

## ENGLISH ABSTRACT

International research recognises that children find the transition from kindergarten to school difficult and therefore it is important that there are some elements of continuity in the transition, which is rife with change. This dissertation deals with continuity in science from an inquiry-based (IBSE) approach and thus has a subject-specific perspective.

The purpose of the dissertation is to investigate how inquiry-based science can contribute to continuity in children's experiences from kindergarten to school. The dissertation is part of the project 'Science at eye level in early childhood'

In the introduction to the dissertation, I identify the following four challenges:

- that there are different underlying reasonings behind IBSE
- that there is no international consensus on how continuity can be understood and conceived
- that there is a lack of knowledge about how the professionals have the opportunity for subject-specific collaboration in order to support continuity in children's science experiences
- to implement science in manner that is relevant to the children while creating coherence and continuity for past and future experiences.

I have chosen to anchor the dissertation in the pragmatic research paradigm that forms the background for understanding the dissertation's theoretical concepts: *IBSE* and *continuity*. The understanding I rely on is based on Dewey's theory of experience and contemporary international research literature. The pragmatic philosophical starting point forms the framework for the choice of methodology and methods in 'Science at eye level in early childhood'. The project has been implemented with an action research design with a qualitative dominant mixed method approach.

The dissertation contains three articles.

Article I, which is a methodological article, illustrates a new method for identifying and mapping positions in the literature. Using IBSE in the EC field as an illustrative example, I find that in contemporary international research agrees that IBSE is understood as a good way to learn science. At the same time, I find that there are three different positions in the understanding of IBSE.

Article II contributes to the dissertation by theoretically and empirically illustrating how continuity can be understood through Dewey's concept of experience and how continuity can be understood using the three continuity aspects: intellect, practice and emotions. Three findings are analysed in advance:

- a) An experience is open-ended by nature
- b) Every situation is new and in the new there will always be previous experiences present
- c) The emotional aspect transcends experience and influences the future attitude towards science

Article III examines the legislative and practical organisational conditions that kindergarten educators, pre-school class educators and schoolteachers must create continuity in the child's science experiences. The article offers the concept of continuity practice to conceive the transition issues. In the analysis of the adults' legislative and practical organisational conditions for collaborating on continuity in science, we find that the three professional groups have different conditions for creating continuity.

In addition to the three articles, the dissertation contains an article outline for a future article. In this forthcoming article, I intend to investigate how kindergarten educators can work with improvisation in order to support continuity in children's science experiences in inquiry-based science situations among the kindergarten's oldest group of children.

Overall, the findings of the dissertation indicate that IBSE in the EC context can contribute positively to continuity in children's science experiences, but IBSE cannot just be copied and used in the EC context without translation and adaptation to the age group.

The findings of the dissertation suggest that contributing to continuity requires a holistic experience-based perspective. Simultaneously it is important that the opportunities and legislative and practical organisational conditions for professionals have access to collaborate on a common understanding of continuity practice and IBSE, including the use of science artifacts as co-constructors of continuity, influence whether children experience continuity in their science experiences.