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MOOCs beyond the c- and x-divide – the relevance of a social constructivist approach

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Introduction

The aim of this contribution is to discuss pedagogical issues of MOOCs, massive open online courses, based on e-learning experiences in the Danish educational landscape. By drawing on theoretical perspectives from the field of pedagogy, we address issues of MOOCs from the perspective of learning cultures and pedagogical models which imply discussions of teacher roles.

The contribution emerges from an on-going international project in a network of the Asia-Europe Meeting (ASEM) Education and Research Hub for Lifelong Learning, where researchers collaborate in exploring the development of MOOCs and produce comparative work of how MOOCs are approached in a lifelong learning perspective in various countries (Jung & Kim, 2015).

In Denmark, the challenges of developing MOOCs are pinpointed by an ongoing development project involving a MOOC for Indonesian trainers of care-givers, initiated and designed by the Danish non-governmental organization FairStartGlobal (www.FairStartGlobal.com) in collaboration with international research-based networks (Buhl, Andreasen, Mondrup 2015). This project forms the empirical basis for the theoretical discussion in this contribution.

Background

Today, many educational institutions around the world are establishing MOOCs as part of their educational activity. The widespread adoption of MOOCs has taken place during only a few years. Originally the development of MOOCs happened outside of the established educational institutions, and was characterised by building on the active engagement of several hundred or thousand students and on collections of freely accessible on-line resources (McAuley et al. 2010, p. 4). The massive aspect, the social networking, and the idea of new student roles where

the student is the main responsible for self-organization of her/his participation according to learning goals, prior knowledge and skills, are main drivers in the learning processes.

The current development of MOOCs has been analysed as having two distinct directions. One direction is the so-called cMOOCs, defined by a participative pedagogical model and "based on the explicit principles of connectivism (autonomy, diversity, openness and interactivity) and on the activities of aggregation, remixing, repurposing and feeding forward the resources and learning" (Rodriguez, 2012). Connectivism is introduced as a new learning theory to bring about a new view on how education can be conducted.

The other main direction is called xMOOCS, the first of which was a course on artificial intelligence, offered by the University of Stanford in 2011, that attracted 160,000 registered students. xMOOCs are generally offered by established educational institutions and are to a higher degree based on a cognitive-behaviourist pedagogy, as stated by Rodriguez (2012).

However, as MOOCs have spread globally and developed, this dichotomy is no longer sufficient. We therefore wish to discuss MOOC from a more multiple perspective and raise issues which emerge from the current reports on practices with MOOCs.

Issues of MOOCs beyond the dichotomy of cMOOCs and xMOOCs

In their UK report, Bayne and Ross discuss the dichotomy between cMOOCs and xMOOCs as an insufficient characteristic of MOOCs. They have mapped MOOCs in the UK and exemplify the variety of MOOCs through examples and interviews with some of the first British movers in the field. The authors argue that MOOCs have multiple forms and that the binary of cMOOCs and xMOOCs are no longer representative, nor particularly useful. Finally, they conclude that even though the teaching functions are often automated processes, the place and visibility of the teacher is still of great importance (Bayne & Ross, 2013, p. 8). Thus, MOOCs are no quick fix to overcome a massive need for education. Rather it exposes issues and discussions of central questions of What, How and Whom, which are well-known issues in the pedagogical discussion of e-learning. But other advantages make MOOCs interesting to discuss: the free access, the focus on student activity and the widespread adoption of the concept.

Denmark has so far been rather moderate in the adoption of MOOCs. This might be due to the fact that in Denmark, there are generally no tuition fees in higher education, thus the main potential of MOOCs in Denmark is not "open" as in "free", but "open" as in accessible for everyone interested, without having to pass an entrance exam.

Until now only few Danish MOOCs have been developed, and even though many established educational institutions are aware of the development, only few have entered the field. Three of the eight Danish universities have become partners in the Coursera platform (University of Copenhagen, Technological University of Denmark, and Copenhagen Business School) and have

begun offering some MOOC courses. A university college have in 2014 developed their first MOOC, offered in Danish, which is a course on Theory of knowledge ["Videnskabsteori"] that works as a supplement to their ordinary programmes (University College Zealand). Another university college is the host of an international collaboration on a MOOC on Midwifery Practice in spring 2015, which provides possibilities of continuing education and professional development for midwifes globally (University College Lillebælt).

Pedagogical models of MOOCs

As discussed, MOOC pedagogy has been seen as roughly divided between behaviourist approaches (xMOOCs) and connectivist approaches (cMOOCs). When discussed, it easily becomes a 'pro et con' (for or against). However, the practice of designing pedagogical models for MOOCs may be more nuanced, and recent research show that there is a move towards a multiplicity of approaches (Wilfried et al., 2014).

We will discuss the relevance of the Scandinavian orientation towards a social constructivist perspective on learning in this respect. It acknowledges both the social and participatory approach to learning and the role of the teacher as an important moderator of students' learning processes. The activity theories of learning play an important role in the planning and moderation of students' learning activities. The organization in problem-based projects is based on the idea that knowledge is constructed in the meeting between the learner and the learning content and is processed through real life problems which become object for investigation and discussion. The role of the teacher is of a moderating nature rather than a facilitating. As moderator the teacher takes an active part in discussions with groups of learners and the learners are responsible to move their process of investigation forward. Feedback from peers, theoretical contributions from the teacher and a pedagogical framing of the process to scaffold the learner's activities are crucial drivers to forward the process. The final assessment measures the learner's competence in identifying and analysing problems from a theory-based and problem-solving approach and to explain the criteria for choices and decisions.

Using this as a pedagogical model for a large scale programme like MOOC is of course challenging. A recent study shows that the scaffolding activities of the teacher could be practiced by adding posts with important learning patterns in order to make students carry on progressing their learning process. However the crucial moderation by the teacher requires several assisting teachers to overcome the many paths of posts (Andersen et al., 2014). This learning approach is based on a culture of discussion and critical thinking and is a well-known practice in the pedagogical research field and the humanities. This pedagogical approach draws on insights from the field of it-didactic design, with an emphasis on the students' own design of their learning processes. In a large scale programme, where moderating activities may be

distributed to assisting students/teachers, the didactic competence among students may draw on the technologies of connectivity in combination with the pedagogy of social constructivism, where instructions and discussions provide new patterns for understanding.

References

Andersen, RK, Garp, K, Nellemann, K, Nielsen, MF, & Ørngreen, R (2014). A framework for analysing collaborative and interactive elements in MOOC. In Ørngreen & Levinsen (Eds.), *Proceedings of the 13th European Conference on e-Learning ECEL-2014*. Academic Conferences and Publishing.

Bayne, S, & Ross, J (2013). *The pedagogy of the Massive Open Online Courses: the UK view*. York: The Higher Education Academy.

Buhl, M, Andreasen, LB, & Mondrup, HJ (2015). A Danish international MOOC in professional care education - MOOC case study for eASEM project. Paper presented at ASEM Forum for LifeLong Learning: *Renewing the agenda for lifelong learning*. 9-12 March 2015, Bali, Indonesia.Jung H, & Kim B (Eds.) (2015). *National Reports on MOOCs*. Research Network 1 (eASEM), ASEM Education and Research Hub for Lifelong Learning.

McAuley, A, Stewart, B, Siemens, G, & Cormier, D (2010). *The MOOC Model for Digital Practice.* http://www.davecormier.com/edblog/wp-content/uploads/MOOC_Final.pdf

Rodriguez, CO (2012). MOOCs and the AI-Stanford like courses: Two successful and distinct course formats for massive open online courses. *European Journal of Open, Distance and E-Learning, 2012*(2). http://www.eurodl.org/?p=current&article&article=516

Wilfried, A, Huisman, B, Saab, N, Smit, B, Teeuwes, B, Van de Ven, M, Van der Rijst, R, Van Driel, J, & Verstelle, M (2014). Self and Peer assessment in Massive Open Online Courses. In Ørngreen & Levinsen (Eds.), *Proceedings of the 13th European Conference on e-Learning ECEL-2014*. Academic Conferences and Publishing.