Abstract

This research proposal describes a research project intended to study co-production of knowledge in Innofacture. Mälardalens University works in cooperation with a number of industrial companies (ABB AB, Atlas Copco, Bombardier, Fuji Autotech, LEAX, Scania, TPC Components, Volvo Construction Equipment and Volvo Powertrain) in a business research school: Innofacture. The research focus for Innofacture is; ñnnovative production development addressing three important industrial challenges: the industrialization of new products, the design and change of production systems, and the ability to systematically handle radical production improvements within the operation phaseò(Proposal for expansion of current research school Innofacture, 2014). The overall aim for Innofacture is to strengthen and develop the role of production technician and the production technology to support the development of future Swedish competitiveness. Indicative is co-production of knowledge between MDH and the participating industrial companies.

The question of *what is* co-production, *how* can co-production be developed and *what* are the consequences and result of the development - seen both from a scientific and a business perspective ï are all important to examine. The aims of the research project is to support Innofacture - management, researchers, supervisors, PhD-students and industrial mentors - to examine the experiences of co-production. Based on this examination, useful and scientific theory and methodology should be developed in order to support Innofacture in achieving their objectives and produce relevant research.

Research Questions: Which experience-based methods and theories, intended to support co-production between academia and industry, are researchers and PhD-students at Innofacture already using? Can these methods and theories be used to support development of sustainable science with a theoretical approach? If so, how can it be done? Can the methods and theories benefit the industrial partners? If so, how can this be done?

The research approach is qualitative, based on interactive, experimental and participatory methods. The research project is run with the support of a number of interactive method theories: action research, participatory action research, follow-up research / "Ongoing evaluation" and applied gestalt theory (Greenwood, Davydd J. and Levin, Morten. 2007; Herr, Kathryn and Anderson. L. Gary, 2005; Lewin, Kurt.1997; McNiff, Jean and Whitehead, Jack. 2009; Reason, Peter and Hilary Bradbury (Ed.). 2008; Aagaard Nielsen, Kurt and Svensson, Lennart. 2006; Eikeland, Olav. 2006. Validity of Action Research & Validity in Action Research; Brulin, and Goran Svensson, Lennart. 2012; Svensson, Lennart. Brulin, Goran. Jansson, Sven and Sjöberg, Karin (ed.), 2013; Brown, Judith R 1996 Cunningham, J. Barton. 2001; Gaffney, Seán. 2010 and 2012; Woldt, Ansel L. and Toman, Sarah M. (Editors). 2005; Yontef, M. Gary. 1993 etcetera).

Of particular interest are the theories and methods of participatory action research with experiential learning and extensive knowledge that Heron and Reason developed and applied (2008). The planned research process mainly follows the structure that Cunningham describes (2001) and is based on an action research tradition developed from Kurt Lewin's methods and theories (1997). The expected results from the research project is that the methods and theories in support of co-production between academia and industry - that already are well proven - will be, made visible, concrete, developed, tested and documented scientifically. A desirable outcome, in addition to the process itself, is that the research process will contribute to a community that is perceived as meaningful in the research organization and between the academia and industry and also create conditions for a good working environment for those who participate in the process. The innovation of the project is to both develop and test new and pragmatic approaches to support co-creation *and* to do this with the support of co-creation practices "here and now". Even the experiences and perceptions of the moment will be a part of the scientific development.