts (20 picture books, three iMovie videos and two PowerPoint presentations) created by 4<sup>th</sup> grade students. This study supported the pupils' agency, the core goal of pedagogical action research, on many levels. The pupils were able to choose the number of pictures and the application they wanted to use. The methods used in the study also worked in launching pupils' perspectives of subject didactics and issues connected to the traditional classification of didactics: what to study, how to study and what purpose to study for and gave me an opportunity to develop my teaching according to the pupils' wishes. However, in the study I failed to reveal the pupils' perspectives of the pedagogical relationship between them and myself.

*Keywords:* pedagogical action research, didactics, didactic relations, pupils' agency, visual methods

## Introduction

Educating teachers to follow a strong model of teacher professionalism, meaning teachers' skills to evaluate their own work and to seek ways to improve it, is

---

<sup>1</sup> Viikki Teacher Training School, P.O. Box 30, 00014 University of Helsinki, Finland;  
[reetta.niemi@helsinki.fi](mailto:reetta.niemi@helsinki.fi)

a globally-shared goal in teacher education (Taber, 2013). For decades teacher research as one form of action research, has been seen globally as a research methodology that combines theory, practice and improvement of practices by incorporating reflective teaching and critical reflective practices in the classroom (Brydon-Miller & Maquire, 2009; Loughran, 2002; Lytle, Portnoy, Waff, & Buckley, 2009; Pithouse, Mitchell, & Weber, 2009; Rudduck & Hopkins, 1985). These elements can be seen as developing teachers' didactic skills.

But how can teachers engage in action research as part of their everyday obligations? I have used myself and my research as an example to illustrate how it can be achieved. I am a primary school teacher and I have worked as a teacher-researcher since 2006. Since then, I have been conducting pedagogical action research with 1<sup>st</sup> to 6<sup>th</sup> graders (7 to 13-year-old pupils) within two school communities with three classrooms of my own. Now I work in a Viikki Teacher Training school teaching 4<sup>th</sup> grade students and mentoring student teachers who conduct their teaching practice in my classroom. During the time I have been conducting research projects in my own classrooms, I have faced and tried to solve problems related to questions of a strong model of teacher professionalism: whose voice should be heard in improving classroom practices, and how it is possible for teachers to learn about of their own work whilst undertaking their other duties. When solving these problems, I realised that traditional research methodologies and methods did not respond well to these questions, nor did they work well in the classroom setting. Those problems forced me to address methodological questions and forced me to develop new methods in researching my own teaching. That development work has inspired me to describe how pedagogical action research is a specific form of teacher research built around five approaches (Niemi, 2018).

Even though I describe this methodology as pedagogical action research, it relates closely to didactics. I am aware that in some contexts, pedagogy and didactics have been used synonymously (Nordkvelle, 2003) and in the literature they have had overlapping definitions (Hamilton, 1999), but I see them rather like Kansanen (1999): they are siblings that cannot exist without one another. I also agree with Kansanen (2009), who claimed that most current research into teaching and teacher education is American conceived and its terminology follows the standards used by the American Educational Research Association (AERA) and that is why people use the concept of pedagogy rather than didactics.

The other reason for using the concept of pedagogy instead of didactics relates to my personal educational background. In the 1990s, when I was being educated in Finland and in other Nordic countries, didactics was emphasised by three aspects: what should be taught, how to teach and learn, and for what

purpose something should be taught and learnt (e.g. Kansanen, 2003; Kansanen & Meri, 1999; Klette, 2007). In other words, for me, didactics has generally meant the relationship between the participants (the teacher and the pupils), often described according to the didactic triangle of Johann Friedrich Herbart (see Kansanen & Meri, 1999). When these didactic questions were connected to wider questions in society, didactics turned to pedagogy (Kansanen, 1999; Kansanen & Meri, 1999). As Kansanen and Meri (1999) put it “It is pedagogy as a totality that guides the instructional process according to the aims and goals stated in the curriculum” (p. 1). The third reason for choosing the pedagogy concept relates to action research, because in action research, a researcher should connect research questions to the broader context and questions in society (Kemmis, 2006). Therefore, I have chosen to use the concept of pedagogy in describing this methodology.

In Finland, didactics and didactic research still have a strong position. This can be seen in teacher education: student teachers study subject didactics in every subject and in teaching practice, and are guided by mentors (primary school teachers) who work in teacher training schools but also with supervisors who come from the Faculty of Education and are specialists in subject didactics. Because subject didactics and didactic research still have a significant role in teacher education and in our educational system, my research question in this paper is: How can pedagogical action research be used as a methodology in capturing pupils’ perceptions of didactic relations?

The data used in this paper are based on 136 photos taken in my classroom at the Viikki Teacher Training School. There were 25 fourth grade pupils (10 years old) in my classroom (13 girls and 12 boys). At the time of the study, there were also four student teachers conducting their teaching practice, meaning they taught approximately half the lessons related to the photographs used in this study. The data comprises of 25 visual and audio artefacts (two PowerPoint presentations, three iMovies and 20 picture books conducted by using an application called Book Creator) created by my pupils.

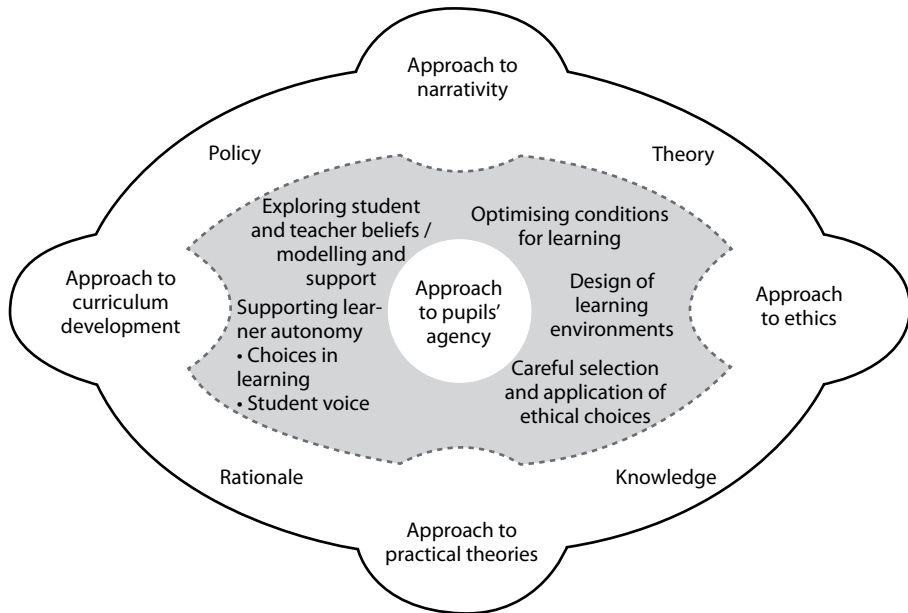
In this paper, I start by discussing how pedagogical action research relates to Herbart’s didactic triangle. Then I describe the data and methods I have used. In the results, I discuss how my pupils’ perceptions have related to didactic relations. In discussion, I sum up how pedagogical action research could also be used as a methodology in developing subject didactics of teachers in other contexts.

## Pedagogical action research meets didactic triangle

There is no single definition of the concept of pedagogy. It has at least three meanings: it means all those actions teachers do to enhance student learning; it is connected to curriculum and enacting the goals set in the curriculum; and it also means all those things people experience in a pedagogical relationship (Nind, Curtin, & Hall, 2018).

When developing the five approaches to pedagogical action research, I used the model produced by Waring and Evans as a starting point. According to Waring and Evans (2015), an active and critical learner is at the centre of their model. In their model, Waring and Evans assert that pedagogy is not a neutral landscape but is 'a socially critical agenda, one in which notions of learner empowerment are framed by those power relationships that revolve around how knowledge is conceptualised and therefore is valued, and how learners are positioned in relation to how knowledge is created as part of the pedagogical process' (ibid., pp. 27–28). Waring and Evans say that their model promotes and informs democracy in education and in that sense it joins forces with notions of critical pedagogy and the promotion of critical agents (ibid.).

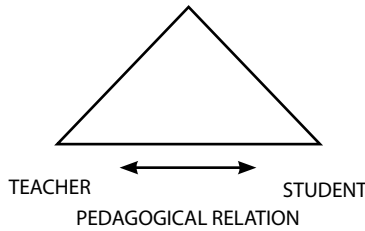
In the five approaches to pedagogical action research described in Figure 1, I connected Waring and Evans' definition to the five principles for validating an action research narrative that was created by Heikkinen, Huttunen and Syrjälä (2007). I claim that pedagogical action research is narrative in nature (approach to narrativity). It begins by listening to pupils' voices and focusing on understanding their meaningful experiences of pedagogical practices. Having an approach to pupils' agency, meaning how tools used in research promote pupils' different voices and how the methods used promoted pupils' agency in developing classroom practices, creates the core of pedagogical action research. In pedagogical action research, it is also important that the researcher knows the development of the curriculum and understands both global and local perspectives and the political agendas behind the curriculum (approach to curriculum development). Pedagogical action research forces a teacher to reflect on his or her practical theory and to develop its structure (approach to practical theories). The approach to ethics relates to questions of the fairness of the research and students' privacy, but also to issues related to the fairness of education in general. (Niemi, 2018)



**Figure 1.** Five approaches to pedagogical action research developed from Waring & Evans (2015, p. 28, see also Niemi, 2018)

In the literature, one way to separate the difference between pedagogy and didactics has been related to the question of the individual versus society. The heritage of didactics comes from educational psychology and it is interested in the individuals' perspectives whilst the concept of pedagogy comes from the social sciences and it focuses more on the educational community (Kansanen, 2009). At the centre of the five approaches to pedagogical action research there is pupils' agency. To experience agency, each child in the classroom needs to have an experience that "I have been heard and I can make a difference in my life" (Emirbayer & Mische, 1998). Other perspectives of pupils' agency in the school context are related to pupils' responsibility in a community and pupils' right to be active learners instead of passive objects of teaching (Brown & Renshaw, 2006; Greeno, 2006). In the classroom, pupils should be responsible for sharing their knowledge in planning, implementing and evaluating their learning (Edwards & D'Arcy, 2004).

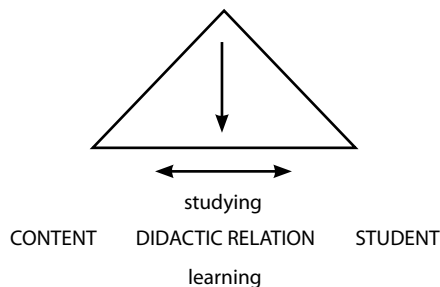
From my perspective, the approach to pupils' agency can be connected to the didactic triangle by Herbart, as described in Figure 2. The relationship between the teacher and the students is usually a starting point of looking at the triangle. When this is seen as a pedagogical relation it brings with it certain special meanings (Kansanen, 2003; Kansanen & Meri, 1999). This relation is also a starting point in pedagogical action research. The key question is how teachers can create such a relationship with pupils that they dare to explain their experiences freely and express their perceptions.



**Figure 2.** Pedagogical relation in the didactic triangle (Kansanen, 2003; Kansanen & Meri, 1999)

Kansanen and Meri (1999) claim that even when the students are adults, the pedagogical relation between the teacher and the student is asymmetrical. Especially when the pupils are children, the asymmetric quality of the relation is emphasised, because in the pedagogical relation, the teacher has something that the students do not yet have. However, they say that in other respects this relation may be more democratic. In pedagogical action research, the purpose is to diminish these traditional and hierarchical roles and to increase democracy in pedagogical relationships. This is only possible if pupils have a real role in developing the classroom culture.

In Herbart's didactic triangle, another relation described in Figure 3 is called didactic relation. Firstly, it means the relation between the student and the content. Secondly, the teacher has a relation with the relation between the student and the content. In other words, the teacher has a relation to studying, and at the same time this relation is also to the learning and other processes (Kansanen, 2003; Kansanen & Meri, 1999). This perspective is strongly connected to pedagogical action research and the approach to pupils' agency, in which teachers try to gain information from their pupils to understand how they perceive this didactic relation and join them in the process of developing that relation better.



**Figure 3.** The didactic relation in the didactic triangle (Kansanen, 2003; Kansanen & Meri 1999)

## Approach to narrativity and the data collection of the study

In pedagogical action research, narrative methods provide a fruitful way to represent and recount events by providing a structure for understanding and conveying the meaning of the experiences. They also support dialectics and polyphony or different voices and provide a way of highlighting educational values, raising questions and challenging prevailing discourses of education (Niemi, 2018).

As Heikkinen, Huttunen and Syrjälä (2007) have said, action research reports are often narrative in nature. The reports may distinguish elements of narrativity: they focus on individual experiences, report these experiences chronologically and present a temporal sequence of events.

In my research, narrativity is embedded in collecting, analysing and reporting data (see Niemi, Kumpulainen, & Lipponen, 2015a, 2015b, 2018; Niemi, Kumpulainen, Lipponen, & Hilppö, 2015). In the data collection, I have turned to the use of visual narratives, especially photographs, because photographs are seen as being particularly helpful for pupils to document and communicate their perspectives of what constitutes a meaningful classroom experience (Clark, 2010), to help pupils talk about their experiences instead of discussing something in the abstract (Cook & Hess, 2007) and to stimulate conversations in which participants share and consider different perspectives (Kaplan, Lewis, & Mumba, 2007).

In my classroom, the school year is divided into multidisciplinary learning modules and the contents of the modules are derived from the school curriculum<sup>2</sup> that is based on the national core curriculum for basic education (Finnish National Board of Education, 2014). Apart from the modules I have not abandoned school subjects, and they still exist in my classroom. This can be seen as one way of seeing the approach to curriculum development in this study: I am critical of an extreme interpretation of phenomenon-based learning which abandons school subjects, but I see the importance of combining subjects.

During the period of this study, two multidisciplinary learning modules were in place. The multidisciplinary module called Europe lasts for the whole school year. When this data collection took place, the pupils were searching for information about the climate of Europe and used that information in their own research work. Music and social studies created another multidisciplinary module. In that module, the pupils first searched for information about

---

<sup>2</sup> From August 2016, each pupil must be provided with the opportunity to join at least one multidisciplinary learning module per school year, while at the same time, the teacher has to ensure that the requirements of the subject-based curriculum are met (Finnish National Board of Education, 2014).

children's rights and got to know the United Nations Convention on the Rights of the Child. Afterwards they composed songs and wrote lyrics. During the data collection, the Finnish language was used in both modules (searching for knowledge, writing song lyrics and creating a PowerPoint presentation). Mathematics (multiplying) and physical education (outdoor sports) were taught as separate school subjects.

As always, starting from the beginning of the school year I took photographs during lessons. After the autumn vacation, I uploaded the photos ( $n=136$ ) to the school's intranet and the pupils had access to the photos. Then, the pupils and I talked about how they could reflect their learning experiences by making a visual artefact from pictures with the help of an iPad. The pupils in my previous studies conducted diamond ranking and they were aware of placing pictures in a diamond formation according their experiences (see Niemi et al., 2018). The original diamond ranking, created by the British team, involves a subset of nine photographs. The participants, working in pairs or threes, cut out these pictures and stuck them onto a piece of paper in a diamond shape, ranking them by position so that the preferred picture is at the top and the most disliked is at the bottom. The participants also annotate the diamond with comments and explanations of their ranking (e.g. Clark, 2012; Clark, Laing, Tiplady, & Woolner, 2013; Woolner, Clark, Laing, Thomas, & Tiplady, 2012, 2014).

In the study that took place in spring 2018, I had already developed a diamond ranking method suitable for digital devices. In that study, the pupils created digital picture books from their experiences with an iPad and Book Creator. In the data collection, they placed, in the first spread, 1–5 photos that described the most positive experiences, in the second spread, they placed 1–5 photos of their experiences of medium significance, and in the third spread, they placed 1–5 photos of the practices that needed improvement (Niemi & Kiilakoski, 2019).

This data collection started by discussing our previous experiences of diamond ranking and the picture book activity. Then, I discussed with the pupils the applications they would prefer to use. According the pupils' suggestions, I wrote the names of the applications on a chalk board and the pupils were allowed to use those or other applications they found through the iPad. The only condition was that they kept on expressing the most positive experiences, the mediocre experiences and the experiences that needed some improvement. The pupils were also supposed to give me advice about how to improve these practices. I also hoped they could use an application that would make it possible for them to interview themselves, but that was not necessary.



The meaning of self-interview was that pupils' record the reasons for their choices. It is almost impossible for a teacher to carry out normal interviews during the school day, because they cannot leave the classroom unattended in order to interview pupils about lessons. New digital devices and applications give pupils an opportunity to interview themselves and a teacher can then listen to these interviews after the lesson. Also, the meaning of self-interviews was to reduce the power relations that a teacher always have with pupils. When pupils recorded their self-interviews when I was not present, I did not influence them by my facial, or any other subconscious expressions.

The pupils ended up using three applications to express their experiences i.e. Book Creator ( $n=20$ ), iMovie ( $n=3$ ) and PowerPoint ( $n=2$ ). It took 90 minutes to finish the books, but due to self-interviewing and the lack of quiet spaces, it took an additional 45 minutes (one lesson) to finish the self-interviews. However, all data were collected as part of the normal school day and all the activities were something that could fulfil the goals of the curriculum.

### **Approach to ethics in this research**

In pedagogical action research, ethical questions must be dealt with carefully (Niemi, 2018). When visual and narrative methodologies are used, researchers need to be particularly sensitive to ethical concerns (Bold, 2012; Mannay, 2016), not to mention when the digital data aspect is involved (Brydon-Miller, 2012; Savin-Baden & Tombs, 2017, p. 121). First, the ethical standard of responsibility, meaning the special trust that the teacher-researcher must exercise with children and their parents while investigating issues in the classroom (Zeni, 2013), has to be the starting point of the study. In this study I sought permission from the pupils to join the study. In seeking permission, I clarified how pupils could withdraw from the research at any time without penalty (see also Roberts, 2008). I also clarified that none of the pictures would be published without asking for separate permission from those pupils and parents whose child was to be seen in the pictures. I also presented the results to the parents when meeting them in January 2019 during assessment discussions about their child. In this study, the pupils knew that the pictures I took during lessons were to be used as research data. The pupils had the right to withdraw from the pictures or to ask the teacher-researcher to remove a picture from a specific moment.

Mohr (2001) has noted that a teacher-researcher is first a teacher responsible to the students, administrators, parents and the community. Therefore, I paid careful attention to ensure that the data collection did not cause extra

work for the pupils and that it supported the goals set out in the curriculum. The basic requirement was that all pupils could have been able to join in the activities, but I had only used the data for which permission had been granted. In pedagogical action research, it is also important that data collection does not entail extra expense, thus the schools provided the equipment used in this study (Niemi, 2018).

It is also stated that in action research, researchers must consider the social and environmental impact of their work. How could they maximise their ability to use our work to foster positive change in our communities (Brydon-Miller, 2012; Stevens, Brydon-Miller, & Raider-Roth, 2016)? In this study, it is also fair to ask how I could ensure that my study would not lead to bullying or any harm to the pupils when using their photographs. In this study, I took the photographs. All the work we did with them was in the classroom and the pupils did not have a chance to 'share' the photographs on social media platforms. When taking pictures of lessons, I have always sought to ensure that there are no funny faces or something else in the photos that might put a pupil into a position that might harm her/him. These ethical problems always exist when using photographs. That is something that should not be denied (see also Savin-Baden & Tombs, 2017, p. 137).

### **Methodology and the data analysis used in this study**

This study is pedagogical action research that seeks to gain information about pupils' perspectives of classroom practices from the didactic relations point of view. It is participatory by nature; its goal is to work with pupils and see them as co-researchers (Niemi, Heikkinen, & Kannas, 2010; Niemi et al., 2015a, 2015b, 2018; Niemi et al., 2015). In this study, I used visual artefacts (PowerPoint presentations, picture books and iMovies) and self-interviews as tools to listen to the pupils' perspectives. The creation of visual artefacts was used as a thinking skill tool, and they were valued for extracting constructs and facilitating talk. In this study, the purpose of the visual artefacts was to facilitate the pupils' perspectives that I wanted to capture through self-interviews. Self-interviews can also be considered to be a validation tool because the meanings behind the pupils' choices in photo-elicitation sometimes carry a quite different meaning from the one expected at the outset (e.g. Niemi et al., 2015).

Because of two previous data collections in this same classroom, I have a strong pre-understanding of my pupils' perspectives. The most appreciated practices relate to their positive experiences of competence, social relatedness to others and a sense of autonomy, whilst highly structured tasks and problems

in social relatedness and feeling competence cause negative experiences (Niemi & Kiilakoski, 2019; Niemi et al., 2018). Thus, in this study I focused on the pupils' expressions and how these were related to didactic relations. This can be seen as a form of discourse analysis (e.g. Wodak & Meyer, 2009) in which I try to analyse and understand the relationship between pupils' meaningful experiences and teachers' didactic relationship. In the results section, I also describe how this understanding relates to the approaches to pupils' agency and practical theories.

## Results

In this research, both the positive and the negative expressions that related to subject didactics were connected to the traditional classification of didactics: what to study, how to study and what is the purpose of study (Kansanen, 1999; Kansanen & Meri, 1999). In the interviews, the most common aspect in the pupils' perspectives related to the question of what to study. In the artefacts, the pupils expressed these wishes as follows:

I chose this picture as the most positive experience, because it was so interesting to listen to a researcher from the Finnish meteorological institute who explained and demonstrated how thunder and lightning develop.

I became so interested in thunder and lightning after the researcher had visited us.

I like physical education, but I prefer gymnastics. I hope we will have more gymnastics in the future.

I chose this picture [a picture from a football lesson], because I want to explain that I would like to have more dance and gymnastics in physical education. I especially hope we have modern dance.

Many pupils had considered the researcher's visit as one of the most positive experiences. The visit was implemented through a lecture. In the lecture the researcher showed videos and explained how thunder develops. The pupils also had the opportunity to ask questions. Even though the methods of that visit did not require active participation which I had considered important in my previous studies (Niemi et al., 2015a, 2015b; Niemi et al., 2015), the visit was highly appreciated by the pupils. My interpretation is that this topic fascinated them and many of the pupils considered it to be both important and motivating. From my perspective this result also supports the importance of pupils' participation in a didactic sense. Even though the curriculum creates the framework for the contents, by understanding the learners' interests, teachers can structure

lessons that support the pupils' interests. Based on these data, I decided to organise a gymnastics lesson in the nearest sports hall to our school. I also asked those pupils who wished to do modern dance to organise a brief lesson for those interested.

In this study, the pupils' perspectives that related to a question 'How to study?' were expressed as follows:

I liked practicing the phoneme /ŋ/ because we could do our own ads where we used the phoneme.

I really liked it when we studied lines and the crossing of the lines with the help of skipping ropes. I hope we will have more maths lessons like this.

I didn't like those lessons a lot when we were working with the first graders. They were planned so that basically only the first graders were able to talk. My suggestion is to plan future lessons so that everyone can join in.

I didn't like that lesson when we were creating those vacuum cleaners, because I was not able to try that myself.

In this study, the pupils' perspectives that related to a question 'How to study?' supported my previous research findings. The most appreciated practices required active participation and they related to their positive experiences of competence, social relatedness to others and a sense of autonomy, whilst highly structured tasks and problems in social relatedness and feeling competence cause negative experiences (Niemi & Kiilakoski, 2019; Niemi et al., 2018).

In the data, there were a few examples of the third didactic perspective 'To what purpose do we study?' In those situations, the pupils had not seen the meaning of the practice in terms of the bigger goal and/or the practice had seemed meaningless. The pupils had expressed these experiences as follows:

I felt that making a vacuum cleaner from a balloon was a waste of time. We could have used that time to do something more meaningful.

I didn't like to study children's rights. ... [a brief quiet moment in a self-interview]. Composing a song was nice, though.

In these data, there were also plenty of interviews in which a pupil had expressed his / her choices as "I chose this photo, because I liked this activity" and they did not give any deeper explanation why they liked it. On the other hand, when they brought up perspectives they wanted to improve, they were more able to argue for their wishes and give reasons for their suggestion. I may have caused that imbalance because when talking about making the artefact with the pupils, I had emphasised the importance of giving me suggestions

about how to improve my teaching and I had not emphasised the importance of also arguing the choices related to positive perspectives.

It was also obvious that when the pupils interviewed themselves, they argued less for their choices than when I had interviewed them. In the data I collected earlier, each interview lasted for five to ten minutes, now they lasted approximately two minutes. The benefit of self-interviews was that we were able to do all the actions in normal lessons. This data collection gave me a new idea about how to undertake this activity next time: we will create interview questions and the pupils can do self-interviews according to these questions.

When I look at the results from the point of view of Herbart's didactical triangle, all the expressions relate to didactic relationships: firstly, to a relation between the student and the content and secondly to a teachers' relation to the relation between the student and the content by choosing from a range of teaching methods (Kansanen, 2003; Kansanen & Meri, 1999). I think that all previous examples are connected to the approach to the pupils' agency (Niemi, 2018). The methods that I used allowed me to gain knowledge from my pupils' experiences and helped me to understand how they perceive this didactic relation and join them in the process of developing that relation better. I also want to emphasise how the pupils' ideas and suggestions relate to everyday actions and questions and I am happy to carry out these ideas. For example, results from this study have shown that pupils wish to have more drama lessons, so I have already promised my pupils that in the coming semester, I will include more drama methods in my teaching.

These results should also be looked at with the question 'What is missing?' There were basically no expressions in the pedagogical relation data that would describe the relation between the pupils and the teachers. In only two interviews did pupils mention that "I chose this picture because I liked this student teacher." There were no single comments about me or other student teachers. On the other hand, there were no differences in the criticism directed either to me about the methods I have used or the methods the student teachers had used. However, in the examples I have chosen to use, those negative experiences related to my own lessons were absent in situations where no other teachers were present. My interpretation is that the results show how these methods also make the pedagogical relation more democratic, that is, something that Kansanen and Meri (1999) proposed.

In five approaches to pedagogical action research (Niemi, 2018), I clarified how teachers use practical theory as a framework for their everyday work. It also creates a mirror for teachers' reflections about their teaching (He & Levin, 2008; Stenberg, Karlsson, Pitkäniemi, & Maaranen, 2014). Teachers' practical

theory means teachers' practical knowledge (i.e. managing a classroom, motivating pupils, accomplishing curriculum, conducting assessment, optimising conditions for learning and designing learning environments) and their personal beliefs, values and understandings guide their pedagogical actions in a classroom (Stenberg et al., 2014).

For me, this data collection opened new perspectives both from my pupils and from didactics. It also made me think about new directions for examining pupils' experiences of pedagogical relations and let me think about new research initiatives for the future.

## Conclusions

In this paper I have answered the question: How can pedagogical action research be used as a methodology for capturing pupils' perceptions of didactic relations? I started by discussing how pedagogical action research is connected to Herbart's didactic triangle. Then I described how is the data collection related to the approach to narrativity and curriculum development. In this paper I have brought up ethical issues related to this study (approach to ethics) and in the results, I concluded how the process supported both the approach to pupils' agency and the approach to practical theories (Niemi, 2018).

The data for this paper were based on 136 pictures and 25 visual and audio artefacts (20 picture books, three iMovie videos and two PowerPoint presentations) that my fourth graders created with the help of iPads. In this study, the data creation took a maximum of three 45 minute lessons. The data creation process itself was an easy task for the pupils and it supported pupils' agency, because they were able to choose the number of pictures and the application they wanted to use. In this way, this study launches new ideas about how digital methods can be used to examine pupils' perspectives, or children in general. The method worked in launching pupils' perspectives of didactic relation defined by Kansanen and Meri (1999) and Kansanen (2003): what to study, how to study and what purpose to study for. The method, however, failed to reveal pupils' perspectives of pedagogical relation between the pupils and the teachers. The other problem of the method is related to the shortness of the self-interviews, but these aspects brought new ideas for the next data collection and in this way, this study follows the idea of action research as an ongoing cycle (Carr & Kemmis, 1986).

When looking at the results of this study with a critical eye, one could easily say that the analysis of pupils' perspectives is superficial. I agree that this is a weakness of this study and this methodology. When pupils produce

data, it is always surprising. That is why this methodology cannot be used in creating generalisations. However, this methodology provides important contextual information that can help the agents to develop local practices that maximise their ability to foster positive changes in their communities (Brydon-Miller, 2012; Stevens *et al.*, 2016). I also believe that the methods described in this paper can be implemented in practice by examining questions related to subject didactics.

I have sometimes been asked why teachers should use these methods to listen to pupils' voices and should that not be considered to be self-evident? I understand this criticism. That is how things should be. In my classroom, every day I try to support my pupils in bringing out their ideas. Still, I claim, that in a classroom of 25 pupils, there will always be some who have good ideas, but they do not want to express them in front of an audience. In terms of supporting every pupil's right to be heard, to learn democracy and experience agency, I have come to see these methods as tools to give each pupil an equal opportunity to be heard and to increase social equity in the classroom. We still need more studies in other contexts to know how these methods work in these contexts. I hope this small-scale study supports other teachers in other contexts to use these methods as well as producing information about how these methods worked.

## References

- Bold, C. (2012). *Using narrative in research*. London: SAGE Publications.
- Brown, R., & Renshaw, P. (2006). Positioning students as actors and authors: A chronotopic analysis of collaborative learning activities. *Mind, Culture and Activity*, 13(3), 247–259. [https://doi.org/10.1207/s15327884mca1303\\_6](https://doi.org/10.1207/s15327884mca1303_6)
- Brydon-Miller, M. (2012). Addressing the ethical challenges of community-based research. *Teaching Ethics*, 12(2), 157–162. <https://doi.org/10.5840/tej201212223>
- Brydon-Miller, M., & Maguire, P. (2009). Participatory action research: Contributions to the development of practitioner inquiry in education. *Educational Action Research*, 17(1), 79–93. <https://doi.org/10.1080/09650790802667469>
- Carr, W., & Kemmis, S. (1986). *Becoming critical: Education, knowledge and action research*. London: Falmer.
- Clark, A. (2010). Young children as protagonists and the role of participatory, visual methods in engaging multiple perspectives. *American Journal of Community Psychology*, 46(1–2), 115–123. <https://doi.org/10.1007/s10464-010-9332-y>
- Clark, J. (2012). Using diamond ranking as visual cues to engage young people in the research process. *Qualitative Research Journal*, 12(2), 222–237. <https://doi.org/10.1108/14439881211248365>

- Clark, J., Laing, K., Tiplady, L., & Woolner, P. (2013). *Making connections: Theory and practice of using visual methods to aid participation in research*. Newcastle upon Tyne: Research Centre for Learning and Teaching, Newcastle University.
- Cook, T., & Hess, E. (2007). What the camera sees and from whose perspective. Fun methodologies for engaging children enlightening adults. *Childhood*, 14(1), 29–45. <https://doi.org/10.1177%2F0907568207068562>
- Edwards, D., & D'Arcy, C. (2004). Relational agency and disposition in sociocultural learning to teach. *Educational Review*, 56(2), 147–155. <https://doi.org/10.1080/0031910410001693236>
- Emirbayer, M., & Mische, A. (1998). What is agency? *American Journal of Sociology*, 103(4), 962–1023. <https://doi.org/10.1086/231294>
- Finnish National Board of Education (2014). *Perusopetuksen opetussuunnitelman perusteet 2014*. Retrieved from <https://www.oph.fi/fi/koulutus-ja-tutkinnot/perusopetuksen-opetussuunnitelmien-perusteet>.
- Greeno, J. G. (2006). Authoritative, accountable positioning and connected, general knowing: Progressive themes in understanding transfer. *Journal of Learning Sciences*, 15(4), 537–547. [https://doi.org/10.1207/s15327809jls1504\\_4](https://doi.org/10.1207/s15327809jls1504_4)
- Hamilton, D. (1999). The pedagogic paradox (or why no didactics in England?). *Pedagogy, Culture and Society*, 7(1), 135–152. <https://doi.org/10.1080/14681369900200048>
- He, Y., & Levin, B. B. (2008). Match or mismatch: How congruent are the beliefs of teacher candidates, teacher educators, and cooperating teachers? *Teacher Education Quarterly*, 35(4), 37–55.
- Heikkinen, H. L. T., Huttunen, R., & Syrjälä, L. (2007). Action research as narrative: Five principles for validation. *Educational Action Research*, 15(1), 5–19. <https://doi.org/10.1080/09650790601150709>
- Kansanen, P. (1999). The *Deutsche Didaktik* and the American research on teaching. In B. Hudson, F. Buchberger, P. Kansanen, & H. Seel (Eds.), *Didaktik/Fachdidaktik as Science(-s) of the Teaching Profession*. *TNTEE Publications*, 2(1), 21–35.
- Kansanen, P. (2003). Studying – the realistic bridge between instruction and learning. An attempt to a conceptual whole of the teaching-studying-learning process. *Educational Studies*, 29(2–3), 221–232. <https://doi.org/10.1080/03055690303279>
- Kansanen, P. (2009). Onko ainedidaktiikka koulupedagogiikkaa? In A. Kallioniemi (toim.), *Uudistuva ja kehittyvä ainedidaktiikka. Ainedidaktinen symposiumi 8.2.2008 Helsingissä. Osa 1* (ss. 19–32). Soveltavan kasvatustieteen laitoksen tutkimuksia 298. Helsinki: Helsingin yliopisto.
- Kansanen, P., & Meri, M. (1999). The didactic relation in the teaching-studying-learning process. In B. Hudson, F. Buchberger, P. Kansanen, & H. Seel (Eds.), *Didaktik/Fachdidaktik as Science(-s) of the Teaching Profession*. *TNTEE Publications*, 2(1), 107–116.
- Kaplan, I., Lewis, I., & Mumba, P. (2007). Picturing global educational inclusion? Looking and thinking across students' photographs from the UK, Zambia and Indonesia. *Journal of Research in Special Educational Needs*, 7(1), 23–35. <https://doi.org/10.1111/j.1471-3802.2007.00078.x>
- Kemmis, S. (2006). Participatory action research and the public sphere. *Educational Action Research*, 14(4), 459–476. <https://doi.org/10.1080/09650790600975593>



- Klette, K. (2007). Trends in research on teaching and learning in schools: Didactics meets classroom studies. *European Educational Research Journal*, 6(2), 147–160. <https://doi.org/10.2304/eerj.2007.6.2.147>
- Loughran, J. (2002). Researching teaching for understanding. In J. Loughran (Ed.), *Researching teaching: Methodologies and practices for understanding pedagogy* (pp. 1–9). London: Routledge.
- Lytle, S. L., Portnoy, D., Waff, D., & Buckley, M. (2009). Teacher research in urban Philadelphia: Twenty years working within, against, and beyond the system. *Educational Action Research*, 17(1), 23–42. <https://doi.org/10.1080/09650790802667428>
- Mannay, D. (2016). *Visual, narrative and creative research methods: Application, reflection and ethics*. New York: Routledge.
- Mohr, M. M. (2001). Deafting ethical guidelines for teacher research in schools. In J. Zeni (Ed.), *Ethical issue in practitioner research* (pp. 3–12). Dordrecht: Kluwer.
- Niemi, R. (2018). Five approaches to pedagogical action research. *Educational Action Research*. <https://doi.org/10.1080/09650792.2018.1528876>
- Niemi, R., Heikkinen, H. L. T., & Kannas, L. (2010). Polyphony in the classroom: Reporting narrative action research reflexively. *Educational Action Research*, 18(2), 137–149. <https://doi.org/10.1080/09650791003740485>
- Niemi, R., & Kiilakoski, T. (2019). "I learned to cooperate with my friends and there were no quarrels": Pupils' experiences of participation in a multidisciplinary learning module. *Scandinavian Journal of Educational Research*. <https://doi.org/10.1080/00313831.2019.1639817>
- Niemi, R., Kumpulainen, K., & Lipponen, L. (2015a). Pupils as active participants: Diamond ranking as a tool to investigate pupils' experiences of classroom practices. *European Educational Research Journal*, 14(2), 138–150. <https://doi.org/10.1177/1474904115571797>
- Niemi, R., Kumpulainen, K., & Lipponen, L. (2015b). Pupils' documentation enlightening teachers' practical theory and pedagogical actions. *Educational Action Research*, 23(4), 599–614. <https://doi.org/10.1080/09650792.2014.942334>
- Niemi, R., Kumpulainen, K., & Lipponen, L. (2018). The use of a diamond ranking and peer interviews to capture pupils' perspectives. *Improving Schools*, 21(3), 240–254. <https://doi.org/10.1177/1365480218774604>
- Niemi, R., Kumpulainen, K., Lipponen, L., & Hilppö, J. (2015). Pupils' perspectives on the lived pedagogy of the classroom. *Education 3-13*, 43(6), 683–699. <https://doi.org/10.1080/03004279.2013.859716>
- Nind, M., Curtin, A., & Hall, K. (2018). *Research methods for pedagogy*. London: Bloomsbury.
- Nordkvelle, Y. T. (2003). Didactics: From classical rethoric to kitchen-Latin. *Pedagogy, Culture & Society*, 11(3), 315–330. <https://doi.org/10.1080/14681360300200177>
- Pithouse, K., Mitchell, C., & Weber, S. (2009). Self-study in teaching and teacher development: A call to action. *Educational Action Research*, 17(1), 43–62. <https://doi.org/10.1080/09650790802667444>
- Roberts, H. (2008). Listening to children: And hearing them. In P. M. Christensen & A. James (Eds.), *Research with children: Perspectives and practices* (pp. 260–275). Oxon: Routledge.

- Rudduck, J., & Hopkins, D. (1985). *Research as a basics for teaching*. Oxford: Heinemann.
- Savin-Baden, M., & Tombs, G. (2017). *Research methods for education in the digital age*. London: Bloomburly.
- Stenberg, K., Karlsson, L., Pitkänieni, H., & Maaranen, K. (2014). Beginning student teachers' teacher identities based on their practical theories. *European Journal of Teacher Education*, 37(2), 204–219.  
<https://doi.org/10.1080/02619768.2014.882309>
- Stevens, D. M., Brydon-Miller, M., & Raider-Roth, M. (2016). Structured ethical reflection in practitioner inquiry: Theory, pedagogy, and practice. *The Educational Forum*, 80(4), 430–443. <https://doi.org/10.1080/00131725.2016.1206160>
- Zeni, J. (2013). Ethics and the 'Personal' in action research. In S. E. Noffke & B. Somekh (Eds.), *The SAGE handbook of educational action research* (pp. 254–266). London: SAGE Publications. <https://dx.doi.org/10.4135/9780857021021.n24>
- Taber, K. S. (2013). *Classroom-based research and evidence-based practice: An introduction*. London: Sage.
- Waring, M., & Evans, C. (2015). *Understanding pedagogy: Developing a critical approach to teaching and learning*. London: Routledge.
- Wodak, R., & Meyer, M. (2009). Critical discourse analysis: History, agenda, theory and methodology. In R. Wodak & M. Meyer (Eds.), *Methods of critical discourse analysis* (2nd ed., pp. 1–33). London: Sage.
- Woolner, P., Clark, J., Laing, K., Thomas, U., & Tiplady, L. (2012). Changing spaces: Preparing students and teachers for a new learning environment. *Children, Youth and Environments*, 22(1), 52–74. <https://doi.org/10.7721/chilyoutenvi.22.1.0052>
- Woolner, P., Clark, J., Laing, K., Thomas, U., & Tiplady, L. (2014). A school tries to change: How leaders and teachers understand changes to space and practices in a UK secondary school. *Improving Schools*, 17(2), 148–162.  
<https://doi.org/10.1177/1365480214537931>