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Customized *X*-Learning Environment: Social Networks & knowledge-sharing tools

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Abstract

The educational model based on fixed time, place, curriculum, and pace is not enough in today's society and knowledge-based economy. The education system needs to address the diversity of students' backgrounds and needs. Furthermore, educational equity is not about equal access and inputs, but ensuring that a student's educational path, curriculum, instruction, and schedule is developed in order to meet students' needs. Finally, personalized learning requires a leveraging of modern technologies enabled by smart e-learning systems, developed to track and manage the learning needs of all students, and to provide access to learning content, resources, and learning opportunities which are not all available within the traditional classroom. This is the time where the "new" world citizens' people feel "naked" without the use of technology. In this context, this paper presents a solution that integrates the concepts of social media and knowledge management allowing students, teachers and external experts (most of the times these can be future employers) to create an environment for educational work in a collaborative interdisciplinary space within and outside the institutional sphere. The solution presented is framed as an inclusive smart information system since it is developed in an adaptative learning environment (e-learning; m-learning; u-learning) for students, in higher education institutions that, due to several reasons (e.g. lack of supervision), feel a little bit lost when they have to manage their learning environment and deal with a certain topic for an essay adapted to his / her profile.

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1. Introduction

In the last years, education had undergone several changes both from a technological and a social point of view[1]. As a matter of fact, it is assumed that the educational model based on fixed time, place, curriculum, and pace is not enough in today's society and knowledge-based economy[2]. The education system needs to address the diversity of students' backgrounds and needs. Furthermore, educational equity is not about equal access and inputs, but ensuring that a student's educational path, curriculum, instruction, and schedule is developed in order to meet students' needs. Finally, personalized learning requires a leveraging of modern technologies enabled by smart e-learning systems, developed to track and manage the learning needs of all students, and to provide access to learning content, resources, and learning opportunities which are not all available within the traditional classroom. This is the time where the "new" world citizens' people feel "naked" without the use of technology.

Besides, the lack of interaction in traditional classes is a well-known problem with a long history of research[3]. The interaction between teachers and students is essential for learning in accordance with teaching theories[4], resulting in increased adoption of e-learning platforms and less frequently, of web 2.0 services. But what about the interaction between students / teachers and external experts or potential employers? Can they also be players in this game?

Independently of the training model adopted by each educational institution, it needs to have a component of assessment / examination of knowledge and essays prepared by students whether during the classes or at the final exams. This means that education needs to take into consideration "*how [teachers] develop ... programs and activities so that all students learn and participate together*"†. Ideally, this should include the participation of external experts that can bring added-value and experience as well as some professional supervision. On one hand we need to take into consideration that the interests, preferences and abilities of each student will condition his / her choices. On the other hand, students can and should count on the support of teachers and / or external experts (for instance for final dissertations) that can supervise them during the development of the referred work. Additionally, teachers or external experts can have ideas and needs of topics / themes to be developed as final dissertation which might not be known by the students because these might not have been disseminated or its dissemination was not adequate, or because of the lack of students work experience.

As for the selection of the topic / theme of each work / essay that suits the interests of each student and workplaces and which is in accordance with his / her competences, the objective is to create, within the Customized x-Learning Environment (Cx-LE) (for more information about this CxLE model please see Mesquita et al[5], a net of personalized knowledge for students, teachers and professionals / experts which recommend connections between users and potential ideas for works.

In this context and based on a previous proposal[5], this paper presents a solution that integrates the concepts of social media and knowledge management allowing students, teachers and external experts (most of the times these can be future employers) to create an environment for educational work in a collaborative interdisciplinary space within and outside the institutional sphere. The solution presented is framed as an inclusive smart information system since it is developed in an adaptative learning environment (e-learning; m-learning; u-learning) for students, in higher education institutions that, due to several reasons (e.g. lack of supervision), feel a little bit lost when they have to manage their learning environment and deal with a certain topic for an essay adapted to his / her profile.

The paper is organized as follows. In section 2, we identify the need to add vertical social networks to the CxLE which integrates the contributes of external experts and potential users, in particular with the suggestion of topics and themes for research and exploration during a degree. In section 3 we present the model based on a previous work,

† http://www.inclusionbc.org/our-priority-areas/inclusive-education/what-inclusive-education