How Social Media Facilitate Learning Communities and Peer Groups around MOOCs

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ABSTRACT

Social media enable the development of new didactical models underlying MOOCs. Individual learning will be complemented by group learning. Students are connected by and cooperate via a social network of study friends for example via Facebook or Twitter. They inform each other about to be expected study activities, learning experiences, cooperate in study activities and take the role of tutor or model for other students. In this paper the authors present next to the didactical model a matching algorithm to create peer groups to perform group work. In distant learning students are remote in place and time. Social media can provide a virtual meeting place. So the question is how to select your friends to cooperate successfully in study activities. They will describe a tool, which recommends best matching students, taking care of abilities and personal characteristics of students and requirements set by the lecturers in such a way that balanced groups are created. Students make a selection from the offer. Special Apps have to be downloaded on phones or computer devices to connect the teaching-learning environment.

Keywords: Didactical models, Matching Algorithm, Open and Online Learning, Social Media

INTRODUCTION

The European Thematic Network program (ETN FETCH) is focussed on future education and training in computing: how to support learning, anytime, anywhere. Compared to the preceding thematic networks we observe a paradigm shift from a description of the content and curriculum development to a description of the teaching-learning process. The emerging technology of social media enables open and online learning on a large scale. The Massive Open Online Courses (MOOCs) attract thousands of students and social media link students and educational material together.

The project E2 “Digital education for Enhanced Editorial products”, developed in the framework of the Lifelong Learning Programme, presents an analysis of e-Learning didactic models and methods. The teaching content development is described as the biggest problem. In contrast one of the goals of ETN FETCH is to model the teaching-learning process. First a new didactical model has to be

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developed around the use of social media, next the content of courses as an implementation of the didactical model.

In “classical” distant learning or e-learning students have access to learning material remote in place and time. Students are involved in individual self-study activities. The introduction of social media in the teaching/learning process, transforms the individual learning process in a group learning process. The challenging question is how to transfer communications of students about social and personal experiences to study related events and experiences in a network of study-friends. To offer a framework to students to communicate and cooperate is not sufficient. Such a network should be founded on an appropriate didactical model and embedded in the teaching-learning process and stimulated by the course material. Didactics is about theorizing learning and teaching. The challenge of a good didactical model is to develop a framework of optimal teaching and learning which is supported and used by teachers and students. Over the years many models have been developed, some of them are new, others blended versions of existing models. In this paper we present a didactical model based on social media which emerged in recent literature.

In many courses students have to cooperate with fellow students in assignments and project work. Usually students make a selection out of their friends. Sometimes the teacher defines projects group at random or based on academic performance. In this paper we will not discuss the problem of optimal group formation. The goal is to form groups of students with their individual characteristics and abilities such that the group includes a minimum of abilities and characteristics to perform group assignments successfully. Our algorithms supports the choice of students but taking care of requirements and preferences set by teachers and students. The question is how to find the best matching fellow students, especially students outside the university and distributed all over the world in case of MOOCs. After registration and enrolment in a course, students and their e-mail addresses are known. Inspecting the profiles from all these students via Facebook is too time consuming, therefore supporting matching tools are needed. At this moment there are many online dating sites trying to find the best matching life partner. Our interest is finding the best matching study partners. In our case the application will recommend possible study partners and students have to make their choice. The algorithm uses the skills and personality characteristics of students, requirements and preferences defined by the teacher to find a best recommendation and a balanced group will be created.

The outline of the paper is as follows. In the next section we present a literature survey, then the didactical model will be described. Then we present our matching tool and the results of preliminary user experiments.

LITERATURE SURVEY

An introduction to e-learning, an overview and its applications is provided by (Holmes & Gardner, 2007). They state that most e-learning didactical models are currently centred on the concept of communal constructivism, which include theories of behaviourism, cognitivism ad socio-constructivism together with the contributions of Bruner, Piaget and Vygotsky. In communal constructivism, each member of the community learns with and from each other as well as contributing resources to the learning community. The key-factor is the provision of enhanced communication and the creation of environments within new understandings can be fostered and developed. In recent years constructivism has extended the traditional focus on individual learning to address collaborative and social dimensions of learning.

Pedagogy 2.0 (Morgan, 2009; Cochrane & Bateman, 2013) integrates Web 2.0 tools that support knowledge sharing, peer-to-peer networking, and access to a global audience with socio-constructivist learning approaches to facilitate greater learner autonomy, agency and personalisation. Other authors (McLoughlin & Lee, 2010; Friedman & Friedman, 2011) defined the characteristics of a wide variety of social
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