

Ph.D. position opening in educational sciences at Université catholique de Louvain, Belgium
Social interactions, socio-cognitive conflicts in massive open online courses (MOOCs)

(Open) online education poses a variety of challenges for higher education, one of which is how to foster social interactions and induce beneficial socio-cognitive conflicts (i.e. differences in point of view that are socially experienced and cognitively resolved) to promote learning in an environment where interactions are primarily written and asynchronous. MOOCs are a unique environment where people from all over the world – with different professional experience, first language, cultural background, etc. - are invited to discuss disciplinary concepts and/or society issues that can potentially induce socio-cognitive conflicts.

To address this challenge, this multidisciplinary project, that builds on theories from several disciplines from the humanities and social sciences (linguistics, natural language processing, communication sciences, education, and management studies), will analyse social interactions and investigate the presence and unfolding of socio-cognitive conflicts in massive open online courses (MOOCs).

(See description here: <https://tinyurl.com/MOOCresearch2-0>)

This doctoral project will be part of this multidisciplinary project that aims to investigate socio-cognitive conflicts in online educational platforms (MOOCs).

In particular, the Ph.D. student will conduct research focusing **on social interactions, socio-cognitive conflicts and learning.**

In education research, intellectual conflicts have long been regarded and described as powerful resources to promote conceptual change and learning. Their educative power has been emphasized within the framework of two major research traditions; socio-cognitive conflict theory and social interdependence theory authors inspired by the American tradition have focused on ‘constructive controversies’. Both traditions, concur in the importance of cognitive conflicts or constructive controversies for learning and on the view that such conflicts, which are at the origin of knowledge transformation, often occur in, or are triggered by social interactions.

In view of the current state of the art, MOOC discussion forums appear as particularly challenging spaces for (cooperative) learning: how could MOOCs – relying only on **asynchronous interactions** – be effective for triggering socio-cognitive conflicts and their epistemic regulation? Yet, discussion forums are also the only places in MOOC education where social interactions between peers (and instructors) are bound to occur.

Research on asynchronous online discussion forums has mainly relied on **closed online discussion** in conventional formal online learning environments. However, designing constructive controversy to foster intellectual conflicts raises concerns. Research results highlight the important role of the instructor and learners in establishing social, cognitive and teaching presence in online learning. Social presence refers to the ability of students to project themselves socially and affectively into a community of inquiry. Cognitive presence is the extent to which online students can construct and validate meaning based on communication and thinking. Finally, teaching presence refers to the way an instructor designs and integrates both social and cognitive presence through scaffolding and modeling (creating structured and cohesive discussions and clearly defined roles for the instructors and peers).

However, it is not self-evident that these potential qualities will interact in **open asynchronous online discussion**, such as MOOCs (massive open online courses). Only recently has empirical research begun to focus on analyzing discussion forums in MOOCs. Most studies have analyzed the quantity of comments and their relationship to completion behavior. Others have focused on analyzing the quality of social interaction and cognitive engagement on asynchronous open online discussion.

Our research aims to examine teaching presence and how it affects social and cognitive presence in MOOCs. More specifically, we will analyze **how individual and instructional characteristics enhance socio-cognitive conflicts that regulate in an epistemic way**. Two main research questions will be examined, the first one focusing on the socio-cognitive conflict and its regulation, whereas the second one will analyze asynchronous online discussion that precedes and follows controversies, and how the social interactions (instructor-learner and learner-learner) structuring the discussion affect its course.

RQ1: What are the behavioral and cognitive engagements of learners in MOOC environments? Do they vary according to the MOOC discipline, the instructional context conditions or the learners' individual characteristics?

RQ2: In what respect do learner-instructor (L-I) interactions (teaching presence) and learner-content (L-C) interactions (strategies for enhancing the online discussion forum) facilitate positive social interdependence in asynchronous online discussion and deliberative argumentation?

We welcome applications from strong candidates with interest in interdisciplinary research, and experience in mixed-method research (collection and analysis of both qualitative and quantitative material).

Key outcomes and responsibilities

- Literature search and review, hypothesis-driven development and execution of quantitative and qualitative research leading to a PhD
- Communication at conferences and in international peer-reviewed journals
- Supervision of master thesis projects
- Interdisciplinary collaboration

Selection criteria

- Master degree in Educational Sciences, or in Educational or Social Psychology (obtained or to be obtained at the latest in September 2019)
- Training and experience in quantitative and qualitative research
- Statistical skills; knowledge of at least one statistical program (SPSS, Stata, R or Amos).
- Knowledge about NVivo (or any other equivalent software) is an asset.
- Broad scientific interest beyond own field (e.g., linguistics; management, communication, etc.).
- Strong intrinsic motivation, perseverance in the face of adversity
- Ability to work both in autonomy and in team
- As data are both in French and English, a very good level of both languages is a strong additional asset.

- Excellent writing skills and strong motivation to learn English so as to be able to write scientific articles in English from the first year.

Terms and conditions

The appointment will initially be for 24 months and if evaluated positively extended with 2 additional years. It must lead to the completion of a PhD thesis. The net monthly salary is c. 2000 EUR. The **starting date is the 1st of October 2019**.

Information

Enquiries and applications must be sent to Prof. Mariane Frenay.

Email: mariane.frenay@uclouvain.be

Application files must be sent no later than **June 03, 2019** and should include:

- a cover letter in French, in which you specify why you are interested in this position and how you meet the job requirements outlined above;
- a curriculum vitae in French or English;
- an outline of previous work or research experience in English
- a copy of your BA and MA degrees;
- a copy of your master thesis and any academic publication (published or in preparation);
- the names and full contact details of two academic referees.

Shortlisted candidates will be invited for an interview (*in situ* or via video conferencing) on **24 or 26 June 2019**. Please save the dates!