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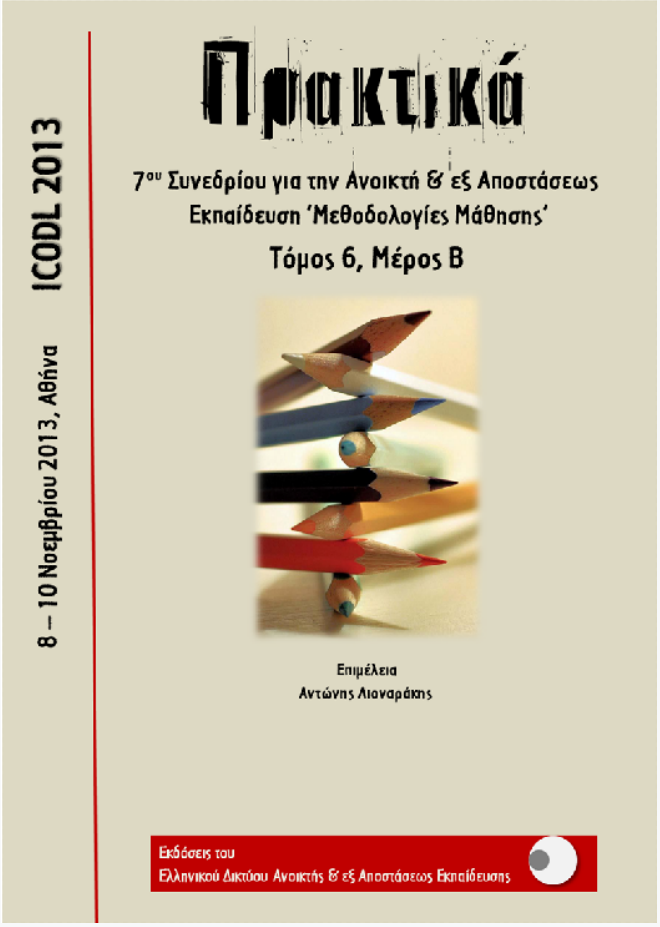

Multi-dimensional technology-enabled social learning approach

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Multi-dimensional technology-enabled social learning approach

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Abstract

The Web has become the biggest knowledge database that users access on a daily basis to retrieve useful information for their personal or professional decisions and actions. With the support of the technology and the IT revolution, the users once merely consumers, are actively producing and sharing content on the Web, using social networks to keep in touch, express, distribute and publish their experiences, views and ideas. Although, since their birth, most of the social media tools were not intended for educational purposes, educational organizations have started to recognize their added value in learning while socializing within their learning communities. However, their "educational" usage is still limited to facilitation of online learning communities and to collaborative authoring of learning material complementary to existing formal (e-) learning services. If the educational system doesn't respond to this systemic and structural changes and/or challenges and retains its status quo than it is jeopardizing its own existence or the existence of the education, as we know it. This paper aims to precede one step further by proposing a multi-dimensional approach for technology-enabled social learning that further exploits implicit knowledge hidden in socially contributed textual content.

Keywords: *social learning, e-learning, knowledge discovery, dynamic knowledge recommendation, knowledge extraction, knowledge asset, online communities, user generated content*

1. Introduction

Nowadays nobody questions the social aspect of people's lives. For the most part human beings are social creatures, highly adaptable and able to learn new behaviors very quickly. We socialize at home, at school, at work, outdoor, indoor, etc. The learning, attending and teaching classes as a part of people life it's by its nature "social". What technology has facilitated is that now people can socialize and learn wherever, whenever, however and with whom they want and prefer. Helped by the social tools, social networks, the Web and the technology in general, people are much more flexible and free in choosing their way of socializing and learning.

It is fact that social networking sites grow in popularity day by day. The information generated and shared at these sites is enormous and grows exponentially. Although not

originally intended for educational purposes, social media sites have also millions of users sharing their experiences, knowledge, ideas, views, etc. The latter presents implicit information and knowledge acquisition process that is fundamental in learning processes, while it includes a natural, engaging and motivating human interaction process. Learning while socializing and collaborating has proven crucial in an educational context, leading to higher knowledge retention than formal learning as shown in the British Council research (2009). Thus, learning is not restricted in classrooms but further occurs in everyday activities and interactions with people. Knowledge is viewed to be residing in networks of human and non-human appliances as applied by Bell (2010). We are all aware that the IT revolution is having an impact on education, but we tend to appreciate the changes in isolation, and at the margins. To this end, Fary (2011) suggests that technology-enabled social learning has become a new and evolving trend – but is it just a passing trend? The answer to this was researched upon by the social learning survey of Masie E. for the Social Learning LAB & Seminar (2009) leading to the results shown in the Figure 1.

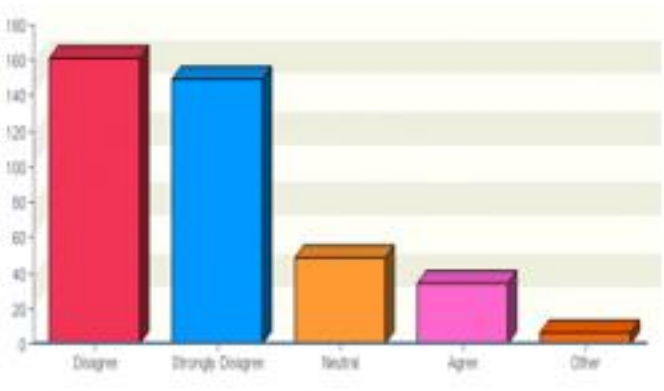

Figure 1: Is social learning a fad?

As shown by the results, a low percentage (11%) thinks that social learning is only a fad. A solid percentage of 77% acknowledges the importance of technology-enabled social learning in knowledge acquisition.

From the above conclusions and according to Attwell (2006) the reaction of education systems and institutions to the rise of social networking has been at best bewilderment, at worst downright hostility. However, a refusal to engage in these issues risks education becoming increasingly irrelevant to the everyday lives of many young people and particularly irrelevant to the ways in which they communicate and share knowledge.

2. Educational transition

As most of the socio-related processes (if not all) the learning itself is subject of transition. According to dr. Nancy Schlossberg's, theory of transition is a rather psychosocial model of development examining life events, which affect various aspects of an individual's life and their societal roles. Education being a lifetime process of (almost) every individual is closely connected and affected by the theory of transition. The transition here may refer to: any event (or non event) that results in changed relationships, assumptions, routines, roles, etc. (Summers, 2002)

If the educational system doesn't respond to this systemic and structural changes and/or challenges and retains its status quo than it is jeopardizing its own existence or the existence of the education, as we know it. The "college bubble" as stated by Harden (2013), will blow. Student loan debt is also at an all-time high and tuition costs are continuously rising at a rate far outpacing inflation. Students are defaulting on their loans at an unprecedented rate, too, partly a function of an economy short on entry-level professional positions (Harden, 2013).

All of this information is alarming. When this "college bubble" bursts, it will end a

system of educational system that, for all of its history, has been steeped in a culture of exclusivity. As the outcome of it we are going to be witnesses of the certain fact: the college classroom is about to go "virtual".
With the support of the technology, as already stated, the roles (student, teacher) are already becoming irrelevant if not non-existent. The IT revolution is having an enormous impact not only on the fundamental systems that we know but on the educational system, too. We as participants in this transformation tend to appreciate the changes in isolation, and at the margins. Not many have been able to exercise their imaginations to the point that they can perceive the 'landscape' changes ahead, and what they portend for the business models and social scripts that sustain the status quo.

3. Technology-enabled social learning

Most of the existing frameworks and tools (such as LMS, LCMS) have still not fully addressed the potential of social learning. "And what is that?" one may wonder. This paper, identifying the immense potential of online communities and socially contributed content in an educational context, explores and presents a multi-dimensional approach to technology-enabled social learning. It further considers knowledge discovery, extraction and deployment from socially contributed content in order to automatically feed and adapt existing e-courses with dynamically recommended and community-originated learning material.

Instead of "reinventing the wheel" and creating new frameworks, projects or tools that will support the social learning, reusing what's already existing and available to extract the valuable information can be pragmatic.

4. Proposed multi-dimensional technology-enabled social learning approach

The proposed approach focuses on presenting a fully-featured social media search engine and dynamic socially contributed content recommendation of educational value. The proposed framework searches, mines and evaluates socially contributed content and online social communities to extract and recommend both content as well as peers/experts of substantial educational significance to online teacher-facilitated (but not only) learning communities within LMSs or not.
For this purpose, all dimensions of social interactions that would promote "learning while socializing, socializing while learning" for learners, instructors and other educational stakeholders are studied and the optimal synergy of all towards fully boosting technology-enabled social learning is further presented.
Without ignoring what is currently applied, the attempt is to research upon the full cycle of technology-enabled social learning. Furthermore, the attempt is to how implicit knowledge creation and sharing in informal social interactions among online social communities in thematic areas of high learning added value (e.g. science, innovation, etc.) can be discovered and exploited to advance the learning potential of today's e-learning systems; how the extracted knowledge can be evaluated and recommended to the users. User's feedback on the recommended knowledge is also taken into account, evaluating the information (the knowledge) itself and its source (the knowledge creator).
The rationale towards this is the following: there is a substantial number of cases in which online users intentionally or even unintentionally share information of great educational value within their online social communities. Furthermore, these social communities may be consisted of people who are recognized experts or have become very popular in a specific field and could ideally function as advisors, e-facilitators or

distinguished lecturers for learning communities tackling the same field. Thus, if socially contributed content of educational value is properly extracted and presented to learners or if potential external experts in the field are automatically searched for and motivated to play an educational role in the latter, then it is easily understood that technology-enabled social learning may achieve many more than currently attributed to do.

The purpose of this paper is to properly integrate and present all dimensions of technology-enabled social learning both for personal self-advancing but also for community-based self-learning even within formal e-learning settings. It proposes how to enhance, integrate and complement current technology-enabled social learning tools and systems; how to dynamically recommend, evaluate and optimally exploit implicit knowledge created during online social interactions in various social networks. Thus, closing the loop from social interactions to knowledge creation.

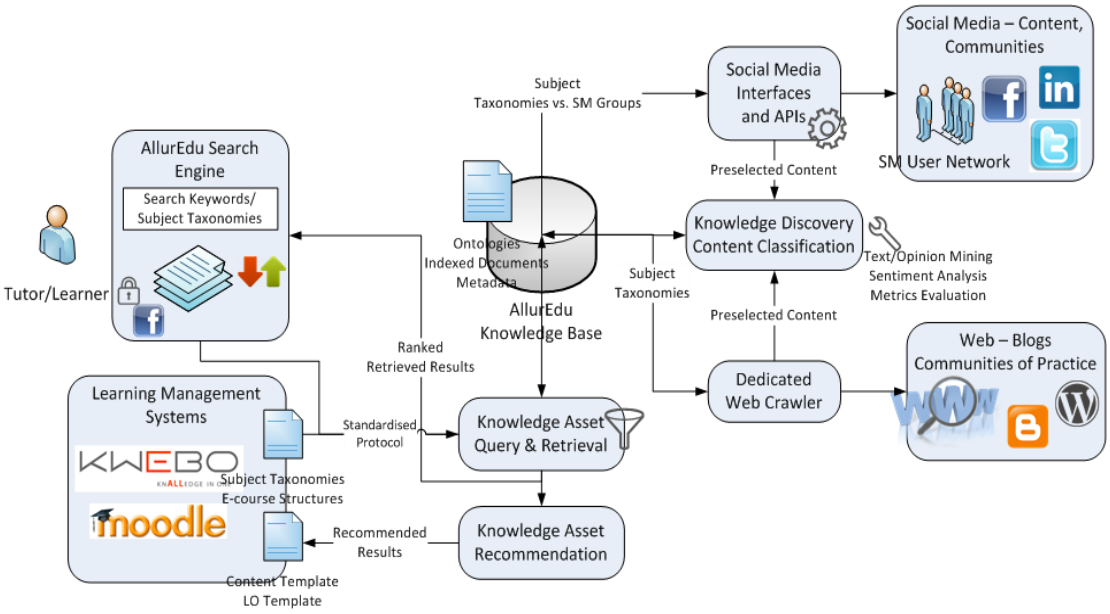

Figure 2: Conceptual Architecture of AllurEdu Tools/Services for Knowledge Discovery from Social Media and Recommendation

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