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Interactive research – a strategy for ergonomics interventions

Jörgen Eklund

Unit of Ergonomics, School of Technology and Health, KTH Royal Institute of Technology, Stockholm, and Helix Vinn Excellence Centre, Linköping University, Linköping, SWEDEN

1. Introduction

There is a need for more ergonomics intervention studies. Reasons are that the knowledge about applications as well as methodology need to be developed (Karsh et al., 2001) It is difficult for ergonomics researchers to get access to organizations that perform interventions. One reason is that extensive resources are needed from the organizations. In order to collaborate with the researchers, they need to see this collaboration as useful and that they get useful advice or knowledge that can be applied in their operations. Interactive research is a form of participatory research (Aagaard Nielsen and Svensson, 2006), that may offer a solution to the difficulties to perform ergonomics intervention research. Interactive research has been developed from Action research in order to avoid the weaknesses of Action research, such as: - the strong involvement of the researcher in the practical change process makes the change vulnerable in the long-term, - a focus rather on local understanding than on general knowledge creation, - high time and resource demands, - limited output in terms of theory development. Interactive research focuses more on the research and knowledge creation than on the development processes. The research is conducted in a partnership with the practitioners so that the researchers and practitioners together have defined research questions of high priority. Further, the planning of the study as well as the knowledge creation process takes place jointly together with the practitioners (Svensson et al., 2007). There is a clear division of responsibilities, where the interactive researcher is only responsible for the research, and the practitioners only responsible for the implementation of the operational changes and actions taken in the organization. One model for the principles of interactive research was proposed by Ellström et al. (1999), which clarifies the different roles of the practitioners and the researchers.

The aim of this paper is to summarize experiences from the use of interactive research in five ergonomics intervention programs.

2. Methods

There were in total five intervention programs in which the author has been involved, forming the empirical basis for this paper. They were: a branch intervention in the meat cutting industry (Eklund et al., 2011) an intervention among mail carriers (Karlton, 2007), an intervention program dealing with recycling centres (Engkvist et al., 2010), and finally two learning evaluations of two programs for introducing Lean in manufacturing companies and the public sector respectively (Halvarsson, 2013; Lindskog, 2014). Each study lasted 3-5 years, and involved at least 5 researchers in a multidisciplinary team. There were several interventions taking place within each program. All studies had as a major goal to improve working environment in parallel with improvement of organizational performance. The research was on-going throughout the whole program, and the results were continuously used to improve the program activities. The first phase was to identify previous research and practical problems and issues to be solved in the programs. Questionnaires and interviews, observation, statistics and document studies were used. In total, well over 500 interviews and over 4000 questionnaires were evaluated. Regular meetings were performed with the partnership and its reference/steering groups. These included problem identification and prioritization, project planning, joint data analysis and rapid feedback. Each intervention program was concluded in a final report in which experiences and learnings were summarized. This paper reports from a comparison between the five intervention programs and summarizes the general experiences identified from these.

3. Results

In the five cases, there was high interest from the organizations to participate throughout the program periods. The interactive research approach improved access to the organizations due to several reasons: the joint knowledge interest, the rapid feedback, the strong practitioner participation in the process including interpretation and joint knowledge formation. By getting access to a group of organizations, both positive and negative examples were included. The partnership approach created better support from both employers and employees, and also made the results more legitimate.

Analysis seminars were used as a collaborative effort for joint learning. At those occasions data collection was also performed in order to validate the results. Also, the analysis seminars were important for knowledge dissemination.

4. Discussion and conclusions

The interactive research approach made it easier to get access to the involved organizations, compared to research studies when the practitioners were not involved. The reasons for this are believed to be that the interactive process motivates and involves the practitioners, that rapid feedback provides more relevant information to the practitioners and that the knowledge produced is more applicable and usable.

Disadvantages with the interactive research model are that this research is resource demanding, and also that it puts high competence demands on the researcher performing this kind of studies.

Finally, it can be concluded that interactive research is very useful for studying ergonomics interventions, and it is hereby proposed as a powerful ergonomics intervention strategy.

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