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Innovatory Qualifications and Democratic Participation. Experiences and Reflexions stimulated by an Action Research Project

Werner Fricke

This paper is about an action research project which took place from 1976 – 1979 in a screw factory in Northern Germany. This is long time ago, but the action research process has developed perspectives which are very up to date thirty five years later, in German trade unions as well as in work life in general.

Within a joint learning and development endeavour 45 workers and a group of 5 researchers (3 sociologists, 1 psychologist, 1 engineer) have co-operated in a democratic participation process. We experienced action research as dialogical, devoted to democracy as a value, enhancing all participants' innovative qualifications, and very much based on joint learning and education. One of the main results is the better knowledge of preconditions for democratic participation in work life: Democratic participation needs public spaces in organisations; it needs time to develop; changes must meet participants' interests; cooperation between participants has to be as much non-hierarchical as possible (see Gustavsen's concept of democratic dialogue: Gustavsen 1992); and there has to be a lot of learning and education incorporated into the action research process.

Key words: democratic dialogue, public space in organisations, innovatory qualifications, joint learning and change, participation in practical and theoretical discourses

1. Introduction

I will in the following paragraphs 2 – 6 present some special features of our action research project on democratic participation in a screw factory. Therefore the main project phases will be presented systematically as an introduction.

The following text is about an action research project which took place from 1976 – 1979 in the precuttery department of the screw factory Peiner AG in Peine (North Germany). Main actors were 45 so called unskilled workers (men and women, Germans and foreigners: unskilled refers to the work places, not the workers); five researchers (3 sociologists, 1 psychologist, 1 engineer) from the research institute of Friedrich-Ebert-Stiftung in Bonn; members of the works council; the top manager, some middle managers and engineers of Peiner AG; the supervisor and works director of the precuttery. The project was part of the state financed action and research programme “Humanisation of Working Life“: As for each project the programme administration provided a tripartite advisory board (employers, trade union representatives, scientists); we had two excellent advisors, among them Lisl Klein from Tavistock Institute, London.

After having negotiated the conditions and frame of the project with top management and the main works council representative the action research process started with a three months phase of work analysis. The workers were asked to explain their work, to criticise their present work situation, and to spell out first suggestions to change/improve their working conditions. The leading research thesis was, that any worker, skilled or unskilled, was able and interested to participate in a process to improve his/her working conditions according to his/her interests on base of his/her innovatory qualifications.

The main stations of the process were

- six one week seminars outside the factory, devoted to elaborate the workers’ innovative ideas, to train dialogues, participation in theoretical and practical discourses, joint learning; among others a film about the project was conceptualised and realised by the workers.

- Thematic working groups (work organisation; technology; wage), meeting every two weeks at the end of a shift (one hour work time plus one hour free time). Co-operation between experts and workers, workers and researchers, joint learning
- Suggestions from these working groups were decided upon jointly by top management and works council; Workers controlled the process of implementation to make sure that their ideas and concepts were respected and implemented
- 180 suggestions resulting from this process, most of them implemented, some not
- The process lasted four years. At the end an agreement between top management and works council was negotiated, by which the conditions to continue the participative process beyond the end of the project for another three years were agreed upon.

The idea of the action research process beyond implementation of concrete change according to workers' interests was to enhance workers' innovatory qualifications, to train processes of democratic participation in a capitalist organisation and to enable participants to leave the culture of silence. The focus of the project was a series of cyclical processes combining reflection, learning and action. There was of course power ubiquitous in the organisation, but the project tried and succeeded to create spaces temporarily free of power. Workers experienced that, under certain conditions, situations might be created in which they had a voice and the chance to have their ideas implemented.

Provided by the humanisation programme, the project had at its disposal a fund which enabled us to buy time from the enterprise for the workers to participate in seminars and working groups during working time. This is certainly an exceptional condition. Nevertheless we were able to demonstrate, that participative processes could be realised (though not as intensive as during the project) under realistic conditions in a capitalist enterprise (see below chapter 4).

2. Values

My understanding and practice of action research is influenced by the European tradition of industrial democracy having its roots in Tavistock Institute (London, late 1940s and 1950s) and in the Scandinavian movement of industrial democracy, initiated by Fred Emery and Einar Thorsrud (1969).

Within this tradition action research is about values:

1. Action Research is about democracy (the second half of democracy; industrial democracy) and participation, esp. democratic participation
2. Action research is about change (social and organisational change), both as a means of knowledge production (Lewin: If you want to understand an organisation, you have to change it) and as bottom up change
3. Action research is research, in which all participating in an action research process have the chance to take part.
4. Action research is dialogical. There is no "othering business" (Eikeland 2007) in action research. All participants take part in practical as well as in theoretical discourses (Palshaugen 2006).
5. Action research is about enhancing innovative qualifications of all participating, especially those who have been living/working in the „culture of silence“ (Freire 1973). Action researchers try to create conditions which allow the suppressed (economically, socially or culturally suppressed) to articulate their interests and start living and working according to their interests

This is, though incomplete, an ideal image of action research. It were, however, the above mentioned values, which guided our action research practice from the very beginning. Like Einar Thorsrud (who was a personnel director of a Norwegian chocolate factory), we (my wife, me and my colleagues) started our first action research project in 1976 as outsiders, i.e. as social scientists who at their universities did not have the chance to learn anything about action research. There was a discussion about action research in the 1970s in Germany, but it was abstract and academic, not developed from or connected to action research practice, and it faded away in the late 1980s.

To start a presentation on action research or an action research project in Europe this way, would have been a provocation in the 1970s and until today: A normative approach is regarded to be outside academic standards of positivistic social science. We never cared for this critique, and accordingly we met heavy opposition in the 1970s in German sociological discussion.

There was also opposition from employers' associations as well as from trade unions, which I will touch upon later.

3. The case

The project started from the thesis that workers, even after decades of work under extreme stress and in unskilled jobs, are willing, interested, and competent to participate in changing their working conditions according to their interests. Source of this potential is what we called the workers' innovatory qualifications.¹

Innovatory qualifications are often unrealised (suppressed, not developed) because of different forms of opposition such as the hierarchical organisation in enterprises, the Taylorisation of work, the influence of experts, and the isolation of workers by piece work and division of labour, in one word: by the different forms of power used in organisations. The action research project demonstrates how a group of workers, in co-operation with five researchers, struggles with these obstacles to democratic participation and what the results of their efforts have been.

¹ This thesis was first developed in Fricke 1975, later it was empirically grounded on the findings of two research projects carried out in the mining and metal industries (E. and W. Fricke 1976; Fricke et al. 1976). These projects did not follow an action research logic, but confirmed that skilled workers as well as white collar workers had innovatory qualifications, which enabled them to conceptualize and take part in changing their working conditions according to their interests. When we started our action research project this was still but a thesis, because in these two preceding projects we did not engage in change processes, as was the case in the project presented here. In our action research project we did not only verify the previous thesis but we were in addition taught to extend it to all workers: Even workers in unskilled jobs (so called „unskilled workers“) possessed innovatory qualifications. It was only recently, by the way, that I realized that already Karl Liebknecht was convinced of what he called „surplus qualifications“ (Überschusskraft), which he understood as a source of creative policy enabling the cultural development of mankind in direction of solidarity (Liebknecht 1922, quoted by Peter 2010).

The action research project took place during four years in a screw factory department (precuttery) in which 45 workers, male and female, Germans and foreigners, were working, the majority of them at unskilled working places, under heavy work load, piece work, and in a very noisy surrounding. We started the process doing work place and work flow analyses throughout six weeks in an unorthodox way: We asked every worker the following three questions:

- Please explain your work to me (what are you doing?)
- What is your critique of your work/workplace?
- What would you like to change/improve?

This was our attempt to make all workers speak about their work situation and their interests to change/improve it. It was however not an easy or self understanding endeavour. Not all workers wanted to participate. One of them (Rudi Viol) said:

In this department nothing has been changed since 30 years. You (scientists, strangers) will not manage to change this.

This statement was the clearest manifestation of what we called many workers' hopelessness and resignation. After decades of work under unqualified conditions, without being respected or asked for their opinions, excluded from any kind of participation, but instead dominated by their supervisors and power structures in the company (hierarchy, piece rate wage system; division of labour) the workers had lost confidence in possibilities of change as well as in their creative power to generate change. Against this orientation of failure (*Misserfolgsorientierung*) we practiced what we called *Möglichkeitsanalyse*, i.e. we tried to identify opportunities for democratic change in a hostile environment. We wanted both: identify such opportunities of democratic change and enable workers to realise, actively develop, and use them in favour of their interests.

What was needed to develop the workers' innovatory qualifications was a long term process of interwoven learning and change, characterised by the following sequences:

- analysis of the situation

- reflection on change opportunities (including agreement on action plans for change in a situation of differing interests among different groups of workers)
- change processes
- a new round of reflection on the results obtained, followed by another round of action for change etc

Following these sequences a cyclical process of joint learning, reflection and action developed, with researchers and workers participating on equal footing. Both groups had to learn a lot. Sometimes it was effort and stress, sometimes it was great pleasure. In other words: A process of permanent learning and change emerged without being conceptualised from the very beginning; it developed from within the process, following the logic of the tasks to be solved.

The moving forces were on the one hand the innovatory qualifications of the workers, step by step increasing within the process by success and growing confidence, and on the other hand the researchers' innovatory qualifications such as

- our hypothesis about the existence of workers' innovatory qualifications including the deep interest in democratic participation
- our ability to listen
- our will to learn from and with the participating workers. Some examples for this joint learning process will be given below.

Back to the case:

After six weeks of workplace analysis on the shop floor we invited all 45 workers to a one week seminar outside the factory.² At the beginning of this

² Within the four years project we held six seminars outside the enterprise, each of them one week. This was of course a special condition for organising a broad and intensive learning process, which existed due to the state financed programme "Humanisation of Working Life". The programme enabled the project to pay the company for the production which the workers were unable to deliver during the seminars. This excep-

seminar we researchers presented in a systematic form what the workers had told us during the shop floor analyses. The participating workers turned out to have presented ideas for change and improvement in three fields, namely

- wage system (no piece rate wage any more)
- technology (we want machines with the possibility to sit) and noise reduction
- work organisation (reduction of division of labour by work enrichment; reduction of hierarchy by reducing the supervisor's control and planning functions).

The workers were highly astonished and surprised when realising from our systematic summary the great variety and wide range of their innovative ideas. This was the first step for them to regain self confidence and trust in their capacities.

The rest of the seminar was spent discussing and elaborating the change proposals. It ended up by agreeing to continue working on their ideas within three working groups, each one in the field of technology, work organisation and wage. These groups had the possibility to meet during working time, each session lasting for two hours. The group work was guided by the workers' ideas and interests; experts such as engineers and ergonomists were invited to add their expertise to the process of developing change concepts ready for implementation. These experts were obliged to be loyal to the workers' interests, which initiated many conflicts because experts and middle man-

tional condition enabled us to demonstrate the learning interest and potential of a group of "unskilled workers" and the productivity resulting from such intensive learning processes. In addition it has to be taken into account, that at that time (1970s and 1980s) there existed institutions legally and to be negotiated within German industrial relations through which findings from the project might have been transferred into normal working life, such as vocational leave (Bildungsurlaub), tariff agreements on time for participation and learning (Beteiligungszeiten) corresponding to recreation times (Erholungszeiten). These favourite conditions, however, do not exist any more. They have been abolished by employers associations in the course of market liberalisation since the late 1980s. Right after the end of the project there existed an agreement at Peiner AG to continue participative procedures (working groups, innovation fund) for three years. This was participation and democratic change under real conditions.

agement found themselves in a competitive situation with the workers' innovative ideas. These conflicts were usually solved in the workers' sense according to project rules that had been agreed upon with top management before (see below 4.3). The company's CEO had agreed to have our action research project in his enterprise because at that time he was critical about middle management's decreasing innovative activities. His idea was to test the innovative potential of the workforce instead. We, researchers, workers and the works council, were happy to use this opportunity in the workers' interests. Later the participative procedure, developed during the action research project, was codified in an agreement between works council and top management (Betriebsvereinbarung) which was valid during the first three years after the end of the project. After these three years the enterprise was sold, and the Betriebsvereinbarung was cancelled, which ended the seven years lasting participatory process in the Peiner AG.

4. The project context

4.1 Social reform coalition in the 1970s and the programme "Humanisation of Working Life"

The project was part of and financed by the state programme "Humanisation of working life", which started in 1975. This programme, conceptualized by Hans Matthöfer, federal minister of research and technology 1974 – 1978,³ and some social scientists (Willi Pöhler, Michael Schumann) was due to a special social reform coalition of those days. The early 1970s were characterized in Germany by a broad reform movement: Start of the social liberal coalition in 1972; a very successful social democratic initiative in the field of higher education (foundation of seven universities in NorthRhine-Westfalia);

³ Hans Matthöfer was, before he became Federal Minister of Research und Technology, a high rank official of the German Trade Union IG Metall, where he was head of the education department. He tried to implement a concept of non hierarchical participative and decentralised education and tariff policy (betriebsnahe Bildungs- und Tarifpolitik), but failed to get this concept accepted by the organization. He was urged to leave IG Metall, became minister of research and technology in Willy Brandts social-liberal cabinet and tried to realize some of his basic ideas within the programme „Humanization of Working Life“. For more details see Abelshauer (2009).

a series of work related legal reforms and new laws (such as Betriebsverfassungsgesetz; Arbeitssicherheitsgesetz et al.). Employers especially in metal industry had problems to find sufficient numbers of qualified workers, and those they found claimed better working conditions, especially less Tayloristic work, reduction of division of labour, no conveyer belts etc. So there emerged a reform coalition consisting of employers associations, trade unions, state administration and politics which for different reasons supported the programme. Employers were interested in state funding for work life reform, and they were willing to pay a price for it in terms of intensified co-determination and perhaps participation. It was on these grounds that the programme "Humanisation of Working Life" could be launched (for further details see Fricke 2004).

Several research groups used the opportunity to develop and practice participative processes in industry. One of them, under the lead of Eberhard Ulich from Zürich university, tried to introduce autonomous work groups following the tradition of the Scandinavian, "Industrial Democracy" programme (Emery/Thorsrud 1969). Our group was located at the research institute of Friedrich-Ebert-Stiftung, Bonn. We developed the action research project on participative democracy in industry, based on the concept of innovative qualifications, as mentioned. These were the two most prominent humanisation projects; both met resistance from trade unions as well as from employers associations, but nevertheless played a prominent role both in industrial relations and sociological discussions during the 1980s and, after a break of nearly two decades, again since about 2005.

The programme period open to participative experiments in working life did not last more than five years. In 1980 the employers presented a so called taboo catalogue, by which they reduced the scope of programme activities. State financed projects were forbidden to "stir up conflicts between management and work force" (employers' understanding of participative democracy); to open up or supplement institutions of co-determination in direction of direct participation was no longer accepted etc. From this time on "participation" in our normative understanding as democratic participation was excluded from the programme. There was some resistance by trade unions, but the employers associations, threatening to withdraw their programme

support and by that ending the tri-partite character of the programme succeeded. Two years before this conflict escalated, Hans Matthöfer changed his department, and became minister of finance in 1978.

4.2 The institutional context

I mention this programme context of our action research project, because its consequent participative character would not have been possible in Germany (a) without the humanisation programme in general and (b) in a later programme period, less open to experiments in the field of co-determination, industrial relations, and democratic participation.

Another important context element were the institutions of co-determination and industrial relations. The project took place in an enterprise belonging to the steel industry. Here we have the institutions of qualified co-determination, i.e. co-determination bodies on the board of directors (*Arbeitsdirektor*) and on the supervisory board. On factory level there were the works council and trade union representatives at shop floor level. These institutions are legally defined in Germany (*Montanmitbestimmungsgesetz 1951; Betriebsverfassungsgesetz 1972*), and so were their rights in relation to management. This structure is understood as the institutional frame of the German dual system of co-determination.

The problem with this institutional part of co-determination is its representative character. On the one hand it is trade unions' traditional source of institutional power (as opposed to sources of structural and associational power, see Dörre 2011), but on the other hand it is in danger of substituting employees' direct participation: It is the works council and the works director who act in the interests of the work force; there is but little space, if at all, for employees' direct participation in decisions on enterprise development, work organisation etc. The result: There is a distance between members and trade union representatives on shop floor and enterprise level. Workers, trade union members or not, are very often not informed about the daily practice of works councils or works director; many of them feel lost, and do not trust their representative bodies to have sufficient influence on promoting their interests.

Besides our participative and democratic impetus it was one of our intentions to develop a process of direct workers' participation supplementing (not contradicting) the institutional part of co-determination. The central executive board of IG Metall, and in the beginning also the local works council, regarded the participative character of our action research project however as competition to the institutional part of co-determination. They were afraid that the legally defined and institutionalised trade union power might be weakened by bottom up participative processes.

It took the works council in Peine about half a year to realise that workers' direct participation in improving their working conditions did not weaken its position for institutional negotiation with management; on the contrary, workers' participation strengthened the works council in relation to management and especially middle management. After some time workers could argue as experts of their working conditions on their own. They accompanied members of the works council in negotiations with management, presenting their ideas to improve technological, organisational, ergonomic or financial aspects of their work place.

4.3 Top management's interest: conflict and compromise

The local trade union representatives within the enterprise (works director; works council) supported the project. This was a necessary, though not sufficient condition to get access to the screw factory. We had still to convince top management.

Top management's interest was to intensify the process of innovation, especially in terms of organizational development and productivity increase. The top manager was dissatisfied with middle management, which to his opinion was not active enough increasing productivity, so he expected a rise of productivity by workers' participation, using and unfolding their innovative potential. In the 1970s this was an exceptional, but very modern position among management.

So we entered the enterprise on base of a conflict: While management was interested in participation as a means to increase productivity, it was our intention to demonstrate and develop the possibility of democratic participa-

tion in a capitalist hierarchical organisation. The result was a compromise between researchers and management at the beginning of the project. We were convinced that workers' participation, based on their innovatory potential, would not only have an impact on democratisation but also on productivity, which has been the case throughout industrial history. Therefore we agreed with management, that productivity increase should be divided equally between employees and the firm: 50% for the enterprise in terms of profit, 50% for the workers in terms of wage increase, reduction of working time to be used as "participation time", reducing workload e.g.

This compromise held during the four years action research project plus a period of three years after its end: Together with the works council the workers had elaborated an agreement with management (Betriebsvereinbarung), which enabled them to use one hour of their working time every two weeks to meet in working groups; in addition an innovation fund was agreed upon, by which workers' ideas to improve their working conditions were financed under the condition that works council and management agreed to accept the ideas before implementation.

5. Preconditions for employees to engage in democratic participation processes

As said before, we met the 45 workers of the precuttery in a situation of resignation, lacking self confidence and trust in their innovatory potential. Many of them, never having been asked for their opinion, but in the contrary subject to hierarchy, heavy work load, and missing respect, lived in a *culture of silence* (Paulo Freire 1973). It was therefore not self understanding to start a participative process together with them. We experienced that to take part in one week seminars (every half a year, in total six during the project), to reflect, listen to their colleagues' contributions, participate in dialogues, respecting one another, trying to concentrate, learning unknown perspectives etc. was heavy work for the workers. Many a participant was wet from sweat during the sessions.

Leaving the long lasting culture of silence behind, and becoming an active participant in reflection, dialogue, change and learning processes cannot

succeed without training and providing special preconditions. I will mention here the most important ones (following Fricke 2009):

- a) There need to be *spaces temporarily free of power*. A dialogue characterised by mutual respect, listening to one another, exchanging arguments based on experience regardless the hierarchical position of participants needs to be trained. It cannot develop in power structures, hierarchical division of labour under the conditions of "normal" stress at work. Following Foucault, Marianne Kristiansen and Jörgen Bloch-Poulsen claim that every dialogue is inflected by power (Kristiansen/Bloch-Poulsen 2010); Bloch-Poulsen adds that it is not possible to create spaces free of power in organizations structured by hierarchy (Bloch-Poulsen 2010). While I doubt Foucault's dictum, our action research project has shown that in dialogues, which we conducted in our project's working groups power may at least become subject to reflection. When this happens, structural or personal power is less able to destroy dialogues. Anyhow we in our action research project have created spaces temporarily free of power, where the workers have developed their ability to take actively part in theoretical as well as in practical discourses (to use a term by Palshaugen 2006).
- b) *Democratic participation needs time*. We were able to buy time for participation and democratic dialogue from the enterprise, because the project had funds to pay the production lost while the work force participated in seminars and working groups during working hours. This is of course a special condition, which cannot easily be transferred to normal working life. But we used this opportunity to demonstrate that in principle workers are willing and able to participate in democratic change processes. This is not without importance for working life under normal conditions. In Germany there is or at least was the possibility to negotiate tariff agreements or local agreements between works council and management (Betriebsvereinbarungen) for educational leave (Bildungsurlaub) or time for participation during working hours (Beteiligungszeiten). We had such participation time at Volkswagen AG, educational leave was regulated by law in some Länder (NorthRhine Westfalia, Hessen). These opportunities do not exist any more because of the neoliberal backlash in social politics

and welfare state since the 1980s, but these historical examples demonstrate which preconditions for participation in work life have been possible and will certainly return when the neoliberal market economy will again become restricted by social welfare regulations. Times will change. There is a need for democratic participation, there is sufficient innovatory potential!

- c) A guiding principle in our action research project was that employees' interests, work experience, views and values may influence (if not determine) innovation and organisational change on equal terms with other groups' interests including management and shareholders. We learnt during the project: *Results of change and development have to meet the workers' interests*, otherwise their engagement in participation processes would decline. Democratic participation is a truly bottom up process. If this is not the case participation becomes a management tool to increase efficiency of work by granting the work force "dependent autonomy" (Peters 2001) in a market driven work organisation.
- d) During our action research project we developed *non hierarchical, non dominant cooperation between workers and experts*. To introduce experts and expert knowledge into participative processes needs special care. To give an example: Workers wanted to reduce their work load, so they suggested to have an ergonomic analysis of work places and work flow. An ergonomic expert was ordered to do the analysis, but the workers criticised both his methods and results. The expert limited his analysis to observations according to a prefixed scheme; he did not ask the workers what they felt during work. So pain, subjectively felt use (Beanspruchung) were not documented. The workers developed an enlarged analytical scheme and convinced the ergonomic expert to do the work load analysis together with them.⁴

⁴ This example for power free co-operation between workers and experts is documented in the detailed research report Fricke et.al. 1980 (2 volumes), available in electronic form (only) under <http://edok01.tib.uni-hannover.de/edoks/e01fbdigf/533026385.pdf> and <http://edok01.tib.uni-hannover.de/edoks/e01fbdigf/533026695.pdf>. It demonstrates clearly, that workers' experience and their innovatory potential are

- e) Education is an indispensable precondition to develop workers' innovatory potential and enhance/stabilise their engagement for democratic participation. I am not speaking of education in general, but of a combination of learning and doing, reflection and action, i.e. an action oriented type of education. Sequences of reflection in dialogues and action, of learning and doing are interwoven. Action (change) may not only prove what had been learned before, but action is at the same time an important kind of learning itself.

In action research processes learning, reflection and action is always joint learning, joint reflection and joint action. Researchers and practitioners participate both in theoretical as well as in practical discourses. In our action research project happened a lot of joint learning. To give an example: The workers wanted to change their piece rate wage into a conventional wage

we want to know in the morning, entering the factory, what we will have earned by the end of the day, they said

so we researchers had to learn the logic of the piece rate wage system, ending up in a fifty page case study on this wage form. Our new knowledge about the functioning of a piece rate wage system was developed from two sources: Literature and from the workers' experience: they taught us to understand the daily practice of piece rate wages, and sometimes they laughed how much time and effort it took us to understand what they were experiencing and suffering from day by day. This was in fact joint learning; it was effort and pleasure at the same time.

indispensable for appropriate analyses of work load and its subjectively felt impacts. This is not just an example from a 30 years old action research project, it is also very modern knowledge: Employees' participation as a must for appropriate health and work load analyses has recently been demanded by the EU norm EN ISO 6385 (2004) "Ergonomic Principles for work systems design". There is also a beautiful sequence in a video film ("Die Anschneidmaschine", WDR 1980) documenting the participation process in our action research project in general, and the cooperation between workers and ergonomic expert as one of the special examples. (WDR is a West German public broadcasting and TV station).

f) Learning is sometimes very basic, see e.g., communication problems. Many work situations are so to say speechless because of noise, isolation, stress. Communication takes place via technical or body signals or by shouting just a few words. Foreign workers are handicapped additionally. All this results in difficulties up to inhibitions against reading and writing. In our project, one of the few skilled workers said

Nowadays children leave their schools better educated than ever before. When they have been working for a few years, they forget what they already knew. Is this humanisation to spend public money to enable the worker to relearn, what he did already know from school, but unlearned at work?

6. Results and long term impact

6.1 Results

The action research process had a lot of concrete results:⁵

- noise was reduced by 50% (from 96 to 90 dB(A))
- work load was considerably reduced at a great number of different work places; the outstanding example was the reconstruction of a machine to enable the worker to sit during work
- ergonomic improvements at several machines
- health and safety improvements
- several rooms within the department were isolated from noise, such as a new built tool magazine and a recreation room for all 45 workers of the precuttery

⁵ In total the three working groups elaborated 180 suggestions for technical and organisational change and for a new wage concept instead of the traditional piece rate wage. Their new wage concept, however, met the resistance of the trade union tariff expert and was not implemented. 15 years later the identical concept was introduced by IG Metall 1991 in Teldec Press GmbH, praised as a great innovation. Our concept was apparently 15 years too early to be accepted by IG Metall when it was first developed by a group of Metal workers in Peine.

- reduced division of labour and improved work organisation, e.g. conception for and implementation of a systematic maintenance plan
- qualification and work enrichment for machine workers including higher wage groups
- an 80 hours training course for specialised workers (Einrichter) in pneumatic and hydraulic technologies.

Besides these hardware results the action research project produced a broad range of new knowledge, such as

- development and implementation of a concept of action oriented learning as a combination of learning, reflection and action in change processes. It was demonstrated how this learning concept might be implemented in company and work reality – not in its intensive form as practiced within the project, but in reduced intensity by using the before mentioned tariff and/or legal regulations
- the existence of workers' innovatory qualifications and the possibility to enhance them even under extremely unfavourable conditions (noise, heavy work load, monotonous work since decades, lack of respect, culture of silence). We take this experience as evidence of any human's indestructible interest in and capacity for self determination of his life and work as an anthropological constant.
- Knowledge about the preconditions for democratic participation in hierarchical organisations (see above point 5).

6.2 Further impacts, partially long term

Many employees experienced changes, improvements of their personal situation such as

- revitalised self consciousness
- having a voice both among colleagues and in their families
- improving capacities to read, to take part in dialogues, to listen and to reflect

- experiencing respect and solidarity
- a young lady left the company to finish her school
- another lady changed her bodily expression; she stopped neglecting and started to care for herself, her clothing, her wording.

As already mentioned the action research project proved the possibility to organise a process of democratic participation in a hierarchical organisation and as a supplement to institutional co-determination. There were conflicts with middle and top management as well as with trade union both on local and central level; there were compromises necessary and possible between different actors (researchers, management, works council, employees); the social context of the project was structured by power, in one word: the whole catastrophe as Theodorakis' Zorbas would say. On the other hand it was possible to create spaces temporarily free of power and hierarchy, in which democratic dialogue, joint reflection and democratic change could be trained and performed.

The project was therefore both: it was reality and it was utopian at the same time. This double character, realistic as well as exceptional and experimental does perhaps explain the long and intensive debate that was initiated by the project and its idea of democratic participation and dialogue. The discussions about the concept of democratic participation were intensive in the late 1970s and early 1980s, especially among social scientists (many dissertations have been written about the project) and among trade unions. With the exception of young scientists and trade unionists the debate was more or less critical, but intensive and long lasting, and there was always an element of fascination about the perspective to democratise work and industry (*Demokratisierung der Arbeit und der Wirtschaft: industrial democracy, Wirtschaftsdemokratie*).

The debate on participation and action research faded away in the late 1980s and 1990s. Today, however, German trade unions, especially IG Metall und the service sector union Ver.di become more and more aware of the fact that without accepting and enhancing democratic participation, both within their organisations and on the shop floor, they will lose members and contact to those remaining. There is a movement within trade unions to

enable works council members to organise participative processes in enterprises supplementing or even replacing their traditional representative style. Trade union officials, especially on local level, are trained to perform their work in a participative way. We are witnessing a revitalisation of participative ideas within the trade unions. Opposition and traditional representative routines are still strong, probably still dominating, but the discussion is broadening at all trade union levels. I have been invited to participate in a trade union expert group on central executive level to present our experiences from action research projects. The idea is to elaborate a concept and a strategy to promote democratic participation in industry as well as with and for trade union officials. The latter initiative is however restricted to local levels at the moment: central executive bodies of the unions will follow later, hopefully.

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