OPEN LEARNING IN LIFE SCIENCES
- Studies of open educational resources in animal welfare and work-based learning in food science

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ABSTRACT

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The aim of this thesis is to explore ways of organising and supporting open learning in food science, food quality and animal welfare at the boundary between society, the university and other academic institutions. Two specific practices are explored, work-based learning (WBL) and the use of open educational resources (OER). The aim is both analytical - to understand boundary activities in these domains - and design oriented - to develop models and methods for working with and enhancing open learning practices. The thesis also attempts to make a contribution to sustainable development and a system of food production that is in compliance with the views of society.

The theoretical approach is cultural historical activity theory, and more specifically theories on boundary crossing and learning at the boundary between activity systems.

The empirical research the thesis build on is presented in five articles focusing on questions about boundary activities of students, teachers and actors in industry, concerned with a local WBL practice, a global community using OER and quality assessment of OER. The empirical material was collected through surveys, video recordings and interviews, and analysed with qualitative as well as statistical methods.

A main contribution of this thesis is that it demonstrates how WBL can support boundary crossing activities between academia and industry and carry a potential for learning at the boundary. Furthermore, the use of OER supports boundary activities between academic institutions.

Both these practices challenge established structures and involve tensions that are subject of negotiations. In WBL student projects as boundary crossing activities must fulfill demands from both higher education and industry, where students have a mediating function and individual student agency becomes important. In working with OER there is a tension between institutional quality concerns on one hand and participatory approaches and a sharing culture on the other.

Furthermore, the study indicates that open learning approaches are most vigorous when situated in content-driven, subject specific and rather small and open communities. A local community of higher education teachers in food science is one example and the global community of animal welfare teachers another.

This thesis does not aim at generalising to higher education in other scientific fields than food science, food quality and animal welfare. However, some of the results could be generally applicable to learning at the boundary such as WBL carrying a learning potential and OER carrying a potential for a sharing culture. WBL and OER as approaches to open learning can be instruments for higher education to be in dialogue with society.

Finally, the thesis points at the complexity of our relationship to food and suggests that more inclusive learning approaches could contribute to sustainable development and more democratic food systems.