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Planning the integration of residential students in the context of a Massive Open Online Course (MOOC) in cartography

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Cartography is a field that has fundamentally changed within the last years. The predominant changes have to do with the output media, as well as the map production technologies and dissemination channels. Existing Web mapping tools facilitate a great variety of users to produce maps in order to visually present the results of their projects. However, there is a lack of knowledge on how to successfully use these tools in order to develop cartographic products based on the established cartographic principles, which are outcomes of scientific research. The use of such tools in a wrong way can easily result to misleading outcomes, thus motivating the need to develop innovative teaching approaches for the broader audience.

Massive open online courses (MOOCs) represent a relatively new distance-learning educational approach, which more and more universities try to integrate in their teaching. MOOCs offer the possibility to access thousands of students from all around the world, and not only to offer them educational experiences, but also to interact with them via the MOOC platforms. In cartography and GIScience the number of offered MOOCs is relatively small compared to other fields like “Business & Management” or “Computer Science”. However, the large number of people that enrolled and followed these courses shows an untapped potential for the MOOCs specialized in cartography.

The teaching concept that is mainly used in the existing MOOCs is relatively similar, with the content of the course divided into several weeks containing video lectures given by (usually) one person. After each week’s lectures, students have to understand and apply the learned content and to solve some exercises or other related tasks. Despite the advantages of this concept, there are still two issues that remained unsolved: at first the students of the host university do not benefit a lot from the MOOC because most of them do not even follow it, and secondly those MOOCs usually use commercial software for their exercises.

To overcome these limitations, the Institute of Cartography and Geoinformation (IKG) of ETH Zurich plans to innovate and apply a novel method in the framework of the MOOC “Introduction to Web Cartography” that starts in the spring semester of 2018. The main idea is that the MOOC course is offered in parallel with the respective course at the host university and that the students who attend the course at ETH are also highly involved in the MOOC. This involvement exploits the advantages of existing technology and includes daily interaction of the residential students with their MOOC colleagues via the provided course forum. The interaction deals with, but is not limited to, discussions over the approaches that are used to solve the exercises, project work presentations, terms explanation etc.

This teaching methodology will be introduced in the framework of the ETH course “Cartography II” that takes place in the spring semester of 2018. For the whole duration of the course, data will be collected from all the involved parties in the form of surveys. The data will be analyzed to help us identify which are the advantages and disadvantages of this learning approach and also to extract information regarding the benefits for the residential and MOOC students respectively. The knowledge generated from this information will help us evaluate the impact of integrating residential students in the context of a MOOC specialized in cartography.