MOOCs as Supplement of Informal Education

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ABSTRACT
The contribution covers discussion on informal university learning, which is a part of heutagogy. In the paper, the university learning is considered as autopoietic organization development as well as development of business organization strongly dependent on external knowledge resources. In general, university education space covers formal, informal, and non-formal learning. Nowadays, informal learning has an excellent opportunity for development, because of Web 2.0 ideas and solutions. In the paper, the architecture of informal learning environment is visualized in ArchiMate 4.0 beta version language. The main goal of the paper is to present informal learning architecture as supplement to the formal learning. The MOOCs (massive open online courses) are included in the architecture model for informal learning support.

KEYWORDS
ArchiMate, Autopoiesis, Enterprise Architecture, Informal Learning, Massive Open Online Courses, Resource Dependence Theory

INTRODUCTION
With Web 2.0 technology, students are exposed to multiple knowledge spaces in a single learning environment in contrast to the traditional classroom knowledge acquisition. Web 2.0 technology provides students a conversation space for elaborating ideas as well as for social negotiation and deliberation processes among Internet users. So, they have opportunities to criticize, correct and finally transform their concepts additionally accepted by the online community. The paper focuses on informal learning, where social networking plays an important role, however, problem of university education is much more complex. The rest of this paper is organized as follows: the paper starts form the discussion on heutagogy, which encourages to treat university as autopoietic organization. Next, the resource dependence theory is used for the explanation that university needs the external knowledge resources for its educational process realization and support. The most important part of the paper includes model of architecture of informal university learning. That activity is rather complex, therefore, mainly massive open online courses (MOOCs) are emphasized in the informal learning model, which is considered as supplement of informal learning.
BACKGROUND

Heutagogy Fundamentals

According to Blaschke (2012), heutagogy is defined as self-determined learning rooted in andragogy. In that approach to learning, students are very autonomous and self-organized. There is a focus on development of student capacity and capability with the goal of prepare them to work in complex knowledge environment. The heutagogical approach is considered as theoretical background for applying to emerging technologies in distance education and for steering distance education practice. Heutagogy supports student self-directness in knowledge discovery and dissemination. Andragogy and heutagogy are characterized by learner control and self-responsibility in learning, learning objective defining by students, self-organization in how to learn, intrinsic motivation, and incorporation of the learner experiences. In the self-organized learning process, students initiate diagnosing their learning needs. They formulate learning goals, identify knowledge resources for learning, implement appropriate learning strategies, and evaluate learning outcomes. Heutagogy applies as holistic approach to develop student capabilities, so the heutagogy is considered as a double-loop learning and self-reflection, where students discuss the problem and the resulting activities and outcomes, and finally they deliberate how it influences on their beliefs and future activities.

Nowadays, formal learning is provided by schools and universities. In European Union (EU) countries, schools and universities are obliged to respect the Bologna Process requirements concerning the university education. Therefore, each university ought to implement European Credit Transfer System (ECTS), European Qualification Framework (EQF), and National Qualifications Framework (NQF). NQF in an instrument for the classification of qualifications according to a set of criteria for specified levels of learning. The Bologna Process requirements were implemented to improve the transparency, access, progress and quality of education in relation to the demand on the labour market (FIRST..., 2010). Nowadays, the word “competence” is very attractive for both educators and employers, because it is easily identified with value capabilities, qualifications and expertise. Competence is defined as knowledge, skills, and attitudes (“A Guide,” 2002; Winterton et al., 2013).

In formal university learning practice, the published theories, teacher expertise, personal experiences, beliefs and prejudices in everyday life are referred to as knowledge. Skills are associated with activities like problem solving, reasoning, assessing, concluding and they include the mental process of analysis, synthesis and evaluation. The cognitive skills are observable in practice, but social competences, i.e., attitudes are revealed in student behaviour (Czarnecki, 2013).

Non-formal learning at universities covers various less-structured learning events, such as night university visiting, open lectures, community sport events, conferences, seminars, summer schools, and company visits. That forms of education do not either have curricula, accreditation or certification associated with formal learning, but they are more structured than informal learning approaches.

Informal learning is organized by students and it has no strictly and precisely specified objectives in terms of student learning outcomes (SLOs), so it is considered as learning by experience. However, informal learning can be considered as supplement and support of the formal education. Informal learning focuses on socialization, support, play, and self-directed learning. It is widely developed in a community of students supporting themselves in projects and knowledge creation, in contrast with the traditional view of teacher-centered learning via knowledge acquisition. In the informal learning process, students read self-selected books, participate in self-study programs, watching YouTube films, navigate Internet support materials and systems, and seeking advice from peers. However, the informal learning process should be supervised by a teacher, student tutor, or knowledge broker, who could suggest, explain and control the self-learning activities. That activities are frequently realized
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