Participation in enterprises and in research: The case of innovation work*

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This article shows new facets of employee participation in the field of innovation work in enterprises, as well as in the research on this field of work. The necessity of employee participation in innovation work is demonstrated against the backdrop of new insights into innovation processes and their making. Moreover, for discovering the employees' specific action patterns in innovation work (which are primarily geared to informal action and experiential knowledge), and for developing adequate work structures for the management of innovations, co-production of knowledge and workplace design between practitioners and researchers is necessary. This participatory research process is demonstrated in its complexity using the example of 'co-operative transfer of experience' as an operational field of action, which was observed and designed in a joint research project with several partners from science and practice. In conclusion, the features and scientific quality of the presented participatory research process are described, and the possibilities and boundaries of a further approximation to principles of action research are discussed.

Key words: employee participation, innovation work, participative research design, innovation studies

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Introduction

This article throws light upon the intertwining relationship between participatory work and participatory research in the special field of innovation work. Therefore the goals, processes and methods of a research and design project are presented, in which several science partners and several practice partners together explored the specificity of innovation and innovation work. The focus lay on the employee participation necessary for coping with innovation challenges. The process of producing knowledge about innovation work was a joint and intertwined process of research and practice. A complex and reciprocal participation between researchers and practitioners took place, that extended both to the development of concepts and the development and evaluation of models for implementation. The concrete participation in a special action field is demonstrated by describing the co-production of one of the science partners and one of the practice partners in the overarching joint project.

Below, first the goals and the design of the research project are described. Then the structure and the proceeding of the project are explained by demonstrating the co-production of the several partners from science and practice. Then by highlighting the special co-production in one action field: the co-operative transfer of experience, the methodical approach to co-production is shown. Afterwards the participatory features and scientific quality of the research design are discussed, as well as the possibilities and boundaries of a further approximation to principles of action research.

1. Innovation process and innovation work: Goals of research and designing

Looking at the current state of relevant research, there is an apparent gap concerning the issue of which kind of work action is necessary to generate innovation. The research and design project described here was framed as a contribution to fill in this gap, by developing the concept of artistic, experience-based and playful innovation work (cf. Böhle, Bürgermeister, & Porschen-Hueck, 2012). The project also developed models of work correspond-

ing with this concept. These models offered solutions for actual problems that were empirically detected in the partner enterprises.

1.1 New demands for participation in innovation work

Point of departure were recent findings about limits of plannability of innovations due to the openness of innovation (cf. Rammert, 2008, p. 294; Erdmann, 1993; Wegner, 1995, p. 88; Lazonick, 2005), which is influenced by a lot of different and interdependent factors of material, social and cultural nature that cannot be safely predicted (cf. Wegner, 1995, p. 189; Mistri, 2008, p. 299). Another reason why existing systems of planning, management and control of innovation exceed their limits is the growing complexity of innovation processes, due to the parallelisation of innovation activities, innovation projects and subprojects (cf. Bürgermeister & Schambach, 2005; Brockhoff, 1999, p. 43). A third reason is that every innovation process is unique and therefore follows a specific course of its own. Thus, innovation processes have to be shaped in an individual fashion with respect to technical and organisational framework, staff, problems, barriers etc. (cf. Pavitt, 2005, p. 95; Nippa, 2007; Coopey, Keegan, & Emler, 1998, p. 279). Generally it is only partially possible to standardize innovation processes, not least because creativity can hardly be commanded, ruled and controlled in a standardized manner (Amabile & Gryskiewicz, 1989; Schuler & Görlich, 2007; Kanter, 2006). For these reasons the subjective resources of employees are required, and this has to be organised by means of participatory structures.

With respect to a comprehensive understanding of innovation, the discussion of employee driven innovation explicitly holds that innovation is not a special task of certain persons or professions but part of every employee's work in the company (cf. Hoyrup, Bonnafous-Boucher, & Hasse, 2012). Especially in small and medium-sized enterprises (SME) seeking to increase their innovative capacity, it is necessary to promote the innovation ability of all employees and make use of it, since SME usually do not and cannot maintain separate centres for innovation (Tintelnot, 1999; Ridolfo, 2005). So the question is how to promote innovation work, with the named essential features of innovation, by suitable forms of participation.

1.2 Experiential knowledge in innovation work

A broad concept of innovation must systematically refer not only to different products of innovation (such as technology, process, organisation, social relations) but also to different forms of knowledge applied by the innovation actors. Besides explicit knowledge founded upon scientific methods, experiential knowledge of employees in operative work and acquired in practice is deemed an indispensable resource of knowledge for innovation (Rüdiger & Vanini, 1998; Brodbeck, 1999; Mildenberger, 2006; Kocyba, 2000).

Experiential knowledge is for the most part implicit knowledge that cannot be transformed into explicit knowledge (Böhle, 2009; Neuweg, 1999). However, this does not rule out that implicit knowledge can be communicated. Communication of implicit knowledge needs special forms of presentation and exchange (Porschen, 2008). For making use of the resource of experiential knowledge, a participatory inclusion of all groups of employees that take part in the innovation process and its organisation is crucial. Certainly, employees often do offer work inputs based on experiential knowledge as a "silent act", but such subjective resources will not be contributed regardless of the conditions as a matter of course ("work-to-rule" will certainly lead to a failure of an innovation project). So if employees are expected to contribute their experiential knowledge generally and without un-intended side-effects like overstressing and its consequences for health (Bolte, Neumer, & Porschen, 2008), a participatory framework is needed that permits the reduction of contradictory work conditions in the organisation of the enterprise and to promote individual engagement. Opportunity structures that enable innovation actors to apply themselves to the task of producing something new within the frame of their daily work, in an autonomous and self-organised manner, with an expedient form of monitoring but without patronisation, seem to prove helpful. However, this exceeds the traditional idea of participation (see Chapter 2.2).[1] So the research project designed conceptions for a

[1] One approach is the idea of Sassenbach (2010, p. 4) to integrate employees in new enterprise structures into a "conceptual participation" for the development of innovation strategies, not only in times of crisis but generally. Participation beyond traditional management includes approved forms of traditional participation but is open for

"management of the informal", which allows for a better and more comprehensive participatory framework and enhanced opportunity structures.

Innovation work is the production of something new and hitherto unknown, transgressing the given situation and the accustomed work practice, as opposed to work that primarily consists of the application of known procedures, the production of a known result, and the warranty for these procedures and results. Innovation work has a peculiar character and can be described by artistic, experience-based and playful elements that are closely connected with the experiential knowledge mentioned above.[2] These elements address a specific personal attitude, a specific procedure and a specific definition of the situation (Böhle et al., 2012, pp. 12, 29). Like the competencies based on experiential knowledge, they are not readily amenable to formal registration, let alone to formalised reproduction. With regard to the central features of innovation (openness, complexity and uniqueness) and in order to promote innovation work with its essential elements (artistic, experience-based, playful), it was the goal of the research and design project to define and establish suitable forms of participation and of opportunity structures for experiential knowledge in the concept of a "management of the informal".[3]

2. Project structure and proceeding

2.1 New requirements for participation in the context of innovation work and in the context of scientific research on innovation work

The legal form of co-determination as a codification of social partnership is an important form of participation, but by no means sufficient for participatory job design and work structuring. Neither are decentralisation, self-

new forms of participation within the frame of innovative management strategies (Sassenbach, 2010, p. 4).

[2] An extensive description of the features of artistic, experience-based and playful innovation work would go too far in this context. For a detailed account see Böhle et al., 2012, pp. 17, 27, 79, 108, 150.

[3] This is a functional concept for better conditions of innovation work. But it also implies ethical and value orientated aspects.

responsibility and self-organisation sufficient preconditions for innovation work. In practice, enterprises increasingly use new control and management instruments with the intention to make self-responsible work actions as transparent, reproducible and checkable as possible (e. g. require documentation, performance indicators, agreements on objectives, formalised quality management procedures and co-ordination in formalised committees and meetings, cf. Bolte et al., 2008). In the same way, the principles and instruments of innovation management are geared to warrant transparency and control of innovation work. However, coping with uncertainties, which is constitutive for innovation processes, requires not only leeway for self-responsible action in general, but also the capacity for informal and situational action, which allows for the acquisition and exchange of experiential knowledge.

Research that tries to approach innovation work and to design conceptions for a "management of the informal" has to detect the overt and covert action patterns and potentials of innovation work. This implies an investigation of the concrete work experiences and a deciphering of their inherent systematics. The covert potentials for innovation work are essentially the competencies to cope with the situational demands of work and innovation processes that are subject to permanent changes. These competencies become manifest at the borders of formalized and standardized processes (see Pfeiffer, Schütt, & Wühr, 2010). They are closely related to informal structures and based on experiential knowledge, which is predominantly of an implicit nature. In order to observe and analyse such potentials and competencies, a qualitative method and a participatory form of research are indispensable. Participatory research must be geared to enable and support a co-production between research partners and practice partners. Reciprocal participation is necessary to establish mutual and, ultimately, shared understanding. The field of research and the experiences of the employees will only be accessible if a process of mutual integration, feedback and discussion between the scientists and practitioners takes place. Under this precondition, it is possible to establish a constructive form of knowledge generation and implementation by means of observation, narrative procedures and interviews with the employees as "experts of their innovation work", feedback loops, joint development

of interventions and qualitative evaluation of these interventions. The question of how this can be organised is addressed in the following.

2.2 Complex participation in a joint project: Co-production of several partners from science and practice

Both the concept of innovation work and the practical approach to create a model for a "management of the informal" were generated by joint action of two science partners (independent social science institute, state university), three enterprises from different trades (software development, engineering, production) and three education and consulting partners (private enterprises). In the government-funded (FRG, EU) research project (three year term) concepts and practical approaches were developed and designed in three different fields of action, each being worked on by one science and one practice partner: *situational project management*, *decisions within the work process* and *co-operative transfer of experience*.[4]

The results of these sub-projects found their way into several project forums. All science partners of the joint project participated in science forums to communicate about their analysis, results, and conceptual work. All project partners participated in synergy forums to communicate about the development process of the overall joint project. On the basis of the growing stock of empirical insights and the intertwining of the contributions and results from the special discussion forums, it was possible to successively elaborate an integrated concept of innovation work (a so-called empirical-theoretical conceptualisation). Thus, the results of the sub-projects were permanently integrated into an overall project context. Moreover, the consequences formulated by the science partners (on the basis of the co-production with the practice partner) were critically discussed on the level of practical intervention, which means that simultaneously an evaluation of the developed measures took place. Thus, the adequacy and sustainability of the activities

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[4] See Porschen & Maurer (2014) for a detailed account of the co-production between science and practice especially in the action field "co-operative transfer of experience" within the project "Innovation Management by Promoting the Informal: Artistic, Experience-based, Playful".

within the sub-projects were permanently critically discussed in the frame of the greater project, allowing for corrections and modifications from both science and practice partners. In addition, the co-productions in the various fields of action were evaluated by an accompanying industry working group. This associated evaluation group was made up of partners from industry and trade associations. The accounts of the sub-project results on the level of the joint project also inspired new suggestions for the practical approaches. Therefore, the concept for "management of the informal" developed in the joint project relied on an integration of the heterogeneous perspectives of science and practice. The proceeding was geared to a mutual interrelation and interconnection of theory and practice. In this way, the participatory project avoided that the practice partners became just objects of research: on the contrary, they related to each other and a relationship of trust emerged between them due to the mutual learning and feedback processes. The illustration below visualises the communication possibilities in this research and design project in a condensed presentation. The project gives an example for participation in a complex constellation, by intensely cross-linking the perspectives and creating intensive feedback loops both from science to practice and from practice to science: which can also be understood as a reflection in a common dialogue process.

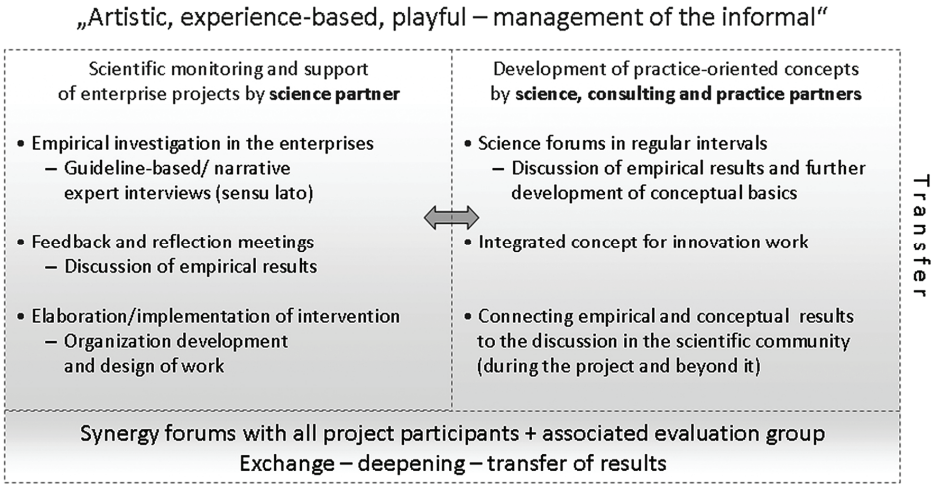

Illustration: Based upon Porschen & Maurer (2014, p. 296).

2.3 Warranting awareness of the research issue in a context of complex participation

As the participation structure was very complex and the object of research was not easy to grasp, innovative methods and new approaches to focusing were essential. Within the synergy forums that involved all project partners, the traditional form of presentation of results and discussion was used to approach the peculiarities of innovation work. However, this form was complemented by creative formats for making and exchanging experiences. For instance, co-operative making of clay sculptures enabled insights and experiences of shared production, necessity of trust and dealing with open developments. By means of free musical work, the phenomenon of improvisation was approached, and together the participants created a piece of music. So-called stocs (i.e. sticks with ends of elastic rope that can be knotted and tied to each other) were used to build churches in several "architecture teams": but without a premeditated plan or blueprint. All these training activities served to raise consciousness for situational co-operation and to reflect the practical meaning of this activity in a shared process. They amounted to a practical demonstration of the specific features of innovation work. The training activities allowed for a sensual perception of features that can hardly be communicated verbally. In effect, the common conduct of training, in combination with reflection about the question "And what has that to do with my daily work?" proved an adequate instrument to stimulate a vivid exchange and discussion process between the science and practice partners.

To deepen the depiction of the research process and the methodical approach the following chapter will focus on the sub-project *co-operative transfer of experience*.

3. Mutual participation of science and practice: Developing a concept of innovation work and an approach to co-operative transfer of experience

3.1 Co-operative transfer of experience: Accessing a field of action

For the promotion of innovation work, a model for a *co-operative transfer of experience* was developed in co-production of science and practice[5], which is explained in the following. The model is a contribution to a "management of the informal" in the perspective of generation and exchange of knowledge.[6] It draws on an "agile" approach used in project management for software development. At the core of this approach is the assumption that goals, results and procedures of innovation processes cannot be identified in advance but have to be found and determined in the course of the actual development process (see chapter 1.1).

Warranting a creative activity that is both goal-oriented and open is a vital condition for enterprises performing software development. The practice partner of the research project was interested to find and implement ways of a lean product-oriented project organisation which offers a high degree of self-responsibility, thus enabling hardware and software developers to be creative, to perform work that makes sense to them and to be proud of their creative

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5 For a detailed account of the approach of "cooperative transfer of experience", see Porschen (2012).

6 The science partner in this project was the Institute for Social Science Research in Munich (ISF München). The practice partner was an IT services company developing embedded systems for product development projects in industrial enterprises. This company regularly introduces "agile" development processes into the client enterprises. With that organisational concept the service provider brings participative, democratic and reflective elements into the organisation, as shown in the action field, which are limited according to the specific conditions in the client companies. The service provider and his employees therefore are mediators in this special field of action. We had no access to the affected employees in the client enterprise itself. So the reflection about the participatory process with the consultant, his partner and their employees is substantial but of course not complete.

performance. Such agile processes, like Scrum,[7] provide work techniques, structures, roles and methods for project management that allow for a self-organisation of teams resp. developers to the highest degree possible, with as little fixed regulation as possible ("the team should have the control over the process"). An obligatory part of these processes are regular feedback loops with the client who receives releasable part products at regular intervals. At the same time, the stage of planning is reduced to a minimum. Communication is valued as a key factor for product success, and is systematically incorporated into each stage of the process. At the end of the development process/project the workflow, positive and negative structures and other influences are reflected. Every member of the team is welcome to bring in feedback for improving the conditions.[8] (Schwaber & Beedle, 2001; Porschen, 2012, p. 125)

For the model of "co-operative transfer of experience", the specific potential of agile development to support innovation work and creative processes was investigated. The practice partner had been collecting many positive experiences with these agile processes, but also uncovered certain limits. For instance, communication is an essential feature of agile processes which is also explicitly emphasised and used, but not in connection with the issues of innovation and creativity. Therefore, a detailed consideration had to show what the usual methods and instruments of agile processes can contribute to a "management of the informal" promoting innovation work and which additions and modifications are necessary. In order to fulfil this task, the science and practice partners determined some key issues in joint meetings: Which structures are enabling an open definition of the goal, a new combination of formal and informal modes of exchange and, in particular, a support of the exchange of experiential knowledge that can hardly be verbalised? Which adequate instruments already exist, and which new ones could complement

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[7] Scrum is one of the most widerspread agile methods. The name originally refers to the game of rugby, denoting the standard situation to restart the game after an interruption. In rugby, the idea is to bring the ball into the goal. In software development, the idea is to provide software in a form that can immediately be utilized.

[8] Especially the retrospective meeting demonstrates opportunities for participation, democratization and reflection in the agile process.

them in a sensible way? These questions were further concretised to practical issues like special challenges in innovation processes, promising paths and approaches, problems caused by obstructing and de-motivating factors like co-operation barriers or power dilemmas, etc. So the idea was to detect which given structures, approaches and instruments the IT service provider finds in the client enterprises, and what he is allowed to change in the sense of an agile development process, which is typically introduced into the client enterprises, especially if critical projects are at stake. Additionally, it was necessary to find out what changes have a realistic chance to be introduced in the client enterprise: what will work, where are the limits?

3.2 Methodical approach to co-production

Understanding subjective meanings through qualitative interviews

In order to find answers to the above named questions, we (science partner) conducted interviews with actors in the IT service company. The researchers triggered narrations of usual practices, but also of the interviewees' ideals about how the work should be, and of working procedures that have not proven fruitful. The focus was invariably on what might and could be improved with respect to innovation work. The interviews were open, of a qualitative nature and guideline-based. They centred around how the IT service workers act in their work, and how they experience it, i.e. the *how* of work and the authentic perspective of the participants. Thus, the interviewees were explicitly addressed not only as professional experts but also as experts in their specific way to approach their tasks. The interviews were done in an intensive multi-level empirical phase and consisted of individual and group interviews with different partners. An essential feature of a participatory research practice is to include different perspectives upon the research object regarding the research questions. In this case, the interview partners included the owner of the company, who is also managing director as well as leader of numerous projects for client enterprises, other project leaders, software developers and a trainer and coach with business responsibility. Of course, this group reflects the sight of the implementers and not of the persons affected by the implementation. But the partner knows about stress factors and

reflects them. Last but not least this is necessary for the functionality of the development process which is organised by means of the agile process.

Developing a holistic picture within the learning partnership

Co-production of science and practice most notably means mutual learning in a shared reflection process. For this reason, mutual participation in the development of an approach for action and designing work structures can be seen as a learning partnership. Narrating and listening are the essential basis of this mutual learning process. In the first place, the open guideline-based interview, supported by adequate narration stimuli, offers incentives for the representatives of the practice partner to explicate processes and contexts that usually simply occur without being registered or considered. Moreover, the reflection triggered by the interview leads to new questions, and opens up the mind for issues that are not yet fully understood and for insights into contexts that have not been considered yet. This is true both for the interviewers and the interviewees. The interviewer has to give sufficient room for such hints in the course of the interview, he or she has to handle this in the respective situation and thus has to perform situational action. Participatory research means not sticking to the guideline in an inflexible manner, but following hints and responding to the specific interview situation. Overall, narration, listening, and mirroring serve to develop a holistic picture that neither of the partners could have painted and represented alone.

Deepening reflection

An adequate way to deepen the reflection is especially found in feedback interviews mirroring the results of the interview analysis back into the enterprise. This feedback helps to answer important questions: Do the interview partners recognise themselves, their situation, and their strategies to find solutions, in the mirror of the analysis? Maybe the mirroring even opens up a new perspective upon the interview partners' work action and procedures? The "external perspective" offered by scientific analysis may permit a new perspective upon what the interview partners regarding their colleagues actually do in daily work. On the side of the science partners, feedback

enables them to re-examine their results in the light of practical validity. Feedback interviews also serve as a first evaluation of the results of the analysis. The results thus confirmed or else modified form the basis for developing ways of practical design and implementation. In this case, this means the design of a co-operative transfer of experience.

3.3 Results in the field of action

The analysis yielded ideas which were worked upon in a shared process, and provided points of departure for potential improvement. Critical questions asked by the science partner triggered a joint consideration and reflection of both partners, on which methods and instruments of the agile development process of Scrum are adequate for which tasks, and how the approaches hitherto deemed effective could be fruitfully complemented by new ones. After having reconstructed the use of the agile approaches, instruments and tools as well as their limits in a shared process, the science and practice partners could co-operate to work upon ideas for an improvement of the meeting culture. They designed perspectives for an optimising intervention that amounted to an introduction of work-related co-operation models. In the described co-production, they found ways to put into practice open goal definitions and a dynamic experience-based planning in innovation projects. In the course of this co-operation, new requirements emerged for the monitoring of innovation work, amongst others also issues of an ethical nature. These issues required the development of special recommendations for service providers, whose job is to intervene in the organisation of client enterprises.

4. Participatory features and scientific quality of the research design

4.1 Participatory features

The presented research design implies several features which promote participation on the three levels of a) the research process, b) the developed practical work models and c) the concepts of innovation work and management of the informal. Participation is pursued as research takes its *point of departure*

in a tangible practical problem of the organisation where the investigation and design activities take place. *Different perspectives upon the research object* were included (e. g. hierarchy, task, discipline, practice, science). The research process was characterised by *mutual participation and co-production* between science and practice partners in a learning partnership, which triggered shared reflections and enabled to find new questions and get insights into unconsidered contexts. In this sense the *scientific knowledge* of the researchers was *not superior* to the practical knowledge of the partners from the enterprises. The procedure *integrated theory and practice, interrelating and interconnecting them*. An undesired distance between researchers and "research objects" could be avoided. On the contrary, science and practice partners related to each other and a *relationship of trust* emerged between them due to the *mutual learning and feedback processes*. An *innovative methodology* (making and exchanging experiences) and new options of focusing could contribute to keep the *vivid exchange and discussion* fruitful. The interview partners were explicitly addressed not only as professional experts but also as *experts of their specific way to approach their tasks*. In this way *the „how" of work action* and the authentic experience of the employees as well as the managers got into focus. During the interviews the researchers took up hints emerging in the course of the interview and followed situational insights, i.e., they tried to *be open for the field of research and the participants*. The models of intervention and the practical interventions themselves were critically discussed together by scientists and practitioners. This served as a *permanent mutual evaluation of research results.*

4.2 Scientific quality

Looking at the scientific quality of the presented research design, it may first be stated that research quality cannot be restricted to the criteria of general validity, objectivity, and autonomy of scientific research that substantially refer to fundamental research and more specifically to the paradigm of natural sciences. The participatory research design focused on investigating substantial qualities of a complex nature, thus demanding methods to grasp manifestations and differentiations that are of a qualitative nature, hence not

amenable to exact measurement. Qualitative methods are both capable and bound to systematically investigate the actual appearances of empirical phenomena, and their scientific quality has to be judged according to their adequacy to this task (Böhle, 2013). In the authors' view, following Böhle's reflection about application-oriented science (2013), the criteria of science have to be determined in each case with respect to the goals and objects of research between the poles of general validity vs. contextuality, objectivity vs. subjectivity, autonomy vs. embedding into social practice. If scientific research is intended to yield practical benefits, closeness to practice and contextuality are not deficits, but on the contrary a substantial criterion of science. Active involvement of the "research object" into the research process and the goal of influencing, shaping and changing the empirical field do not mean a loss of objectivity. They are geared to enhance the scope of scientific knowledge and potentials for action by means of closeness, relatedness and reconstruction.

4.3 On a way towards action research

The participatory features we have named, and the criteria for scientific quality we have followed in our qualitative participatory research, are close to the values and intentions of action research and its core criteria, sometimes even meeting them (cf. Fricke, 2006, p. 269). We find ourselves on a "way towards action research" we would like to go a bit further on. It is, for example, a goal to broaden the participatory aspect in our methodical approach and to establish a space for participatory exchange and dialogue in enterprises. Both actually result logically from our conceptual-empirical background of experience-based action (cf. chapter 1.2).[9] The co-production and learning

[9] The participatory research process presented here can be characterized as a specific approximation to action research, which takes into account the special conditions of enterprises as research fields. It resembles a diagnostic type of action research in that it focuses upon a specific organisational problem and develops suggestions (interventions) for problem solving. It also includes elements of a participatory type of action research in that it emphasises the acquisition of organistion-specific empirical data by active involvement of the organisation members into the process of data collection (Arens-Fischer, Duschek, Pfeiffer, Renvert, Ruping, & Valcarcel, 2010).

partnership, as it was described above, already systematically transcends mere feedback loops and exclusive, episodic discussions about single issues. However, we are far from a democratic dialogue, as is stated to be the core of action research (cf. Fricke, 2014, p. 216). The reason for not going all the way towards action research lies mainly in two crucial aspects: a pragmatic approach to research and open questions concerning the "programme" of action research (cf. Fricke, 2006, 2014).

Following "only" the described participatory approach is partially owed to a pragmatic approach to research. The decisive question always is, how far can we go in involving employees into the process of research and designing? This does not only depend on the "open-mindedness" of the management and the executive board, but also on the interests of the employees, which must not and cannot be forced into joining a process and designing change.[10] There can be several limits to a comprehensive and democratic participation in enterprises, which hinder a democratic dialogue in the first place.[11] Often organisations need first to be enabled to start a search for possibilities of a democratic dialogue. Designing the search for possibilities as a participatory process is already a substantial success.

Beyond that, from our perspective there are some open questions to the programme of action research, which are inspired by our own empirical experiences. We would like to highlight two of them, as they appear central to us.

It seems to be unclear how much "professional disclosure" is required from the different actors when entering and working in the research process. In action research the dialogue between scientists and practitioners is the "place" where new knowledge is generated, theoretical knowledge as well as practical knowledge (cf. Fricke 2014, p. 216). This is what happened in the

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[10] There are reasons why employees might have problems with participation. They can be overtaxed by the task to co-design their own work in a participatory fashion; they can even refuse to do this. This is not always a question of "false consciousness", but rather a matter of self-protection against exploitation, overcharge and extensification of work tasks, especially in the context of indirect management and control.

[11] This may also include e .g. temporally increased workload that simply leaves no time and room for additional functions and tasks.

described co-production and learning partnerships. But dialogue and discussion between those two groups of actors were not the only situations in which new knowledge emerged. New knowledge was also created by the empirical-conceptual proceeding on the part of the researchers. As described above, the proceeding and the resulting knowledge was then discussed in different forums, on different levels and between different researchers and practitioners: in this way not only producing new knowledge but also transferring new knowledge. New knowledge was also created on the side of the practitioners, e.g. through testing or observing developments induced by change in everyday work. This new knowledge was discussed in project forums as well: again not only producing new knowledge but also transferring new knowledge. The question is, does action research ignore the obvious generation of knowledge outside of a democratic dialogue between practitioners and scientists? After all, practitioners reflect and discuss in their community outside and inside the context of a research project, as well as scientists reflect and discuss in their community inside and outside the context of a research project. Both are important for deepening the reflection and so enrich co-production and a learning partnership.

A second question concerns the handling of conflicts likely to emerge in a democratic dialogue, as power constellations and corresponding organisational taboos must systematically be addressed (cf. Fricke, 2014, p. 219). Fricke calls on the personal courage of an action researcher to face these conflicts. According to him the research process should not be adjusted to established power structures in organisations. But personal courage is of little use when it is not accompanied by research ethics on the topic of how and to which extent conflicts can be bolstered and solved in dialogues in the realm of a research project limited in time and personnel resources. If a researcher initiates a process in which painful issues will be brought up, he or she has the responsibility to consider whether a certain problem can really be solved or productively worked on within the project. After the end of a research project, scientists “leave the stage”, which is something employees and managers usually do not resp. cannot do. Once disclosed but unsolved conflicts should not be left behind, as there is a risk that they might overstrain the organsation, if the organisation is not at the point of developing solutions.

All in all, considering the outlined characteristics of innovation work which call for participation (see chap. 1.1) and the growing importance of innovation and innovation work for western societies, participatory qualitative research seems to be a reasonable way of research and design in that field. And it is open to "upgrades" with respect to its democratic features.

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