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Dimensions of student participation: participatory action research in a teacher education context

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Chapter 3

Source, respondent, or partner? Involvement of secondary school students in Participatory Action Research

“In short, this research project has helped me look for ways to encourage learning, while also opening my eyes to the benefits of student participation and student voice more broadly.”

Pre-service teacher Global Politics (Bilingual secondary school; class Year 4)

Abstract

This study addresses the nature and level of school student participation at various stages of participatory action research conducted by pre-service teachers (PSTs). PSTs' research reports were analyzed by means of the *SPinSTAR matrix*, in which four levels of student participation were distinguished: Inform, Consult, Participate and Collaborate.

Results show that student participation in PST research occurred mostly at the less intensive levels (Inform, Consult). Furthermore, they participated mostly in the preparatory stages of the research projects. However, most PSTs came to see their school students in a broader sense as worthwhile partners in an educational endeavor.

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Chapter 3 – Source, respondent, or partner? Involvement of secondary school students in Participatory Action Research

Introduction

In past decades, it became recognized that the perspective of young people has hardly played a part in the development of knowledge of their social environment. Children and young people have not been seriously listened to, consulted or otherwise involved in actions concerning themselves and have had limited influence on decision-making processes related to their own lives. More recently, initiatives to enable young people's voices have been introduced, including student voice and student participation in education (Bragg, 2010; Groundwater-Smith & Mockler, 2016; Kirby et al., 2003; Sol & Stokking, 2008). The notion that young people's views should be taken seriously has even achieved legal status by the United Nations Convention on the Rights of the Child (UN-CRC)⁹ (OHCHR, 1989). Following this, participation models and strategies have been developed (Cook-Sather, 2014; Egg, 2009; Fielding, 2011; Hart, 1992; Shier, 2001).

Student participation extends to a wide range of aspects of the design and implementation of their curriculum and educational context, and may include having an active role in researching those aspects as well. This can contribute to improvements in educational practice on a personal, school and community level, in the best interest of all stakeholders. In many countries nowadays, teacher research has become an integrated part of teaching practice and the profession. It is seen as a meaningful activity for the professional development of teachers, and also for prospective teachers, in teacher education (TEd) programs (BERA-RSA, 2014a; Meijer et al., 2013; Snow-Gerono, 2005; West, 2011; Zeichner, 2003). Teacher research, and in particular participatory action research in education, can be described as a specific case of practitioner research and an interpretative research approach, in which stakeholders research their own practice (Ponte & Smit, 2007). Although much teacher research aims to improve student learning, the voices of students themselves in this form of research are largely missing (Groundwater-Smith, 2005). One approach to including student voice in educational research and curriculum and school development is through students as co-researchers in action research. Action research aims not only to study (describe and understand) the social practice, but at the same time to improve it even though the aims and criteria by which to judge 'improvement' may vary (e.g. from technical, practical, to critical purposes; cf. Kemmis, McTaggart, et al., 2014). Central in action research, and in particular in participatory action research (PAR) is the recognition of the capacity of all people who are part of the situation under scrutiny to participate actively in the research process (Kemmis, McTaggart, et al., 2014, p. 4). In educational research, that means that students almost always are consequential stakeholders and should be involved as sources of information and as partners in research. Student participation, then, logically, should be a part of such a PAR approach in TE, and can serve both purposes well: to prepare for teacher research, and to enhance student voice in educational decision-making. In this study, PAR is seen not so much as a method, but rather as the creation of a context for knowledge development and change (Galletta & Torre, 2019; Kidd & Kral,

⁹ Additional abbreviations used in this chapter:

SPinSTAR	student participation in student-teacher action research
UN-CRC	United Nations Convention on the Rights of the Child

2005), and as a commitment to collaboration and partnership throughout the action research project (Brydon-Miller & Maguire, 2009), in which research is not done *on* but *with* the participants (Campbell & Groundwater-Smith, 2007). Furthermore, PAR implies a shift in the power structure between teacher and student from hierarchical positions in which the teacher decides about goals, content and methods, and norms and standards, to more equal positions as partners in a mutual learning process (Cook-Sather, 2006; Lefstein & Perath, 2014; Taylor & Robinson, 2009). Often, also in education, young people are taken as inadequate adults, not yet capable of sound reasoning and responsible decision-making (Quennerstedt, 2010). PAR, on the contrary, treats all stakeholders as valid and rightful participants, however with different qualities and interests. Participatory action research by students and teachers collaboratively, on educational issues of mutual interest can potentially serve multiple goals: 1) enhancing teachers' and teacher educators' awareness of and capacity for enabling student participation; 2) developing a participatory school practice by modeling democracy and citizenship in practice; 3) improving student-teacher relationships; 4) creating a rich context for teachers' professional development; 5) improving teaching practice through teacher action research in teacher education programs and schools; and 6) developing motivating and differentiated contexts for school students (cf. Bron, 2018; Gore & Zeichner, 1991; Kane & Chimwayange, 2014; Ponte, 2010; Toshalis & Nakkula, 2012; Ulvik & Riese, 2016).

Within the context of this study, a one-year postgraduate teacher education program, pre-service student teachers (PSTs) have limited space and possibilities for involving their school students in research and for enabling student voice. The aim of this paper is to gain insight into student participation in PST research, in an arrangement where PAR is incorporated in the TED program as a prescribed approach.

The following research questions guided the study:

1. How do PSTs involve school students in their action research projects about school practice?
2. At what level of student participation are school students involved in the PST action research projects, and in which stages of the research process does this occur?

Theoretical framework

Student participation

Over time and in different contexts, the involvement of young people in decision-making processes in education and research has been labeled variously, as pupil/student voice, consulting pupils, agents-of-change, students-as-researchers, co-researchers, youth participation, student participation (e.g. Bahou, 2012; Bragg, 2010; Cook-Sather, 2006; Fielding, 2001; Groundwater-Smith & Mockler, 2016; Matthews, 2017; Quicke, 2003; Rudduck & Flutter, 2000; Smit, 2013; Thomson & Gunter, 2007). Notwithstanding differences in meaning and scope, these terms share the idea that education should be based on democratic principles, and that this should extend to all stakeholders in the education process, including students. This idea is grounded on legal motives (children's rights), social motives (including citizenship education), innovation motives (students' insights for educational change), and pedagogical motives (student personal development and teacher-student relationship) (Smit, 2013). It is assumed that student participation in this sense creates a 'learning democracy' environment in school (Biesta & Lawy, 2006), and contributes to student learning. Empirical evidence for the effects

of four major types of student participation (councils, class decision making, school decision making, temporary school working groups) on personal development, academic achievement, peer interactions and student-teacher relationship, is thus far, reported as moderate (Mager & Nowak, 2012). However, Mager and Nowak's focus was on "everyday decision-making processes that take place at schools" (p. 41), not on involving students as co-researchers, and they did not include any PAR studies.

Continuing on the formulation of children's rights by the UN-CRC (OHCHR, 1989), in this study, student participation is understood as the involvement of school students in decision-making processes on educational issues that affect the school students, themselves. For the purpose of this study, the concept is specified in line with the chosen research context (the TED program): school student involvement in the PST PAR assignment, insofar as it is carried out in school.

Models of student participation

In this study, we drew on two theoretical frameworks for describing, understanding, and designing student participation in PST research. First, the model of levels of student involvement proposed by Fielding (2001); and second, a framework to describe the way students act as partners to teachers (in higher education) by Bovill (2017).

Fielding's levels of student involvement

In his seminal article in 2001, Fielding advocated, then and in his later works (Fielding, 2004, 2007, 2011, 2018), for "approaches that have different starting points and quite different dispositions and intentions" and argued "for a transformative, 'transversal' approach in which the voices of students, teachers and significant others involved in the process of education construct ways of working that are emancipatory in both process and outcome." (2001, p. 124). On the basis of research in schools over a range of years, Fielding presented a set of principles and values for student participation in research and formulated a set of questions to evaluate conditions for student voice. Fielding's work conveys the importance of valuing the perspectives and expertise of both students and teachers, positioning the learning of all stakeholders as central in the process of learning, and linking research initiatives to action and change. Drawing on the work of others on student involvement, such as the *Ladder of Participation* (Hart, 1992), Fielding (2001) suggested a four-fold conceptual model to distinguish students in different participation roles: students as data source (recipients), as active respondents (discussants), as co-researchers (co-researchers), as researchers (initiators). In the first three levels, the teacher is mainly taking the initiative and activities are teacher-led, while in the last level, the student is the initiator and activities are student-led.

Bovill's descriptive framework Students as Partners

As partnership is frequently mentioned as a fundamental principle in student voice literature (e.g., Conroy & Harcourt, 2009; Edwards-Groves et al., 2016; Fielding, 2011; Holdsworth, 2014), Bovill (2017) warns against perceiving as universally positive "... to involve all students and that all situations call for partnership" (p. 1). Within the context of higher education, she argues that among the many possible levels of participation, "meaningful partnership requires a high level of equality and contribution from partners" (p. 2), which is not always attainable or desirable. She therefore proposes a participation

matrix framework that helps consideration of which students and staff should be partners, when and in what way. The matrix unfolds along two dimensions, each with several categories:

1. level of involvement (Inform, Consult, Participate, Partnership, Control)
2. action research stage: course design, evaluation design, conduct evaluation, analysis of results, dissemination.

The first dimension resembles the four levels in Fielding's model, with a category *Control* added to be able to identify if the teacher or the students are steering the process. The second dimension allows for mapping student participation to different stages in the research process and to identify and demonstrate that the type and intensity of student participation can vary over stages. Combined, the two dimensions cover the constituent parts of PAR: a process of integrated action and research, and the participation of stakeholders in this process, including the implementation of results.

In the present study, elements of both models were adapted for examining the way student participation unfolds in participatory action research projects conducted by pre-service student teachers (PSTs) in the context of a TEd program.

Method

The present study uses a mainly qualitative approach to identify and describe how school students were involved in PSTs' research in schools. The study describes characteristics of PAR projects by PSTs in terms of school student participation in these projects. It is a study of PAR projects in which PSTs and their school students – possibly – collaborated in conducting the research, but this study is not a PAR project itself; the authors (researchers) did not take part in conducting the PAR projects at school; and neither did the PSTs and school students in the present study.

Participants and contexts

The study was conducted in the context of a one-year postgraduate teacher education program at a research university in the Netherlands. Participants were PSTs from a special track of the TEd program, that aimed to prepare them for teaching in secondary bilingual and international schools. The program was structured as concurrent institutional courses and school practicum (i.e. 1-2 days per week at University and 2-3 days per week in school), with PSTs teaching in schools during the whole year. All PSTs within this TEd program were required to complete a capstone research project, designed as PAR, in order to enhance school student involvement in educational decision-making and to enable the development of teacher-learner partnerships, in schools. Right from the start of the TEd program, PSTs were gradually introduced to the idea of teacher research and student voice in various ways: through including relevant literature on action research and on non-hierarchical roles of teachers and students (see Appendix 1); by school-based assignments aimed at finding out about school students and their needs and perspectives; by developing research plans according to a planner that required PSTs to explicate how school students would be involved in the research¹⁰; and through university seminars specifically focusing on PAR and the PSTs' research projects. PSTs developed research questions for their projects during their internship, and in consultation with university based TEs; these questions

¹⁰ E.g. by responding to the questions 'How will you pay attention to student voice and perspectives?', and 'Will you include students in data collection or analysis?'.

should be related to their own teaching practice, but not necessarily to the subject they taught, and they should be relevant for their school students as well. This could be achieved by, as recommended, involving the school students into the process of developing and formulating research questions. As usual in action research cycles, research questions could be expanded or added with the progression of the project. A requirement of the project was that PSTs include an actual try-out of a proposed change in the teaching practice. In their project reports, PSTs were required to reflect not only on the way this change had worked out for them and their school students, but also on how this had affected their professional development as a teacher.

Five teacher educators and one PAR facilitator were involved in the program. The first author was involved as instigator of the PAR approach, as informant on PAR as an approach in classroom practice, and as researcher of the PSTs' PAR projects, but not as educator, facilitator or supervisor.

All PSTs¹¹ from two consecutive study years who actually conducted a PAR project consented to participate in the present study: 18 PSTs from 2015-2016 (13 female, 5 male), and 14 PSTs from 2016-2017 (11 female, 3 male).

The PSTs conducted their PAR projects at their respective teaching practice schools, belonging to an established set of bilingual or international secondary schools in the western part of the Netherlands. At all schools, the PSTs were supervised by a subject coach and a school mentor; however, the supervision mostly concerned classroom teaching practice and did not necessarily include guidance of the research as well. Agreements between TEd institute and schools included enabling PSTs to conduct a research project in school, with their students, but schools had no formal involvement or responsibility with regard to design or implementation of the project. However, on an individual basis, some PSTs invited their school mentors or subject coaches to give feedback on plans and actions. PSTs could choose to conduct their research individually, or in pairs if they had corresponding research topics or questions and were teaching in the same school. These topics broadly covered: teaching (didactics/methods, general or school subject-specific); learning (school student learning, motivation, and engagement); content (content and language-integrated learning/bilingual issues, school subject matter); and classroom management.

Data collection

Data were collected from two iterations of the one-year TEd program: academic years 2015-2016 and 2016-2017. As part of their research assignment, PSTs were required to complete a research report to be submitted at the end of the one-year course. In their report, PSTs were asked to describe their experiences of the full action research process, from problem definition to outcomes and conclusions – sometimes including several cycles – although the report format was not fully prescribed. On average, the size of the reports, appendices not counted, lies between 5000 and 8000 words. Within the group of 32 PSTs from Cohort 1 and 2, 4 PSTs wrote a report in pairs; in total 30 PST research reports were produced. The authors/researchers were neither involved in guiding the PST projects, nor in grading them.

¹¹ In fact, 22 PSTs enrolled in Cohort 1, but 4 of them either did not start at all or stopped soon after the beginning of the program. For Cohort 2, 17 PSTs were enrolled; 2 PSTs stopped at an early stage, and 1 PST did not conduct a PAR project and did not finish the program. Those 7 PSTs were not included in the present study.

Data analysis

Qualitative data analysis was aimed at describing the PST PAR projects in general terms and at identifying the nature and level of student participation in PST PAR projects in various stages of the research process.

First, all PST PAR reports were individually analyzed, following these steps:

1. Identification of descriptive features such as research theme and research questions, and type and number of involved school students.
2. Identification and marking of all instances of research activities, either by the PST or by the school students. Within the context of this study, research activities included all cognitive and physical conduct by the PST or school students that relates to carrying out the PAR assignment, from thinking about a possible research topic and research questions and developing a research plan, to trying out new teaching and learning practices and, finally, writing up conclusions and recommendations. Furthermore, in the analysis of the research reports, research activities were not restricted to those activities that involve school students. For example, analyzing data by the PST herself, reading research literature, and consulting peer teachers with regard to the PAR project, were interpreted as research activities as well.
3. Coding of all marked instances along the dimensions *Level of student involvement* and *Action research stage*, in accordance with definitions of levels and stages (see Table 2 and Table 3) and corresponding decision rules (see Appendices 3 and 4). Project activities at various action research stages were coded in all relevant levels of student involvement, not only at the highest level of a specific stage as identified in the data.

Subsequently, single project descriptions and assigned codes were aggregated into an overall table of occurrences of student involvement (Table 4) and into a table of types of student participation at the various levels of student involvement and action research stages (Appendix 5).

For the development of the coding framework and procedure, the first two authors independently coded the research reports. Disagreements were then discussed until consensus was reached and code descriptions and coding rules were re-formulated. Finally, both researchers again independently coded one third of the data (10 reports). After cross-checking, no further disagreements occurred.

Dimension Level of student involvement

For coding the instances of research activities as one of the five levels of student involvement, definitions were used as shown in Table 2 (adapted from Bovill, 2017; Fielding, 2001, 2011, 2018). Level of involvement (or participation) pertains to the degree of active engagement of school students in pre-service teacher students action research projects and their role in the decision-making processes during or based on the research project.

Table 2. Level of student involvement

Level	Definition
None No student participation	School students themselves are neither actively nor passively involved in the PST research and information from or about them is not being used for the action research project.

Inform Data source	Use of information from or about school students (e.g. student data on progress or well-being) without further interaction (such as explanations). Also: PST informs school students, e.g. presents results to school students.
Consult Active respondent	Use of school student's explanations, views, opinions, or suggestions.
Participate Co-researcher; knowledge creator	school student is actively involved in the research process and in the creation of new knowledge (results, insights)
Collaborate Researcher; joint author; shared decisions	school student and PST jointly conduct (parts of) the research activities and both participate actively in decision-making on research activities and processes.

Dimension Action research stage

Seven action research stages, a-g, were distinguished (Table 3), in line with a usual sequence of stages in social research and educational design research. The design stages b (Intervention design) and c (Research design) were purposefully taken up as separate stages, because we anticipated to find differences in student participation for these two design purposes. In an action research approach (as well as in design research), the project typically has a cyclical character. Frequently, action research stages do not appear in the strict order as suggested in Table 3 (and as is usual in other strands of research), and they can appear more than once within a project, or as overlapping stages.

Furthermore, school students might be involved in all stages, but the nature and level of their participation can differ in subsequent cycles or phases within one project, e.g., in terms of different numbers of involved students or in different combinations or groups.

Table 3. Action research stages

Action research stage	Definition
a. Problem definition (RQs)	Exploration, development and definition of the problem and formulation of project goals and research questions.
b. Intervention design	Formulation of design criteria and development of an intervention (tool or instrument, teaching-learning method or approach, classroom or school practice, teaching-learning materials, lesson planning, etcetera).
c. Research design	Development of research steps, methods, instruments, and procedures.
d. Conduct intervention	Enactment of the intervention in classroom or school practice.
e. Data collection	Collection of existing or new data contributing to answering the research questions.
f. Analysis of results	Analysis of collected data aimed at answering the research questions, interpretation of results, and drawing conclusions in the light of theory and practice.
g. Formulation of suggestions / recommendations	Providing tips, suggestions, recommendations for designing the research or for changes in the teaching and learning practice.
h. Making public	Reporting, presenting, publishing, or disseminating of available research outcomes, results, products, conclusions, and recommendations, in any form (oral, written, visual, material, other) to teacher educators, participants, stakeholders, or others.

Matrix SPinSTAR

Based on Fielding's model of student participation and Bovill's matrix of student involvement, the matrix *Student participation in student teacher action research* (SPinSTAR; see Appendices 2-4 for further explanation and coding rules) has been designed within this study to describe and analyze school student involvement in pre-service student teacher action research as found in the specific context of this study.

The matrix *Student participation in student teacher action research* (SPinSTAR; Appendix 2) has been designed within this study to describe and analyze school student involvement in pre-service student teacher action research as found in the specific context of this study. This scope has two characteristics that determine the matrix design. First, the action research project is conducted in a one-year postgraduate setting, which allows for only a relatively short time-span for the whole research process and in particular for actually conducting the research steps (about one half-year). Second, the teacher education context requires the PST to carry out a research assignment and to conduct the research according to the TEd program's requirements and standards, for instance on research approach and time schedules. Consequently, in these respects, the matrix *SPinSTAR* deviates from Fielding's (2001) model of student participation and Bovill's (2017) matrix of student involvement.

Findings

Investigating the extent and nature of school student participation in the PST action research projects was the driver for this study; furthermore, the TEd program had been modified to enhance such participation; and also, teacher education staff guided the PSTs to plan and conduct their research with participation of their school students. Nevertheless, it remained to be seen if, within the school internship context, the PSTs would actually involve their students in any way in their research, and if so, in what manner (see RQ 1). Furthermore, we were interested in which levels of student participation would occur in the projects and if this varied along various stages of the action research process (see RQ 2).

Below, findings on the occurrence of student participation and type of student participation at various action research stages are presented along the dimension *Level of student involvement*: None (no student participation), Inform, Consult, Participate, Collaborate. In the two-dimensional format of the matrix *SPinSTAR* (see Appendix 2), Table 3 shows the number of PST PAR projects in which a research activity could be identified at a specific level of student involvement, at a specific action research stage. For instance, the number 14 in table cell *Inform/Problem definition* means that in 14 out of the total of 30 research reports at least one research activity was found that included school students as data sources in the stage of problem definition and development of research questions. The qualitative outcomes presented below, are based on Appendix 5, which is the data table of descriptive labels of the nature of the research activities. It uses the same two-dimensional format as in Table 4.

After Table 4 follows a description of, first, the four levels that actually involve school students, *Inform*, *Consult*, *Participate*, *Collaborate*; and thereafter, the non-participation level *None (no student participation)* will be addressed.

Participation of school students in the PST projects occurred in a range of types of activities and contributions. Partly, they were common to most of the action research stages, partly they were found more specifically in one of the stages.

Occurrence and type of student participation

Table 4. Occurrence of student participation in PST action research projects

Action research stage	Level of school student involvement				
	None (no student participation)	Inform (data source)	Consult (active respondent)	Participate (co-researcher; knowledge creator)	Collaborate (researcher/joint author; shared decisions)
a. Problem definition (RQs)	26 I: 20; P: 19; L: 12; S: 3	14	10	3	3
b. Intervention design	20 I: 15; P: 6; L: 12	11	14	3	8
c. Research design	24 I: 21; P: 5; L: 3	5	2	1	2
d. Conduct intervention ¹²					
e. Data collection	4 I: 1; P: 3	27	24	4	2
f. Analysis of results	29 I: 28; P: 4; L: 4	5	2	2	2
g. Formulation of suggestions / recommendations	24 I: 24	13		3	2
h. Making public	30 I: 30; P: 7			1	

n = 30

Cell frequencies stand for the number of project reports that described a research activity within the particular combination of the two dimensions, *Level of school student involvement* and *Action research stage*; cell frequency maximum = 30.

I: individual; P: peers (teacher, coach, peer PST/critical friend, supervisor); L: literature/theory; S: school/curriculum

Inform: school students as mostly passive data sources

At the most common, but least intense level of student participation, *Inform*, school students had a rather passive research role in which they only provide data, or, in a few cases, were given some information. At this level, there was an exchange of information about or from the school students (e.g., student data on progress or well-being) without further interaction with them (such as giving explanations). The typical practice was the PST using any form of school student data, either already available or newly collected, for informing the research project. Conversely, also activities in which the PST merely informed school students, provided them with data, or presented results were categorized as *Inform*. This level could be traced in many of the PST projects. Obviously, at the stage of data collection, in almost all projects school student data were collected in one form or another (27 out of 30 projects). However, also in the early phases of the PAR process, such as the definition of the problem (14 projects) and the design of the intervention to overcome the problem (11 projects), school students played a role as data sources. In contrast, in the design of the research (5 projects), and at

¹² In the context of this study, the intervention was always conducted by the PST. Therefore, this row is not used for coding the level of student involvement.

¹³ This combination of dimensions is logically impossible, because any research activity by school students that included formulating suggestions or recommendations would by definition belong to the level 'Consult' or higher.

the stages following data collection, student participation on the level of *Inform* did not occur much (Analysis of results: 5 projects; Making public: 1 project) or not at all (Formulating suggestions / recommendations: 0 projects¹⁴).

The most obvious instances of such a form of school student involvement were found when the PST research was informed by school student test scores or grades, either gathered before the project, or as part of the data collection stage. School students' work and materials, produced as part of tasks and assignments, form another category. At the *Problem definition* stage, these data sources helped the PST to identify school student's learning difficulties or problem areas in the curriculum. At later stages, such as *Intervention design* or *Research design*, they served as sources for specification of criteria for the development of approaches and lesson series to address the problem under research, and to design data collection instruments and methods that would allow for detecting the sought-after aspects of the problem and improvements in the practices due to the intervention. Furthermore, at this level of student involvement, school student questionnaires/surveys were often used as well, in the form of closed questions, such as tick boxes and Likert-scales. This type of student involvement occurred at the levels *Problem definition*, *Intervention design*, and of course *Data collection*. Not only data generated by school students themselves were used in this stage; also, the PSTs undertook class or lesson observations or made field notes of class discussions, and so doing, involved their school students as data sources.

Beside these more generic types of student involvement, found at several stages, some were specific for one stage. At the *Intervention design* stage, PST's use of findings on school students from previous research cycles, PST's assessment of interests or characteristics, and PST's explanation to school students of content, procedures, or criteria for the intervention, are examples of this. At the stage *Analysis of results* only a teacher-directed way of involving school students was reported: PST sharing results with school students. At the stage of *Making public*, students participated in the projects under study in a single form: reading the PAR report that the PST wrote. Both last named forms did neither include evaluation or feedback, nor exchange of views on the side of the school students, at least not at this level *Inform*.

Consult: school students expressing views and opinions

Activities at the level *Consult* are those in which the school students express their views and opinions, give explanations, or give suggestions. In the PST reports these activities were found mainly at the stage of data collection (24 projects), and of course also at the stage where suggestions and recommendations based on the research were formulated (11 projects). Furthermore, in quite a few projects, school students were consulted at the stage of *Problem definition* (10 projects) and *Intervention design* (14 projects) as well. Only a few projects included involvement of school students at the level *Consult* at the stages *Research design* (2 projects) or *Analysis of results* (2 projects).

The level of school student involvement *Consult* implies a more active way of participation in the research process than at the former level, although still initiated by the PST. This is clear in the type of

¹⁴ The level *Inform* at the AR stage *Formulating recommendations/suggestions* is impossible by definition. According to the coding rules for the matrix, recommendations or suggestions by school students would always be coded as either the level *Consult*, or *Participate*, or *Collaborate*.

activities and sources that were described in the PST reports. On the one hand, various oral forms of communication were reported, used by the PST to elicit school students' views, opinions, ideas and suggestions. This could take a planned and more formal character in PST-school students interviews, after-lesson reflection-and-feedback sessions, or scheduled whole group or subgroup discussions; or an informal character in casual chats or unplanned talks during lessons. On the other hand, school students were consulted via written forms of communication, such as questionnaires/surveys and evaluation and feedback forms with open questions, that allowed for self-formulated answers or remarks. Also, small-scale, unobtrusive methods were applied to obtain school students responses, such as exit-tickets and post-its, and multimodal forms of graphics and words, such as in mind maps. Both, oral and written forms of student involvement at the level *Consult* were reported for most stages, except for the stages *Research design* (only oral, in one project as a meeting to negotiate partaking in a PAR research group), and *Data analysis* (oral, as an evaluative discussion between the PST and class on survey results and the PAR process).

Participate: school students actively involved as co-researchers

Activities in which school students are actively involved in the research process and in the creation of new knowledge, for instance by participating in generating findings or new insights, are conceived as the level *Participate*. This type of activities did occur at all action research stages, but only in a small minority of the PST projects (1-4 projects; see Table 4).

The more intense character of the level *Participate* is reflected in the type and focus of activities described in the project reports. Outstanding is the occurrence of research groups (as subgroups of selected school students to assist the PST in the PAR process) and cooperative developing of ideas, plans and procedures, or producing insights to stimulate the research progress. However, at this level, decisions about such steps were taken by the PST. Participatory types of activities occurred at all stages. Brainstorms and try-outs/pilots typically at the stages *Problem definition* and *Intervention design*; school student-led activities in some projects at the stages *Data collection* (student-led discussions; student-conducted observations), *Data analysis* (student-led interpretations of results), and *Making public* (school students presentation of findings to their classmates).

Collaborate: schools students and PST as research partners

In this study, the level *Collaborate* is the most intense level of school student participation in PST research projects; at this level, school students and the PST jointly conduct (parts of) the research activities and both participate actively in decision-making on research activities and processes. Distinctive for this stage is that school students are involved in jointly deciding on a course of action, either at stages preparatory to the conduct of the intervention, or at following stages in which data are collected and analyzed, and recommendations are formulated. Even though activities at the level *Collaborate* are hardly found in the PST projects, when they did occur, they appeared at almost all stages (2-8 projects); and among those, mostly at the stage *Intervention design* (8 projects). Only at the final stage, *Making public*, no school student involvement occurred at the level *Collaborate*.

At the initial stage of an action research cycle, activities at the level *Collaborate* occurred in the form of class or research team discussions to decide on which problems to address or what research questions to formulate. At later stages, joint PST-school students sessions occurred to agree on aspects

of the intervention like methods and strategies, and content and procedures; joint construction of research instruments; or the appointed or chosen school student-research team taking a survey among their fellow students. At the stage *Data collection*, two types of student participation were found: one joint PST-school students activity (a collaborative discussion of the results, within the research group of PST and school students); and a school students-only activity (school students created categorizations of data). Such a joint PST-school students meeting was also found at the stage *Formulating suggestions / recommendations*. Joint or independent school student activities at the stage *Making public* did not occur in any of the projects.

None (no SP): no research involvement of school students

Many of the research activities were carried out *without* actual involvement of school students. If school students themselves were neither actively nor passively involved in the PST research and information from or about them was not being used for the PST action research project, then the activity has been coded as *None (no student participation)*. The activities without student participation were traced at all action research stages, and in all, or in almost all, projects. Most strikingly this was the case at the stage, *Making public* (all 30 projects), although, as described above, 2 out of the 30 projects included an activity in which school students did have a role in making research findings public, respectively at level *Inform*, *Consult*, and *Participate*. The stage *Data collection* stands out here by the low number of projects with activities in the category *None* (4 projects).

When school students were not involved in any way, the type of activities that PSTs performed was distinguished as (see Appendix 5, column *None/no student participation*): *Individual* (PST by herself/himself); *Peers* (others at school: peer teachers, subject coach, school mentor; or at the TEd institute: peer PSTs (mostly as critical friends), supervisor, facilitator); *Literature/theory* (educational research; didactics and school subject literature); *School/curriculum* (school practices, national education policy). Most reported individual forms were: PST own experiences in teaching or with the class; self-conducted research steps, such as fabrication of materials or instruments to be used for research purposes; independent selection of school students for interviews or research teams; decisions on research procedures; analysis of data. However, at the stage *Making public*, all PST projects appeared as an almost exclusively non-participatory activity in individually writing the PAR report. None of the projects involved schools students in actually writing or co-writing the report, not even parts of the report. It should be noted (see previous section) that in one project, school students presented some research findings to their own classmates, which is a form of making public at the level *Participate*. Dissemination of results within the school or to an audience outside school did occur as well, but not with the involvement of school students.

Conclusions and discussion

This study explored the involvement of school students in PST participatory action research projects, in particular the occurrence of the research activities in which school students played a role, at various levels of student participation and research stages. Our interest was not so much in the actual portion of the research that could be defined as student participation activities, but in the question of whether student participation *would* occur in this context of PST research, and if so, *in what form*? The object of this descriptive study is participatory action research (PAR) in the context of a teacher education

program, focusing on how PAR can be realized in school practice as student participation in PST research projects, and seen from a PST's perspective. Even though it is conceivable and potentially interesting to design a study as PAR, that is as a collaboration of school students, pre-service teacher students, teacher educators and academic researchers, this study is not PAR itself.

Results show that such school student participation did occur in all PST research projects. Considering the levels of student involvement *Inform* and *Consult* as more towards the less intensive or passive end of the level of participation dimension, and *Participate* and *Collaborate* towards the more intensive or active end, then it is observable that school student participation was found much more at the two less intensive levels. School student participation at these levels usually took the form of the PST using test scores, grades, or student work, taking surveys or having chats, or leading classroom brainstorms or discussions. These activities resemble more commonly reported practices as data-driven instruction or teaching, and formative assessment or assessment for learning. However, albeit in a minority of the PST projects, school students were involved also at the two more active levels, and were in that sense acting more as partners to the PSTs. Typical forms that were found here include students research groups or pilot groups that help the teacher in planning, setting up, or conducting the research, and teacher-students research teams that jointly decide on research questions, content and procedures, or recommendations. Activities at these intensive levels were found more at the preparatory stages (a, b) than at later stages (f, g, h). Furthermore, regardless of the level, student participation was scarcely found at the stages *Research design*, *Analysis of results*, and *Making public*.

Although the reports did not systematically contain information about the number of school students involved in the various activities, it can be inferred from the type of participation that at the more intensive levels mostly a subset of schools students and not the whole class was participating or collaborating. They would either fulfill a role as representatives of their classmates, or were invited by the PST to take part in the research project as a whole (e.g., in a research team) or in a specific activity (e.g., a focus group meeting to work out suggestions for the lessons, or a pilot group to conduct a try-out of the proposed intervention).

From the perspective of the project overarching this study, which aims at enabling, stimulating, and building forms of teacher-learner partnership in the long term, beyond that required for a research project during an internship, it can be concluded that some PST projects indeed showed activities and forms of collaboration in PST research that can be considered as initiating phases of a development in that direction. They can be considered as openings and opportunities on the *Pathway to Participation*, as Shier (2001) has coined it. Nevertheless, many of the PST projects did involve school students, but in rather distant or passive forms, in which it is not clear as well to what extent the school students were aware of their participation and their possible impact on decision-making with regard to the research process or the teaching and learning practice. Furthermore, a distinction can be made between activities through which school students partake in decision-making in, on the one hand, matters related (only) to the PST (or joint) research project, and, on the other hand, matters related to class and school practice, such as pedagogy, class climate, school rules, school environment, student representation. Both types can bring about student participation at various levels of involvement, and add to the relevance of the research questions and results for democratizing the teaching and learning

context and students' school life. However, the latter type is potentially more beneficial to the students themselves, because it would have a longer-lasting effect on learning conditions, beyond the PST research period, and might even have an impact on other teachers and school in general (cf. Groundwater-Smith & Mockler, 2016; Shier, 2001).

An explanation of the found differences in the extent to which school students were involved by their PSTs and in the form this took, cannot be drawn from data in this study. However, some factors could be assumed to influence the way student participation played out in practice. Research on development stages of PST and beginning teachers (Fuller, 1969; Louws, 2016; Watzke, 2007) suggests that teachers in early phases of their teaching career tend to focus on themselves and to approach teaching problems they encounter from their personal perspective, and not so much from a student's perspective. Furthermore, classroom management and being in control of educational and social processes is for many PSTs a major issue that consumes a large part of the PST energy and capacities. Complicating the situation by, for instance, implementing differentiated teaching and learning or by involving school students in research and decision-making, might be too much for some or many PSTs. This was well recognized in this study, but still the aim was to find out what kind of student participation could be realized under these circumstances, and also to create an experience with student participation that could serve as a starting point for beginning teachers. The personal, social, and academic qualities that a PST brings to the program, might form another cluster of influences. PSTs with some former experience in teaching situations, and with greater self-confidence in classroom settings, might be better equipped and more prepared to elicit school students' views on their teaching and to share control with them, also in designing lessons and conducting research in class. Certainly, student participation comes with a change in power dynamics between teacher and students (Cook-Sather, 2006; Taylor & Robinson, 2009). However, willingness to share responsibility for teaching and learning, and recognition of students' and teachers' expertise, does not imply, as some PSTs tend to believe, giving full control to school students (Trent, 2003). Such an interpretation, however, might jeopardize a teacher-student partnership. How PSTs define themselves as teachers and their views of academic and teacher research, on pedagogy and didactics, and even deeper, on childhood and child-adult relations, either stimulates or constrains student participation. A subject of discussion is to what extent the PSTs' and school students' activities could be labeled as PAR, in the sense of meeting criteria for participatory research with young people (Lansdown, 2005), on issues of collaboration, ethics, and knowledge generation (Groundwater-Smith et al., 2015). Informing and consulting young people runs short of participation when they are not involved in identifying the relevant questions, do not have input into the research methods, do not take on the role of researchers, but follow the agenda of the teacher, and are not engaged in discussions on results and implications (Lansdown, 2005). Clearly, these criteria were not fully met in all projects, nor at all research stages. Nonetheless, overall, PSTs adhered to principles of research with children, such as informed consent/assent, privacy and safety, and representativeness. In various cases, and at various stages, participatory and collaborative activities by school students could be identified and the research did have a real impact on their lives and their agency in school, at least in classes taught by the PST during the internship.

To conclude, it can be said that a form of student participation did occur indeed in all PST projects, but that involving school students as partners with their teachers, appeared to be a step too far for many of the PSTs in this initial teacher education context.

However, as was hoped for, most PSTs came out of the action research process with unexpected and positive experiences, which led to the insight that it is sensible and beneficial not only to involve school students in research, but to see them in a broader sense as partners in an educational endeavor. This may stimulate a PAR-oriented disposition with regard to their future teaching career.

Limitations and further research

For this study, PAR reports written by the PSTs were used as data sources. Therefore, findings are based on self-reported research activities. In that respect, data represent PSTs' perspectives on school student involvement in PST research and their account of that, and not actual practice per se. In a next study, for instance through observations in class and school, perceived and implemented practice could be compared. Also, other stakeholders' perspectives, in particular PST's school students, could be investigated, either as a descriptive study as the current study, or even as a PAR study of stakeholders at school and at the TEd institute, aimed at investigating, designing and improving participation in teaching and learning practices.

The current study was confined to the period the PST followed the one-year TEd program and conducted the research assignment. The reports were written and submitted at the end of the study year, after which the PSTs left their internship schools and the TEd program. Therefore, most reports did not contain information on planned future actions with regard to student participation, and none could report on actual continuation of a participatory teaching practice by the PST. Consequently, this study does reveal student involvement in teaching and research practices of PSTs, but not the impact of the program on the practices of beginning teachers. Subsequent studies could focus on school student participation and its impact after PST graduation by employing a cross-sectional or longitudinal approach.

Considering this specific teacher education context of this study – a bilingual/international track of a one-year teacher education program at a Dutch research university –, investigating student participation in other teacher education contexts would be a natural continuation. This could also include circumstances in which setting up the research assignment as PAR is not required by the program, but offered as an option, besides forms such as educational design research. Broadening the scope to other universities and types of TEd programs could shed light on the similarities and differences that would occur under different circumstances and with different groups of students.

Since the current study looked at research activities and school student involvement from the perspective of the PST and the TEd program, no data was specifically collected on school students' perspectives on the way they were involved and on their impact on decision-making, both actual and as preferred by them. Researching type and level of student participation at various action research stages and investigating how to enhance this in stages that showed little student involvement in this study, such as *Making public*, would inform future PST preparation on participatory research. As part of that, it might be advisable to require PSTs having their school students included as co-writers for at

least parts of the report, and as reviewers of the conclusions and recommendations, in order to further strengthen student participation. Due to the limited period for the PAR projects and small amount of weekly lessons during the internship, research training for school students was not included, but could have enhanced their participation.

Significance and implications

This study contributes to educational theory by a deeper insight in school student participation in PST action research in a teacher education context. It provides new knowledge through a more detailed description of the nature and level of student participation at various stages of the action research process. It also adds to educational research methodology through the development of the *SPinSTAR* matrix as an instrument for description and analysis of student participation practices in PST action research, and by providing examples of student participation at various action research stages.

Furthermore, some practical implications for teacher education programs can be derived from this study, mainly based on possible uses of the analytical matrix *SPinSTAR*. However, assessing the actual value and usability of *SPinSTAR* requires its application and further study and development in TED programs, preferably in diverse circumstances. Further try-outs might include the following possible settings:

- First, the matrix could be used as a tool in the TEd program to show PSTs a view on teaching and researching that is different from what most of them are used to. Such an experience would presumably lead to transformative learning (Mezirow, 2009) by the PST through the internal conflict, perturbation or constructive friction that it evokes (Bronkhorst et al., 2014; Meijer, 2014);
- Next, PSTs themselves could use the matrix for planning and mapping student participation in their research; to analyze their own PST research practice; to get ideas for student participation in PST PAR assignment; to realize that student participation can vary along the way in content and level and that(differentiated school student input at various action research stages;
- Lastly, the matrix could serve teacher educators in: (a) introducing PAR to PSTs and in enhancing the uptake of student participation in PST research; (b) offering PSTs a scaffolding tool for the PAR process; (c) equipping them such that they can keep on doing PAR on their own, can find a suitable context for such research in schools, can speak out for PAR practice before colleagues and school. (N.B.: even in adverse contexts, a PAR-project can be carried out within the teacher's own class).

In adapted form, the above implications could also be valid for postgraduate settings, e.g., by using the matrix as an instructive or analytical tool in professional development courses and in learning communities.

Teacher-student partnership cannot arise from a one-off event, but is built up over a longer period of time, in a nurturing and sustaining context. Student participation needs embedding in the wider school context, both in research settings and in domains such as educational aims, teaching approaches, and school climate. Looking at issues of teacher induction and continuous professional development, teacher leadership, and school development can yield insight into conditions that foster student involvement and gradually develop this into commonly accepted and natural participatory school

practices, or, as Shier (2001) proposes, to go from “openings, to opportunities, to obligations”, and to genuinely transform educational practice into participatory praxis.

This study shows that school student participation in pre-service teachers’ research projects and development of the teaching practice is a realistic possibility, in the sense that a dedicated teacher education program and participatory research approach can allow pre-service teachers experience various and fruitful ways of school student participation. Through these experiences, pre-service teachers can then evaluate if and how participatory and democratic principles could become an integral part of their future teaching.

