

## On the Definition of Learning conference, 28-29<sup>th</sup> August in Odense

Paper title: Everyday complexities and sociomaterialities of learning, technology, affects and effects  
Theme: Empirical research concerning relationships between educational design, digital technology and professional learning

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### Abstract:

This paper starts out with the challenge of establishing and researching relationships between educational design, digital technology and professional learning. The paper is empirical and takes point of departure in case examples from two development projects with a focus on professional education. Both projects focus on new ways to build relationships between digital technologies, professional education and learning. Each project takes a different take on how to approach and position digital technology and its relationships with the educational programs and students' learning. Project Welfare Technology, Innovation, Care and Learning (VIOL) 2013-2014 focuses on ways to develop welfare technology related teaching and learning practices in and across eight professional bachelor programs at University College Zealand ([www.ucsj.dk](http://www.ucsj.dk)). The project's ambition is to further develop educational programs in order to better raise students' "technological literacy" – that is students acquiring "competencies for using, assessing, and innovating new welfare technological solutions in their professional field" (Source: Project application). This is referred to in the paper as a "technology education" approach (Dugger and Naik, 2001; Hansbøl 2013). The Theory of Science MOOC project is a subproject within the larger ongoing Project Learning without Borders (LUG) 2013-2014. The Theory of Science MOOC project aims to develop educational design principles for Multiple Open Online Courses (MOOCs) for Danish professional education programs. This is referred to in the paper as an "educational technology" approach (ibid.).

The proposition in the paper is, that each of the cases illustrate and shed light on the same fundamental educational challenge: that even though we engage digital technologies in the educational design with particular intended educational purposes (e.g. educational technology and technology education), the everyday complexities and sociomaterialities of learning and technology intermingles with *how students/professionals become affected by digital technology* and hence also *which matters of learning become effectuated*.

Drawing on Bruno Latour's seminal paper on "How to Talk About the Body", which suggests that learning is basically a matter of learning to be affected – that is to effectuate, the paper aims to open up an ontological rather than epistemological take on matters of teaching and learning with digital technologies. Drawing furthermore on Marilyn Strathern's seminal book "Partial Connections" (2004) and Hansbøl (2010), the paper suggests a need to acknowledge matters of learning with digital technology as fundamentally matters of building ontologically multiple moving contexts of partial knowledges and engagements – that is designing for shifting (spatiotemporal *and* sociomaterial) platformations of affect and effectuation. Educational programmes draw typically on three metaphors of learning, each representing different ways to engage with knowledge: acquisition (substance – transfer of past knowledge), participation (substance and way of

organisation – enculturation into present knowledge practices) and/or knowledge creation (innovation – engaging with new and future knowledges and practices) (Sfard, 1996 & Paavola, Lipponen and Hakkarainen, 2004). Educational programs may engage with various mixes of these approaches to knowledge through various educational designs and a conglomerate of these. However, as wellknown, there exist no direct relationship between educational design and matters of learning. It takes laborious efforts to ensure actualizations of intended constructive alignments between educational design and students' learning. This laborious constructive alignment work steps particularly to the fore, when dealing with new educational designs with digital technologies like in the cases of the VIOL and LUG projects. In these cases, introducing digital technologies into the educational design represents to the teachers radical refurbishments of the matters and ways of learning. The refurbishments, however, are made differently available and connected with the students' learning trajectories. The cases illustrate the importance of including engagements with the ontological compositions of educational design and matters of learning as they come into being in relationships with students. This calls for an experimental approach to educational design (Cobb and Gravemeijer, 2008) which foregrounds the complex relationship between educational design with digital technologies and realizations of affects and effectuations.

**Keywords:** Sociomateriality, complexity, learning, technology, affects, effects and ontology.

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