Innovative Training Strategies in Teaching Financial and Monetary Models in the Context of Socio-Economical Cohesion

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Abstract

Mobile learning (m-learning) is rapidly developing as one of the key emerging fields in education sciences. Taking into account the exponential use of smartphones, tablets and internet in the knowledge society, new training strategies are needed, especially at the level of higher education. By analyzing the most recent developments in the pedagogical literature and creating a new knowledge management model, this paper aims to analyze the impact of using virtual learning communities, as an innovative and creative training strategy, in facilitating college students learning, especially for teaching financial and monetary models in the context of socio-economical cohesion.

Keywords: *innovative training strategies, adult education, virtual learning communities, creativity models, socio-economical cohesion*

1. Introduction

An innovative strategy for learning is attracting more students than a traditional strategy. In this new era of technological applications, trainers, professors, teachers should adapt and face this challenge.The young workforce should be prepared for the market demand and a strategic collaboration between universities, government and companies could improve the efficiency of these actors and also create the prerequisite for the long term development.

A careful examination of many policy documents suggest the university-business cooperation (UBC), in particular, is essential for developing students' professional competences, conclusion supported by many studies, for example "*State of European UBC – Study on the Cooperation Between HEIs and Public and Private Organisations in Europe"* which states that UBC is a crucial activity in the development of knowledge societies and it directly benefits HEIs, business, academics and students. The same document states that in Europe, UBC is still in early stage of development and such there is a lot of potential in this field. One of the key findings is there is a need for supporting mechanisms, such as the opportunity to use eInternships. The main idea of this study is *how to better use innovative training strategies in order to bring business and university* (students, professors and management) closer together. We emphasize that one of these training strategies can be the use of Edmodo platform (www.edmodo.com), that was susccesfully used in many educational

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studies (Strunga 2014).Another document *"30 Good Practice case studies in university-business cooperation"* also support this idea, together with very recent EU Commission document titled *"Working together for Europe's young people – A call to action on youth unemployment"* and *Europe 2020 Strategy.* In the literature we find these Private-Public Partnership under the auspices of ***Triple Helix model***.

2. Triple Helix Model as the framework for optimizing the University-Business Partnerships and for innovating training strategies

The importance of education in business environment it is significant, not only because it boosts the human capital, but it is also a determinant factor in the long-run economic development of technology and know-how. Education, intellectual capital, human skills and abilities are determining the "endogenous innovation based on growth", science and technology. Unfortunately the less developed countries do not have the same advantages as the developed countries. This is the reason why they should find ways to adapt the technologies from abroad. Even so, it is very important to have specialists and scientists who could adapt technologies from abroad to regional conditions. The technology transfer, implementation and maintenance are related to skilled workers. Public education, trainings and brainstorming are vital for providing knowledge, which is the core of science-based innovation (Suciu and Florea 2014).

Khan and Park (2013) explain that the model of triple helix is reconstructing the theory of e-government, by introducing the demand side - citizen and business environment. Moreover, triple helix indicators could be used in studying the implication of university and industry in e-government model.

For example, in Korea there is a cluster formed only by research centers and universities. The same situation is in UK where three universities and one research center were clustering in British Cluster, while in France the Telekom Cluster is based on one research center, two universities and one of the most important company of telecommunication. Noteworthy is that, an example of best practice of university-industry-government cluster, gathers a government organization as NASA (National Aeronautics and Space Administration), a company (Malin Space Science Systems), two universities (Cornell University and University of Nevada). The experience revealed that in most cases in clusters there is one important member, which creates links and stimulate collaborations.

Leydesdorff and Meyer (2006) are assimilating wealth generation, novelty production, knowledge accumulation and public control, to the triple helix model. They are making comparisons between evolutionary analyses, which concentrate on functions of selection environment as outputs, and

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historical analysis, which concentrate on the process and impact of institutional arrangements that carry these functions.

In order to analyze the expectations, which could not be easily observable and which also do not have a singular relation with institutions, the authors suggest a set of statistics. Although, there is amount uncertainty between layers and interfaces, the triple helix model is embracing and sustain its functions. The industry has its own evolution – this is the reason why this system stimulate the specialization and knowledge transfer, both within system of reference and in the co-evolving as technological environment.

On the evolutionary triple helix model, there are different opinions regarding the perspectives, either prevail integration, or differentiation. Furthermore, the selection mechanism are centered on two key elements as science or technology, and thus it is important to integrate both in analysis process. The triple helix model is an analytical one, which allows researchers to comprehend in terms of expectations. Referring to triple helix model as an evolutionary system, the knowledge-based innovation system could be analyzed in terms of integration and differentiation, known as rich ecologies.

An important study mentioned, analyze the relation between technologies and institutions from the perspective of co-evolution. This model may lead to mutual shaping. In time, co-evolution between selection environments can sustain technological progress under the auspices of mutual shaping. This could turn into a negative aspect when it appears additional degree of freedom, which may lead to de-stabilization. For example, when a multinational company buy a regional small company which innovate, may occur a relocation of activity or eventually a transfer of knowledge and innovation.

Mahroum et.al. (2013) explain that is very important to adapt the model to the regional characteristic, firstly because it is depending on the state of development and secondly, because each economy has its own list of innovation driven factors (for example in one country, collaborations between industry and university are important when and where such partnerships are possible and may conduct to innovations).

Mahroum et.al. provide a batch of five functions, which could explain and characterize the efficacy of innovation system. These functions are analyzed through the AC/DC model for innovation, starting from development capacity (based on knowledge creation and knowledge exploitation functions), continuing with absorptive capacity (based on access external knowledge, anchor external knowledge and diffuse knowledge functions) and ending with external knowledge. Further, it explains what represent these functions for the innovation systems. Accessing knowledge represents the capacity to relate and collaborate with other nations through international networks. The second function, anchoring knowledge represents the capacity to identify and adapt the external knowledge. The next function, diffusing knowledge represents the

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capacity to absorb and adapt new technologies, information, best practices and innovations. Regarding the last two functions, knowledge creation and knowledge exploitation are referring to bring new knowledge to the economy and explore this knowledge base for a smart and inclusive growth.

Starting from AC/DC model, the authors build an indicator named Innovation Efficacy Index that examine innovation through adoption. The Innovation Efficacy Index could be used for making correlation between efficacy indicators and economic outputs.

ACCESS -> ANCHOR -> DIFFUSE -> CREATE -> EXPLOIT

Authors insist in adapting these model to each country specifics, mostly because developing countries don't have the same policies and regulations as developed countries.

Ivanova, I., A., Leydesdorff, L. (2014) define the Triple Helix model by two characteristics: a constant changing between the interaction of actors and also by the non-linearity of the model. According to authors, non-linearity appears as a result of the reverse process of transferring information from the subsequent stages of advancement to previous ones, in addition to the direct process of technology transfer from R&D to the market. Moreover, at the system level, it could represent the capacity of both self-replication and self-generation of organizational formats and new innovative technologies. This process could not proceed when discussing about two actors.

Herliana S., (2014) explains the role of each actors of triple helix model. Universities could be analyzed through three perspectives: as education, as research center and as community service. The industry has the attribute of inventor for new goods (products and services), then it has the function of job creation and not the last important role, it upholds the development of new markets. Regarding the role that government is playing in the triple helix model, Herliana considers that most relevant aspects of government involvement are democracy, good governance and the management of regional autonomy. Further, these aspects shape the role of government as catalyst, regulators that generate policies, consumer-investors-entrepreneur and urban planner.

Accoring to Schaffers et.al. (2011), the Triple Helix model is sustaining the development of smart cities, referring to smart cities as an agglomeration of intellectual capital of universities and research centres, industry of wealth creation and participatory governance

3. Virtual Learning Communities as a plaform for Triple Helix Model

Virtual Learning Communities (VLCs) have the potential to become an excellent platform for the interaction between the universities, industry and government. The participation in virtual communities has benefits especially for

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students and young professionals (Blanchard, Askay and Frear 2010; Boulay and van Raalte 2013; North and Kumta 2014), such as: a) *occupational commitment* (Meyer, et al., 2006; Redman & Snape 2005; Ritekka, 2005; Van Knippenberg & Sleebos 2006 apud Blanchard, Askay and Frear 2010); b) *building better professional networks* because by participating in a virtual learning community, members have the potential to interact with other similar professionals from around the country or region (Blanchard, Askay and Frear, 2010). This could widely increase the contacts a professional has to provide information for his or her job (Stewart 2005; Wasko and Faraj 2005 apud Blanchard, Askay and Frear 2010); c) *better student performance* i.e. students can increase their professional social capital through these networks (Oh, Chung, & Labianca 2004; Putnam 1996; Wellman, Haase, Witte, & Hampton 2001 apud Blanchard, Askay and Frear 2010). In a previous study we have explored additional advantages and disadvantages related to virtual learning communities, particularly in an eMentoring and eInternship context. For example, some of the advantages are the following (Strungă 2014):

- Using a variety of multimedia learning tools: video, audio, text
- Enhancing communication and collaboration tools using Web 2.0 technologies etc.
- Flexibility in terms of time, space, work and offer
- The possibility of matching supervisors and interns from different states and cultural areas.
- Reducing financial costs and time invested in the activities
- Reaching to students and the other stakeholders from remote areas (or those who have other access difficulties), finding a place where to organize the courses, organizing the courses, infrastructure etc.
- Higher access for people of all ages, race, sex, religion, vocation, interests etc.

In the next paragraphs, we will examine the potential of a virtual community centered education – Edmodo - to bring together several group of stakeholders (universities, representatives of industry and government) by using the different features of the platform. There are other VLC that can be taken into consideration for this aim like Schoology or Google Class. The key element of the networking strategy, is, however, not the tool intself, but empowering the participants to collaborate and share ideas, adapting to curriculum and organizing a better community.

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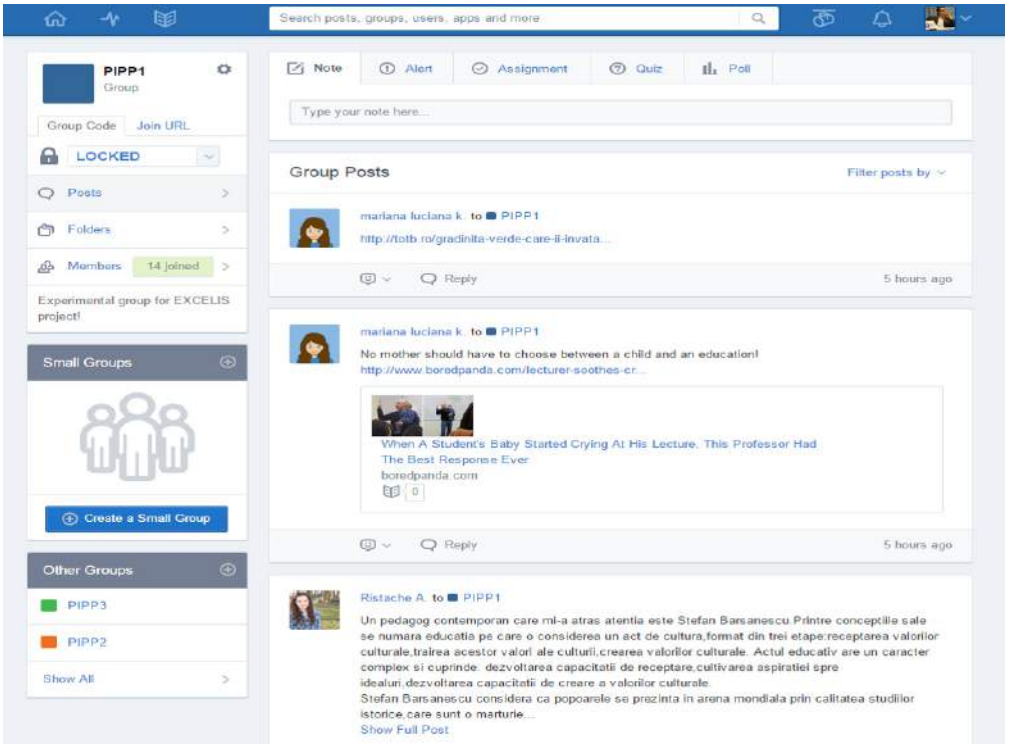

Figure 1. Main interface of Edmodo platform

Edmodo platform can integrate the following elements of an innovative training strategies (Strunga 2014):

- Virtual research and study of the learning behavior of students which can be done by organizing e-surveys or enabling experiments that can prove the advantages of the VLC. Even more, an innovative training strategy will use an action-research cycle as a model for its activies, in the following manner, suitable for a pilot-study:
    a. Defining the educational design of the VLC;
    b. Organizing focus groups and surveys with the main stakeholders (professors, students, experts, representatives from business and government) in order to find out what are their expectations;
    c. Organizing an experimental situation (in the framework of an action-research model) with two different groups, by selectively enabling optional features, add-ons, applications, etc. in the VLC. The answers will be collected by using the same research instrument in both pre- and posttest phases.
    d. Organizing the educational activities in the VLC;
    e. Evaluating the progress, by using the same instrument as in the beginning of the experiment.

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f. Evaluating the impact of the project by correlating the outcomes of the assessment with the components of the educational design established in the first phase.
g. Organizing focus groups and surveys with the main stakeholders (professors, students, experts, representatives from business and government) in order to receive their feedback regaring the project.

- Virtual curriculum by creating a market for the best manuals, books available for both teachers and students (Edmodo Spotlight). This products can be evaluated by the experts in education sciences and economics in order to choose the best possible content for schools and universities (Bunăiașu 2011).

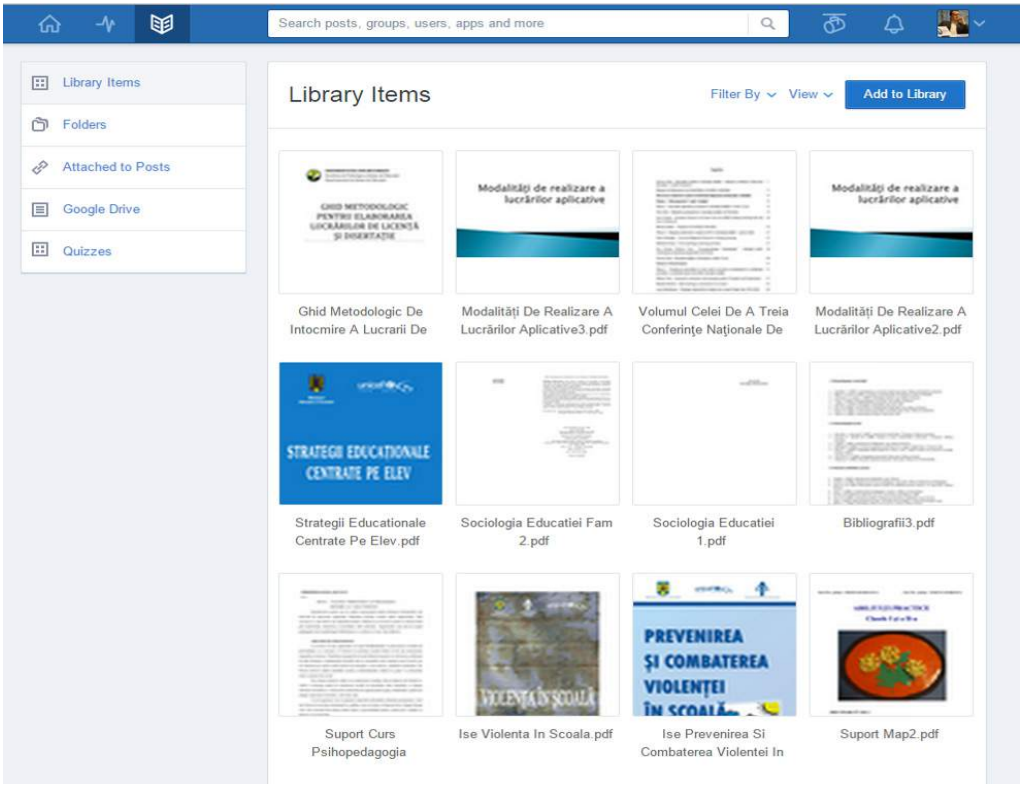

Figure 2. The virtual library embedded in the Edmodo platform

- Virtual evaluation and assessment in the form of electronic tests and surveys. However, the assessment of results can be done also continuously by observing the products of students' activities (number of hours logged on the VLC, time spent with doing the tasks or number of messaged between the students, of messages posted etc)

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- Building international virtual learning communities, by participating and collaborating with other colleagues from abroad (foreign students and professors, entrepreneurs etc).
- Linking virtual learning communities with virtual professional development communities, possibly even including professional associations in the VLC. One example of such bridging is the image nr. 3, that brings together experts from all over the world in the field of professional development. This is especially important for the professors and students who will work in the eduational area (teaching, training, mentoring, coaching etc). The professional community from Edmodo has over 174.000 participants from many different states
- Integrating e-mentorship and e-internship as new methods for developing students' professional identity. (Strunga 2014; Strunga 2009).

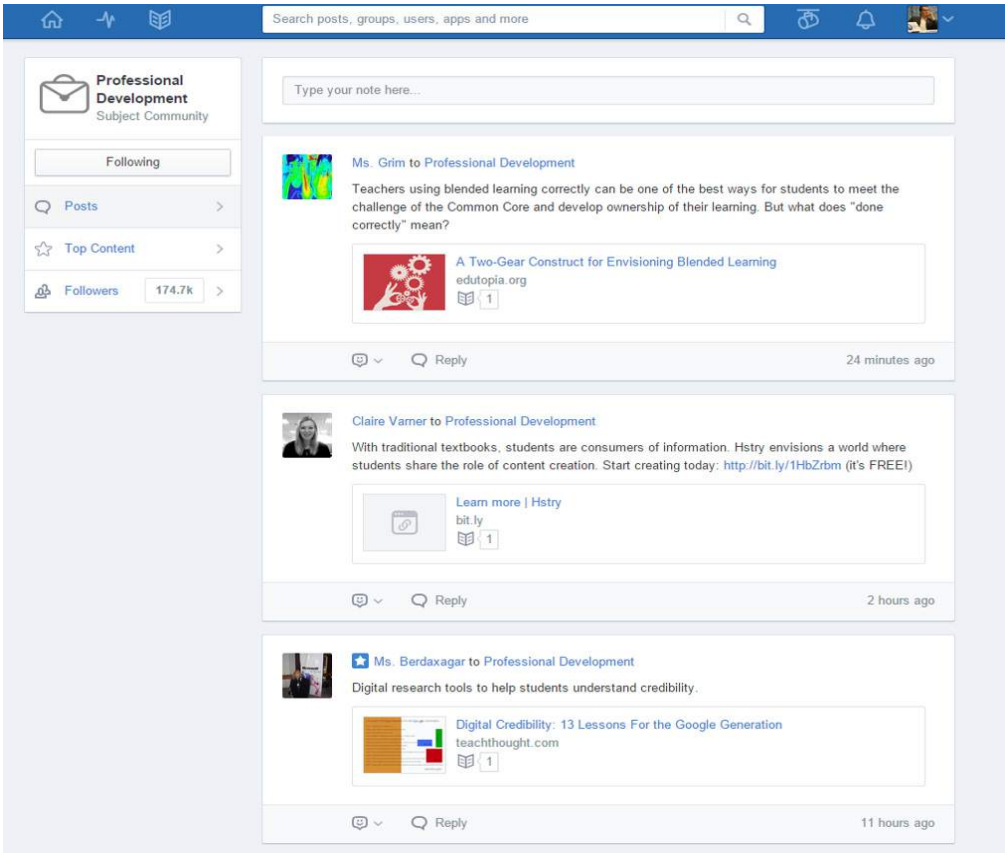

Figure 3. The Professional Development Community of Edmodo platform

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4. Conclusions

There is an urgent necessity of implementing new virtual learning communities and environments in Romanian higher education institutions with the explicit aim of developing a better professional identity for students in the field of economics and education, in the context of a new knowledge management model (Strunga 2015; Strungă 2009). VLCs can have a great impact in implenting the triple helix model at the level of universities, with the help of the emergent ITC technologies.

Observing the Triple Helix model, we could conclude that it is important to economy the clustering of industry with academic institution. Firstly, to increase the power of advanced manufacturer, companies need to form a cluster or to make partnerships as public-private partnerships. As Porter (2011) explains, cluster represents a geographic concentration on a specific industry, of companies, universities, research institutes and other catalysts. This formation act as a magnet for qualified workforce, and at the same time it is sustaining the investment profile of the industry and also the knowledge development and sharing. Clusters generate healthy competition, increasing the productivity and innovation, giving the opportunity to entrepreneurs to create new markets.

Based on this facts, Romania should invest in high-tech clusters and strength the relation between universities and industries.

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