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Educational Environments for Students' Organizational Learning

Palmira Juceviciene and Gintare Valineviciene

Kaunas University of Technology
K. Donelaicio str. 73, LT-44029 Kaunas, Lithuania

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Abstract

Scholars agree with the necessity to relate university educational environments with real life situations. Some universities try to create such environments through organizing students' practical tasks in real work organisations. Unfortunately, students encounter difficulties in adaptation to organizations. This paper is a theoretical attempt to investigate educational environment for students' organizational learning concept, aiming to substantiate educational environments for organizational learning in university studies. Organizational learning is analysed in the light of management and educational sciences.

Keywords: **organizational learning, educational environment, university, students' organizational learning.**

Introduction

Students' quick integration into the labour market is one of the most important priorities in the European Commission, initiating a public discussion between each country's government authorities and employers. Despite all joint efforts, labour organizations still declare the lack of graduates who demonstrate sufficient special and general competencies (Wickramasinghe and Perera, 2010), especially those organizations that use knowledge as their main strategic asset – knowing organisations (Choo, 2006). Thus, organizational learning (further on – OL) competence is essential for its employees. Organizational learning can be defined as an employee's individual and collective knowledge construction that is necessary to fulfil organizational needs and reach its purposes (Yeo, 2007). In order for OL to accrue, employees have to identify organizational purposes and be motivated to reach them. OL is an object of discussion among management researchers, including emphasis of aspect of OL educational empowerment in work organisations (Bartholomew, 2008; Steiner, 2009; Leistner, 2010). OL in universities was analysed in the aspect of teacher's organizational learning (Edintaite, 2012).

Unfortunately, students' OL has lacked researchers' attention. Researchers emphasize students' collective (McMurtry, 2010) and collaborative (Juceviciene and Vizgirdaite, 2012) learning. University study *practice* is usually oriented to students' individual learning and collective learning or emphasized as a method to achieve other learning purposes, and not as a method for students' OL competence development.

Over the last decade, practitioners and researchers have been paying more attention to educational environments (further on – EE) that empower students for successful studies. Most effective EEs are those that enable collaborative learning and empower students to solve real life problems and develop their skills that are necessary in real life situations (Salmon, 2004) and provide students with the experiences, challenges and opportunities which occur in the 21st century (Chen, 2010).

Yet, there is still a lack of a comprehensive conception of how the university should develop competences that are necessary for successful work in organizations, such as OL competence. OL competence development is a very challenging goal to universities, as it requires creating real organizational environments (Munro and Cook, 2008). Some universities are organizing students' practical tasks or internships in real work organizations, hoping that students will learn the most important work skills, including OL. Unfortunately, students that lack work experience, encounter difficulties in adapting to organization's environments (Garavan and Murphy, 2001). Some universities implement project-based study models (e.g. Aalborg University), however, this model is based on a small students' work group that only solves practical problems (Kolmos and Fink, 2004). Even if students feel very engaged in their team performance and problem solving, they still identify themselves as university students, not as members of organization (Kahu, 2013). Thus, there is a problem to define how university EE that empower students' organizational learning should be designed. This paper is an attempt to provide a theoretical background for solving it. The research object is educational environments for students' organizational learning. The aim is to provide rationale for educational environments for students' organizational learning in university studies theoretical model.

The methods of research literature analysis and theoretical modeling were applied. The research methodology and conceptual background:

- *organizational learning provides knowledge important to the organization and takes place in organization environment* (Nonaka, Toyama and Konno, 2000) which means that in order to achieve

the OL in the study process, it is necessary to create a context identical to a work organization;

- *effective knowledge creation depends on the enabling context* (Von Krogh, Ichijo and Nonaka, 2000) – therefore, a labour organization context created for students has to empower, i.e. to help them understand and implement the processes necessary to reach organizational aims (OL among them) within the organization.

In the first part, OL is analysed in the light of management and educational sciences highlighting the importance of OL environments. In the second part, a rationale for EE for students' OL model is provided.

Organizational Learning and Its Environment in Educational Science Approach

Learning has become an object in various social science disciplines (educational sciences, management, sociology, psychology). Each of them focuses on a particular learning aspect and context. OL, first of all, is an object of management, although management fails to solve some emerging OL problems. Thus, educational theory and practice can contribute to solving it.

Organizational Learning: SECI Model. OL is usually an object of knowledge management, because of its purpose – to provide organizations with continuous (particularly individual and collective) competence development. According to Dixon (2000, p. 6), OL is 'a conscious learning process implementation on an individual, collective and systematic level, for continuous organizations' transformation into a direction that is increasingly satisfying its stakeholders needs'. Therefore, OL is associated with organization's purpose and its achievement processes. According to Koskinen (2012), organizational learning is often conceptualized as a process by which organizations develop rules, procedures, and routines for solving recurring problems. The need for new rules usually appears when organizations solve emerging, usually not typical, problems. Therefore, organization is using purposeful management actions to enhance necessary knowledge creation. Nonaka and Takeuchi (1995) discovered, that organizational knowledge creation is a cyclic process that can be illustrated in OL model, so called the SECI model (Figure 1, improved Nonaka, Toyama and Konno (2000) model) that might be defined as:

1) OL helps employees or groups while solving not typical problems:

a) By providing the required knowledge or externalising unrecognised knowledge they already have (so called tacit knowledge). Tacit knowledge, according to Nonaka and Takeuchi (1995), is usually constructed in the socialization phase (Figure 1, phase A), when employees create common (collective) tacit knowledge in work processes and interaction;

b) By using knowledge for problem solving. In organisations, problem solving is usually not an individual process but also involving all collective actions in *departments* or *groups*. It is natural that problem solving results in the creation of new knowledge (Koskinen, 2012). As Nonaka and Takeuchi (ibid) emphasize, it is collective knowledge of the group or department. This process is illustrated in the SECI externalization phase (Figure 1, phase B). Yet, not all scholars agree that in this phase only collective knowledge is created. According to Johnson (2007), in this process, the same as in all other SECI phases, an individual experiential learning occurs, which creates individual knowledge alongside a collective learning. The authors of this paper agree with this insight.

c) By capturing new individual and collective knowledge, constructed in a problem solving process. The group will have necessary experience, norms and rules to prevent similar problems in the future or solve them in more efficient ways by using the past experience later.

2) Promotes interested individual employees or groups to summarize knowledge (expressed, gained or created) by formalizing it on the entire organization's level. In SECI model it is called the combination phase (Figure 1, phase C) by Nonaka and Takeuchi (ibid). This phase results in new rules, norms, procedures or technologies. Some of them may be considered as emerging innovations (Argote, McEvily and Reagans, 2003) i.e. innovations that arise inside the organisations instead of being a 'top down' settlement.

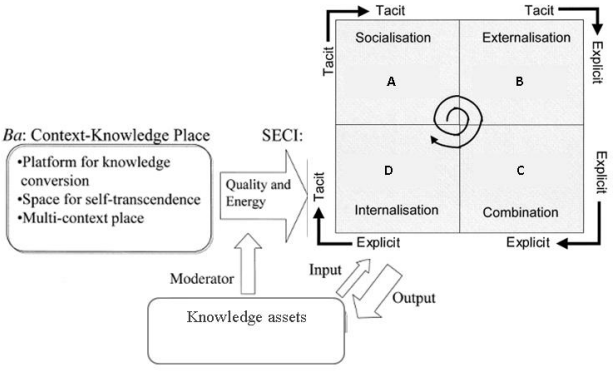

Figure 2. Three elements of the knowledge creating process (modification of Nonaka, Toyama and Konno, 2000)

3) Embeds knowledge in organization activities. Knowledge that is created by the entire organization (norms, procedures, rules or technologies) is clear to employees and becomes their own. Some of it might be disseminated in a form of information; some may require additional staff training or other educational forms. In the SECI model it is identified as the internalization phase (Figure 1, phase D) by Nonaka and Takeuchi (ibid). In this way, the collective knowledge of employees (accepted and embedded in work activities) and teams becomes like the engine for organizational performance improvement.

Capturing and Dissemination of Organizational Knowledge. As organisations constantly meets various challenges requiring solving of untypical problems, the SECI cycle in organizations repeats as many times as necessary. Therefore, OL may be referred to as an organizational knowledge creation cycle that influences continuous individual and collective development. This kind of development helps organizations to survive in the turbulent environment.

Ideally, in the SECI cycle, knowledge is transferred from one phase to another, so employees can use that knowledge in the next phase adding value to organization. That kind of knowledge is called 'knowledge assets'. But the SECI is just an ideal scenario. In real life, knowledge creation process can differ. According to Dell and Hubert (2011, p. 65), 'organizations often face a problem where only some employees understand the process of knowledge creation, especially when it is embedded in their everyday activities'. This means that organizations often learn without even knowing it. In this case, some knowledge might be lost in the process and not transferred to the next phase. Therefore, all important organizational knowledge (explicit, at least) should be captured for further use in the every SECI phase. By capturing knowledge and formalising it, organizations are creating knowledge assets, which builds a knowledge bank filled with virtual or paper documents (data, videos, reports, etc.). Knowledge banks should be disseminated and available to all organization members and its usage embedded in all daily organizational activities, for employees to foster new ideas and innovations.

OL Environments – Why Management Approach Is Not Enough? Effective usage of the knowledge assets is not the only problem solved by OL. As it is shown in the organization practise, some extra efforts need to be made to promote continuity of the SECI cycle. Due to work and research in organization theory and practice juncture, the SECI model was improved by adding specific contextual action environments to each phase (socialization, externalization, combination, internalization) by Nonaka, Konno and Toyama (2000), naming it Ba. According to them, to enhance knowledge construction in each phase it is necessary to create certain environments.

The OL processes in the socialization phase are conditioned by the *originating* Ba, where conditions for co-workers to communicate and cooperate, stimulating the feeling of being 'together', are created. The externalization phase must take place in the *dialoguing* Ba, where conditions for dialogue and discussion, for members of the group accordingly develop common, collective knowledge, are created. The *systemizing* Ba takes place in the combination phase, where organizational knowledge is systemized to the 'official' knowledge (rules, regulations, technology, etc.) by individuals or groups. The internalization phase takes place in the *exercising* Ba, where the 'official' knowledge is disseminated to the organization's departments or individual employees and applied in their activities.

Later, Von Krogh, Ichijo and Nonaka (2000) discovered that Ba is not just simply defining environments necessary for the knowledge creation phases. The knowledge creation processes have to be enabled through organizational activities. This new approach to Ba environments has expanded beyond the limits of management sciences field, requiring interdisciplinary (management and educational sciences) approach. Not only managerial and technical solutions (e.g., common physical work space and collaborative work tasks in the socialization phase) are required for effective Ba environments arrangement, but also educational solutions that enhance learning through interaction (collaborative or cooperative learning, etc.), experiential learning and learning by doing. Therefore, Ba concept has many similarities with the concept used in educational sciences – learning and educational environments.

OL Environments – Educational Sciences Approach. Ba environments in educational sciences correspondingly can be called learning environments. These environments allow learners to recognise the necessary information (via particular communication channels and ways) and assimilate it in a form of knowledge (during a virtual or face-to-face interaction), creating a new knowledge. Yet, not all surrounding informational environments can be recognised and assimilated by learners to transform it to their *personal* learning environments. In this case, informational environments can only be referred as potential environments that have or have not the possibility to become learner's personal learning environments, depending on many factors. It is hard to predict to what extent the potential learning environment can be used to form the learner's personal learning environment. Therefore, student OL empowering in the study process requires an intensive educational guidance.

The concepts of educational environment (EE), emphasizing a purposeful educational empowerment, may be implied, in creating Ba environments for enabling the OL phases in the SECI cycle. According to Juceviciene et al. (2010, p. 99), EE is 'a dynamic informational learning environment, purposefully created and impacted by educator and learning purpose, accordingly with corresponding content and educational forms, methods, ways, objects or subjects, that influence the educational information or its communication to the learner'. In other words, it is the environment conditioned by clear educational purpose and defining the ways how to achieve it. An impact of such environment (originally named learning environment) was proven empirically (Juceviciene and Burksiene, 2013), emphasizing that such environment arrangement, first of all, has to ensure employees' competent activities (in specific profession matters and

OL) while acting in all the four SECI phases. It is worth mentioning, that this kind of Ba interpretation, by stressing out the importance of so called knowledge activists 'who trigger and coordinate knowledge-creation processes' (p. 3), was emphasized by von Krogh, Ichijo and Nonaka (2000). Accordingly, in that interpretation, knowledge activists are very similar to educators in educational environments.

Therefore, considering that Ba environment can be analysed as an EE, it gives hope, that OL can be implemented not only in work organizations, but also in educational institutions, particularly on the highest level – universities. Still, the biggest obstacle of students' self-identification with being learners in the study process and not employees in work organization, implicates that students perform their assignments as study and not work tasks. Therefore, while performing their study tasks, they apply various kinds of learning (including group or experiential learning), but not OL (Juceviciene, et al., 2010). But how educational environments should be arranged in the study process, to empower students' OL?

Students' Organizational Learning Conceptual Model

Students' OL can be empowered in four complex EE sequences. It is substantiated by revealing the composition of educational environments for the students' organizational learning (EDENSOL) model (Figure 2). The model is adapted for realization process in one particular study programme course module.

Every complex sequence of the EDENSOL model is original and corresponds to the logics of the curriculum design:

a) A Preparation for Learning. A special attention to student's preparation for OL is paid and arranged in two EE sequences:

- ***Educational Environments for Students' Organizational Learning Introductory Empowerment***, where students are empowered to perform in OL environments, by using and developing their competences necessary for OL.
- ***Educational Environments for Students' Organizational Learning Basic Empowerment***, where students' group is enabled to work as the problem-solving project organization.

b) A learning process, arranged in one complex EE sequence:

- ***Educational Environments for Empowering Students' Organizational Learning Cycle***, which empowers students' organizational learning processes, resulting in students' OL competence development.

c) A learning assessment, arranged in one complex EE sequence:

- ***Educational Environment for Students' Assessment,*** where formative assessment principles are applied, emphasizing their learning experiences, individual and group achievements.

Further on, every single component of EE sequences will be revealed.

I. Educational Environments for Students' Organizational Learning Introductory Empowerment. Student introductory empowerment for OL can be defined as a provision of the sufficient knowledge, attitudes and skills necessary to enable students' efficient work in educational environments for OL helping them understand the module learning purposes and motivate. This consist of meta-learning skills, deep-learning approach, self-directed learning approach; collaborating learning skills; organization management knowledge (Juceviciene and Valineviciene, 2014).

EE sequence for students' organizational learning introductory empowerment consists of:

1. *Introduction of the module/course programme*. Students need to be provided with a clear and motivating learning purpose. According to Juceviciene et al. (2010, p.75), 'the formulation of the educational purpose should be bi-directional: the content that is necessary to be learned should be defined and at the same time, its benefits to a person should be highlighted'. There are two major learning result groups: a) subject-specific content learning (specific knowledge and skills); b) generic skills (including OL) development. Therefore, full and clear structure of study purposes, the path to achieve it (especially OL tasks) and the corresponding structure of learning assessments are the core elements of such introductory EE. Physical environments should be convenient for discussion and dialogue.

2. *Evaluation of prior students' organizational learning experience.* It is necessary to identify students' prior OL experiences and attitudes, as it can have a huge effect on the learning process. Therefore, if there is an expectation to detect students with at least some OL experience, an interview method can be applied. However, it is rare for students to have OL expertise. (Wickramasinghe and Perera, 2010). Thus, it might be useful to review and evaluate overall group members' prior OL experience to select informants for the further interviews.

3. *Students' preparation for self-directed learning*. Subject-specific and OL competences development integration in the studies requires students to be self-directed learners. However, usually the level of student preparation to be self-directed varies. Provision of the essential knowledge on self-directed learning is necessary step. The very essence of self-directed learning consists of three pillars: the ability to plan and adjust their learning path (Loyens, Magda and Rikers, 2008), the selection of the most appropriate learning methods corresponding to their learning styles, and the ability to identify changes in their competence in various learning situations (Gedvilienė, 2014), capturing it in a competence portfolio (Ramsden, 2003) or a learning diary (Clipa, Ignat and Stanciu, 2012). Moreover, students need to learn how to apply collective learning methods (Ramsden, 2003), to understand the main problem-based learning and project-based learning steps (Savery, 2006).

4. *Development of students' understanding of modern organizations principles.* As already mentioned, not all students have a prior work experience, thus it is necessary to provide some concentrated knowledge about

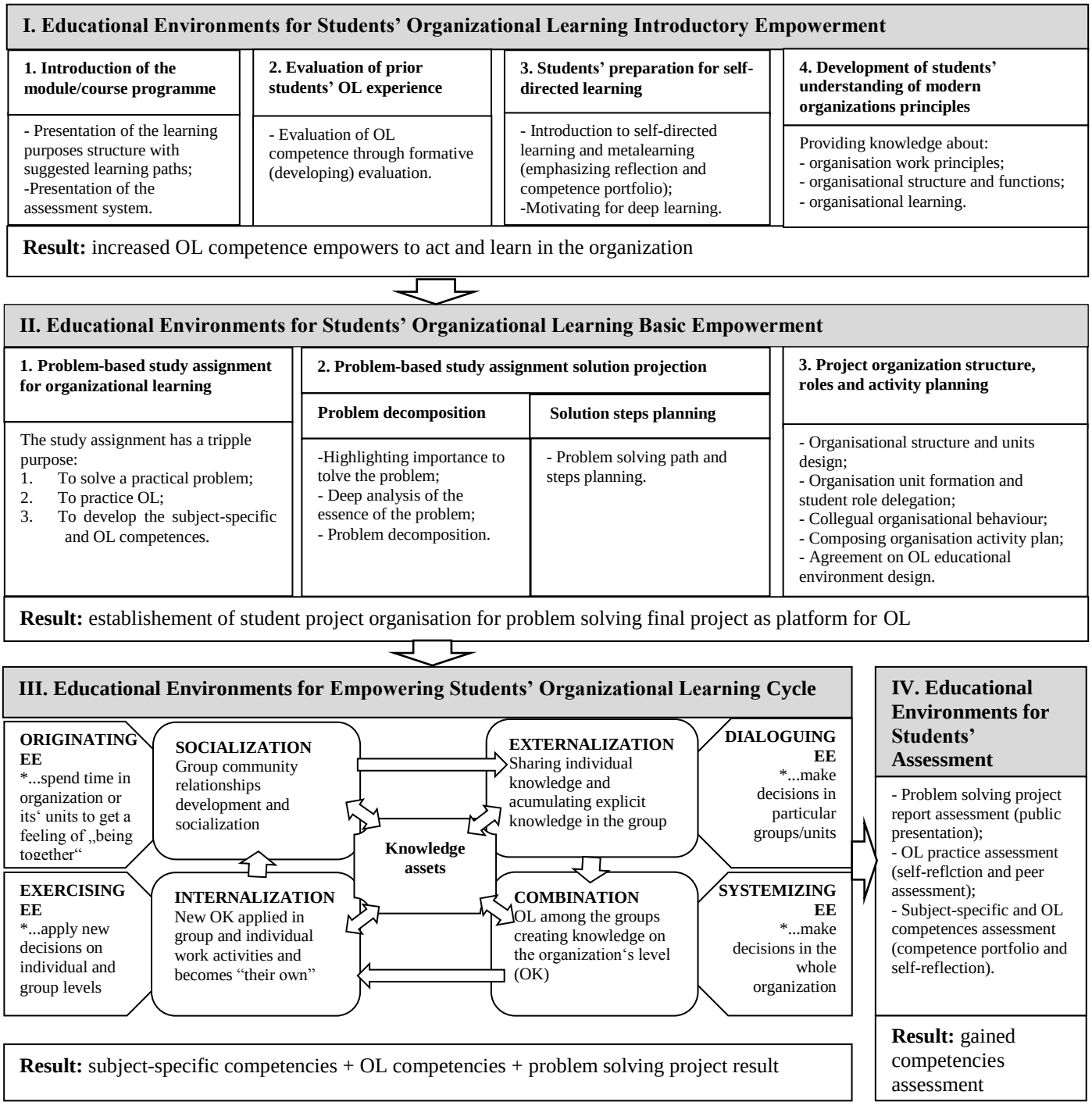

Figure 3. Educational environments for students' organisational learning (EDENSOL) model

organizational activities, structures, functions, and especially OL, combining individual and collective learning. Such knowledge provision might be challenging and require alternative learning environments, depending on what kind of subject is taught on the course. For example, if it is a management course, knowledge of modern organizations' development will be provided naturally as a part of the core subject teaching. Meanwhile, in modules where management is not the main subject, modern organizations' management knowledge can be integrated and taught in addition. Unfortunately, organizational learning implementation in the study process is quite a difficult task. Therefore, before starting the second stage of the model, it is useful to make sure that students have a sound understanding of the principles of modern organizations, especially – OL. EE for students interviewing could be a useful way to detect students' understanding. The environment should be aligned in an informal atmosphere (preferably not in the classroom) where students and teachers could once again highlight the main points of OL and its application in the study practice.

II. Educational Environments for Students' Organizational Learning Basic Empowerment. These environments are created to empower students' OL by providing an organizational context for OL to take place in. At first students are given a complex study assignment.

1. *Problem-based study assignment for organizational learning.* The complex study assignment is based on the cubic curriculum idea (Wragg, 2002). Cubic curriculum means that the course content, learning outcomes and methods are inherently integrated. The change of one element inevitably causes the change of the other two elements. In the EDENSOL case, the 'subject content' is a complex problem that does not require monodisciplinary, but interdisciplinary or even multidisciplinary knowledge. The 'method' is students' work in an organisation, based on principles of service learning (Jacoby, 1996), problem-based learning (Koskinen, 2012) and project-based learning (Jucevičienė, Valinevičienė, 2014). Meanwhile, 'learning outcomes' are: a) developement of OL and disciplinary/interdisciplinary subject-specific (individual and collective) competences; b) a solution of the particular problem.

The study assignment contains the 'triple purpose':

1. *To solve the practical problem* (given as a specific task). The aim is to develop students' knowledge and competencies through problem solving and project activities. The problem derives from a significant problematic situation concerning public communities. The solution must be finite and provided as the final report. The report should be publicly presented to social partners or to whom the problem solving is being addressed and evaluated by social partners and teachers.

2. *Practice organizational learning.* The problem-based study assignment is carried out by creating a project organization with its own structure, leaders and processes necesssary for OL to take place.

3. *To practice and develop the subject-specific and organizational learning competencies*. Students are working on the basis of their already existing or newly constructed collective and individual knowledge and competencies. The growth of students' competences should be continuously captured while carrying out the project assignment. Expected results are: a growth of subject-specific and OL competencies captured through students' self-reflections in learning diaries (Clipa, Ignat and Stanciu, 2012) and students' competence portfolios, containing competences (collective and individual) developed in project activities proved by learning artifacts. All three objectives require students' engagement, but the main point of the study assignment, however, is problem solving, leading to reaching other study objectives.

Learning takes place in EE arranged for students' self-study, allowing to delve deeper into the assignment and its execution methodology. The teacher performes only as a consultant or guide. Typically, complex study assignments require its decomposition, so it can be decided what activities (and in what sequence) are needed to solve the practical problem.

2. *Problem-based study assignment solution projection*. In this stage, students have already gone deeper into the essence of the problem and have a subject-specific sense of what steps need to be made to solve the problem, so they are able to decompose (break) the problem and its decision into specific activities necessary to be carried out. Managerial aspects of the problem solution are carried out by creating a project organization that foster OL developement. These educational environments are conditioned by the methodology of implementation of the assignment and based on student self-study with teacher consulting.

3. *Project organization structure, roles and activity planning*. The students' project organization has to have all the features of an organization: (1) is a social unit, which (2) operates to achieve the objectives (3) designed as an operational structure, and (4) relates to the external environments (Kirst, Ashman and Hull, 2014). Developement of the organizational environments consists of organizational structure, communication flows and responsibilities in the task performance planning and sustaining. The organization created for complex problem solving needs to have project based organizational structure design (Pérez López, Manuel Montes Peón, José Vázquez, 2004). The project based organizational structure is composed of several divisions with their leaders accountable to the head leader. Organizational culture and behavior should be based on principles of collaboration and collegiality, prevailing transforming leadership style. The teacher is a consultant, particulary, consulting and coordinating the the process of role asignation, as it has the utmost importance for students' motivation and learning results. The most competent students with leadership qualities should be assigned as heads of departments. It is important that the leader of the whole project organization is a person who already has project management and OL experience and authority among students. If none of the students hold such an exclusive mix of competences, the teacher can be delegated to take the head role. In this case, the teacher has to be act as a liberal leader coordinating the activities in all departments through consensus.

III. Educational Environments for Empowering Students' Organizational Learning Cycle. The cyclic process of OL in the project organization is based on the improved SECI model by Nonaka, Toyama and Konno (2000) (revealed in the previous part of this paper). In EDENSOL each OL phase is modelled with the relevant educational environment that empower OL procsses in the phase. Educational envoronmets has corresponding features of Ba environments and also enchanced with an educational impact.

Socialization phase and its educational environment. According to McInnis (2001), students identify themselves as members of an academic community through collaborative learning experiences with other students. Therefore, it is essential for students to have common activities because students, according to Sovajassatakul et al. (2011), experience the effect of the 'social glue' when they act or spend time together. Unfortunately, as Richtnér, Åhlström and Goffin (2014) have found, project teams usually lack time for socialization processes. The students' project organization is created for one semester only (usually this period is determined by module/course lenght) and occupations takes place once a week (only on

module/course shedulle). Thus it might be not enough time for socialization, at least in university environments. Therefore, it is important to enhance students' comunication beyond university environments.

According to Nonaka, Toyama and Byosiere (2000), there are few main characteristics of the socialization (originating) Ba:

- spending time together in the workplace (it is important that students meet in the classroom or other environments, e. g. virtual environments);
- informal meetings with colleagues outside the university;
- interaction with other people outside the organization (project activities, conferences ect.).

Experiential knowledge is accumulated in the socialization phase, which is usually tacit, embodied in everyday activities, organizational behavior, and is emotional or sentimental by nature. It is important to arrange EE for students to have an opportunity to work together in pairs or group structures. Universities that base curriculum on project-based learning provides students with the special premises where they constantly communicate. Each group has its own work place and all necesarry material resources.

Externalization phase and its educational environment. To get into more detailed analysis of students' activities in the externalization phase it is important to distinguish two following stages. The first one emphasizes student's own individual tacit knowledge transformation to explicit by questioning if he/she manages to solve the problem; what are most efficient methods or techniques; what problem solution could be offered, etc. This verbalized knowledge is used in the group discussion and results constuction of units' explicit collective knowledge.

Such EE (dialog Ba), requires students' participation and discussion in the department meetings, informal meetings and other common areas. Students' reflections are particulary important during this phase allowing to interpret knowledge. Therefore, EE should be arranged for students freely discuss about all work issues. In these discussions collective knowledge is created, and it leads to a common understanding. Therefore, in the externalization phase it is very important to create favourable psychological and physical conditions for students' discussions. Students themselves are responsible for creating such educational environments, especially the groups' leaders.

Combination phase and its educational environment. In this phase it is essential to maintain right conditions to accumulate common knowledge on the organizational level. Nonaka, Toyama and Konno (2000) distinguishe four basic characteristics of the combination phase that lead to knowledge accumulation: explicit knowledge in conversed into structured; knowledge is complex; knowledge is selected; knowledge is attempted to systemize into the general collective knowledge; common collective knowledge is explicit and formalized into the collective knowledge. In the project organization for students that would mean: a) all units' discussion takes place, making consensus decisions on selecting the most suitable options; b) continuous discussions on several alternatives of possible decisions need to be incorporated into one single solution; c) all members agree on the final decision and its place in the project organization's activity plan. However, in the implementation of the combination phase, as well as in the realization of other SECI phases, it is necessary to evaluate the characteristics of the EE, relevant to systemasing Ba environment. Students can be offered with two options: a) direct all project organizational meetings; they are best carried out at the university premises that allow productive discussions; b) virtual environments (online networks, group programs, document sharing).

Internalization phase and its educational environment. Internalization takes place when explicit collective organizational level knowledge are converted into tacit knowing (through learning activities) embedding this knowledge in group activities. This new knowledge is changing mental models of organization members (Juceviciene and Mozuriuniene, 2009). It is important that each group and individuals accept decisions and their activities would be based on new knowledge. The head of the project organization together with departments' leaders have to work intensively with students providing them with ongoing assistance, in order to enhance these processes. Successful internalization proceses in the organization also require learning conditions such as student joint activities, informal education, students' trainings on the organizational level.

Knowledge Assets. Knowledge assets are contained from explicit and tacit knowledge. Tacit knowledge is embedded in employees experience and actions as knowing. There is always tacit and explicit knowledge in the structure of a competence. In a context of EDENSOL it is not very important what kind of knowledge is stored in particular knowledge assets. Though, it is important for it content to be constantly filled with sufficient knowledge to be used in the all OL phases.

IV. Educational Environments for Students' Assessment. Assessment takes a very significant place in the university curriculum (Petracchi and Zastrow, 2010). According to Hunkins and Ornstein (2012), all the arranged educational activities – in the university and beyond – are elements of curriculum. Therefore, an assessment of a learning process should be combined of all results, despite it was created within special arranged university space or in other open environments (in and outside the university), as long as students learn inspired by study curriculum. Thus, teachers have to encourage students to self-evaluate their own learning progress and discuss the system of formal assessment and methods (Petkunas and Juceviciene, 2006). The whole system of assessment sustains the assessment of unintended consequences (Morkuniene, 2012), recognises collective learning outcomes (Juceviciene and Vizgirdaite, 2012). Assessment methods are usually educational by nature (Gedviliene, 2014), where assessment allows students to develop and self-evaluate their competences in the process of assessment. The end result of this stage is overall student assessement with the final grade based on cumulative index. Teacher and students agree on each

assessment component and its weight in the cumulative index at the beginning of the module.

EE for students' assessment are arranged based on this principles:

a) The oral report to a teacher assessment. In these EE it is important to create positive psychological atmosphere, pleasant and comfortable dialogue environment. The results of the assessment are provided with forseeing further development opportunities.

b) Students' peer evaluation within the group. In EE it is important to maintain positive psychological atmosphere, reminding students that university is the place where discussions might end in discourse. Memebers of the groups should be seated around the table (not giving psychological advantage to any single person). Main challenges of this kind of assessment are possible conflict situations and time consuming procedures.

c) Student's personal self-evaluation. In these EE students have to allocate enough time for reflection and self-analysis.

d) The project organization final report evaluation. These EE has to be held in solemn environments, involving social partners that are connected with the project. All students have to be prepared to present their collective outcome of the project in oral presentation. It is recommended, that the jury concluded from relevant social partners and teachers asking questions to enhance discussion during the presentation.

Conclusions

1. Educational environments for students' organizational learning (EDENSOL) model combines knowledge management and educational sciences approaches. Knowledge management enables to expose the organizational learning process in the model of four cyclic phases: socialization, externalization, combination and internalization (SECI), and its interrelations with the additional elements. The knowledge assets is one of these elements. It is formed while accumulating knowledge in the each phase of the cycle and serves as the knowledge source to enchance organizational learning in the further phases. It is recognized that organizational learning combines not only collective, but also individual learning. In EDENSOL model, unlike as it is the enriched SECI model, it is assumed that learning environments (Ba) are not just personal learning environments directly employed for organizational learning. The approach of educational science allows expanding Ba in terms of the *content* and the *process*:

I. The *content* aspect emphasize that the most important element is to arrange Ba envirinments as educational environments that enables organizational learning continuity in all phases. Differentated empowering educational environments relevant to each phase should be created in the study process. These environments are open an allow students to employ other potential learning environments dedicated for educational purposes unpuposefully. However, educational environments are rich with information, exist in real life or in virtual environments and arranged as additional opportunities to promote student self-expression, self-sufficient work and self-directed learning.

II. The *process* aspect emphasize the expansion of Ba to the educational environment enable purposeful learners' empowering, encouraging and directing to organizational learning. This is done through appying elements of service learning, problem-based learning, project learning, self-directed learning in the educational environments arrangement.

2. In order to perform organizational learning, two preparatory steps are required:

I. The first, *educational environments for students' organizational learning introductory empowerment*, is revealed in the sequence of these eucational environments: a) introduction to the subject-specific (can be monodisciplinary, interdisciplinary, multidiciplinary) module/course programme (objectives, methods, learning path, assessment system); b) evaluation of students' prior organizational learning experience; c) students' preparation for self-directed learning; d) developement of students'understanding of modern organizations principles.

II. The second, *educational environments for students' organizational learning empowerment*, consists of: a) problem-based study assignment, which requires organizational learning, placing an emphasis on the triple purpose: to solve a practical problem; practice organizational learning; develop subject-specific and organizational learning competencies. The results of these purposes are controled by the assessment system. Assessment educational environments are created to assess: the final report of problem solution project (presented in public); outcomes of organizational learning practicing (through students' self-reflection and peer assessment); the subject-specific and organizational learning competencies (through students' competence portfolio and self-reflection); b) problem-based study assignment solution projection through problem decomposition and activity planning; c) project organization structure, roles and activity planning (including agreements on operations in the organizational learning environments).

This EDENSOL model is theoretical. Yet, we expect that further studies will provide empirical evidence for the capabilities of educational environments to relate studies with real life.

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P. Jucevičienė, G. Valinevičienė

Studentų organizacinio mokymosi edukacinės aplinkos

Santrauka

Darbo organizacijos vis dar pasigenda absolventų specialiųjų ir bendrųjų kompetencijų (Wickramasinghe, Perera, 2010). Tarp jų – šiuolaikinėms, vadinamoms *knowing organizations* (t.y. organizacijoms, kurių žinios yra jų esminis siekinys) (Choo, 2006), ypač reikalinga *organizacinio mokymosi* (OM) kompetencija. OM vyksta tada, kai darbuotojai konstruoja individualias ir kolektyvines žinias, svarbias tai konkrečiai organizacijai (Yeo, 2007). Tačiau toks mokymasis vyksta tik tada, kai darbuotojai aiškiai identifikuoja organizacinius tikslus ir yra motyvuoti jų siekti. Deja, studentų OM vis dar nesiryžtamas tyrinėti. Universiteto studijų *praktikoje* dažniausiai susikoncentruojama tik prie individualaus studentų mokymosi, o į kolektyvinį mokymąsi žvelgiama tik kaip į metodą siekti kitų studijų tikslų, o ne į uždavinį, kurio realizavimas drauge su kitų uždavinių įgyvendinimu leistų išugyti OM kompetenciją. OM kompetenciją universitete sunkiai pavyksta ugdyti, nes jos ugdymui reikalinga atitinkama organizacijos aplinka (Munro, Cook, 2008). Tačiau kokia turi būti OM universitete įgalinanti aplinka, kaip tokią edukacinę aplinką sukurti – šie klausimai yra vis dar neišspręsta problema, reikalaujanti mokslinio tyrimo. Straipsnio tikslas – pagrįsti organizacinio mokymosi universitetinių studijų edukacinėse aplinkose teorinį modelį.

Tikslui pasiekti taikomi mokslinės literatūros analizės ir teorinio modeliavimo metodai. Remiamasi šiomis konceptualiomis nuostatomis:

- *OM, kurio metu kuriamos svarbios organizacijai žinios, reikalinga tos organizacijos aplinka (*Nonaka, Toyama, Konno, 2000) – tai reiškia, kad norint studijų procese pasiekti OM, reikia sukurti darbo organizacijoje kontekstą;
- *Žinių kūrimo efektyvumas priklauso nuo įveiklinančio konteksto* (Von Krogh, Ichijo, Nonaka, 2000) – vadinasi, darbo organizacijoje kontekstas, kuriamas studetams, turi pasižymėti edukacine galia, t.y., padėti jiems suprasti ir įgyvendinti organizacijoje vykstančius procesus (tarp jų – ir OM), kurie vyksta siekiant organizacinio tikslo.

Pirmojoje straipsnio dalyje atskleidžiama OM esmė bei, remiantis vadybos ir edukologijos požiūriais, gilinamasi į jo vyksmo aplinkas. OM nagrinėjamas integruojant: a) Nonaka ir Takeuchi požiūrį (Nonaka ir Takeuchi, 1995), išreikštą SECI modeliu, labiausiai akcentuojantį kolektyvinį mokymąsi, siekiant organizacinių tikslų; b) Johnson (2007), organizacinį mokymąsi pripažįstantį ir kaip individualų mokymąsi veikloje. OM edukacinės aplinkos grindžiamos integruojant: a) vadybinį požiūrį - Nonaka, Toyama, Konno (2000) išryškintas Ba – OM įgalinančias aplinkas, b) edukologinį požiūrį į įgalinančias edukacines aplinkas, kaip ugdymo tikslo, turinio, formų, metodų, studentų ir dėstytojų sąveiką laike ir erdvėje, atvirą studentų įvairioms kitoms nenumatytos informacijos gavimo galimybėms. Jos glūdi vadinamose potencialiose mokymosi aplinkose (Jucevičienė et al., 2010).

Antroji straipsnio dalis yra skirta pagrįsti organizacinio mokymosi edukacinių aplinkų modelį (SOMEA). SOMEA vienija žinių vadybos ir edukologijos požiūrius. Žinių vadyba leidžia OM nagrinėti kaip keturių fazių pasikartojančio ciklo, susidedančio iš socializacijos, eksternalizacijos, kombinacijos ir internalizacijos (SECI) – modelį. Kuriant SOMEA modelį, lygiai taip pat svarbu SECI, kaip ir jo papildomi dėmenys. Tai – žinių bankas, ne tik formuojamas iš minėto ciklo fazių rezultatų, bet ir esantis žinių šaltiniu, kuris reikalingas tam, kad visose keturiose minėtose fazėse vyktų OM. Taip pat pripažįstama, kad OM - ne tik kolektyvinis mokymasis, bet ir individualus mokymasis. SOMEA modelis, skirtingai nuo praturtinto SECI modelio, mokymosi aplinkas (Ba) laiko ne tik asmeninėmis mokymosi aplinkomis, tiesiogiai naudojamomis OM. Edukologinis požiūris leidžia išplėsti pačią Ba prasmę turinio ir proceso aspektais. *Turinio aspektu* pripažįstama, kad svarbiausia Ba, kaip edukacinės aplinkos, funkcija yra įgalinti OM fazių vyksmą. Tam universitetas kuria diferencijuotas, kiekvienai fazei įgalinančias edukacines aplinkas. Šios aplinkos yra atviros, todėl studentai gali naudoti ir potencialias mokymosi aplinkas, t.y., nesukurtas specialiai ugdymo tikslams. Tačiau jos turtingos savo informacija, egzistuoja realioje gyvenimiškoje ar virtualioje aplinkoje, taigi praverčia kaip papildomos ir įtaigios galimybės, skatinančios studentų saviraišką, savarankišką darbą, savivaldų mokymąsi. *Proceso aspektu* svarbu yra tai, kad Ba išplėtimas į edukacinę aplinką reiškia, kad ji veikia kryptingai - į OM nukreipianti, jį skatinanti ir įgalinanti aplinka. Tai daroma per mokymąsi tarnaujant, probleminį, projektinį ir savivaldų mokymąsi. Tam, kad vyktų OM, reikia dviejų parengiamųjų etapų.

Pirmasis etapas – vadinamasis studentų įvadinis įgalinimas OM - atskleidžiamas šia edukacinių aplinkų seka: a) dalykinės (gali būti monodisciplininė, tarpdisciplininė, multidiciplininė) modulio/kurso programos (tikslai, metodai, studijų kelias, vertinimo sistema) pristatymas; b) studentų ankstesnės OM patirties įvertinimas; c) studentų parengimas savivaldžiam mokymuisi; d) studentų supratimo apie šiuolaikinę organizaciją plėtojimas.

Antrasis etapas yra išreiškiamas studentų esminio įgalinimo OM edukacinių aplinkų seka. Ją sudaro: a) probleminės studijų užduoties, kuriai reikia organizacinio mokymosi, pateikimas, akcentuojant trigubą jos tikslą: išspręsti praktinę problemą; praktikuoti organizacinį mokymąsi; auginti dalykines ir organizacinio mokymosi kompetencijas.

Visa tai, kaip rezultatą, kontroliuoja vertinimo sistema, kurios edukacinėse aplinkose vyksta problemos sprendimo projekto ataskaitos vertinimas (studentai viešai pristato ataskaitą); OM praktikavimo vertinimas (savirefleksija ir kolegų vertinimas); dalykinio ir organizacinio mokymosi kompetencijų vertinimas (kompetencijų portfelis ir savirefleksija); b) probleminės studijų užduoties sprendimo projektavimas: problemos dekompozicija; sprendimo veiklų planavimas; c) projektą vykdančios organizacijos struktūros, vaidmenų nustatymas, veiklos planavimas (tarp jos – ir susitarimas dėl veikimo organizacinio mokymosi aplinkose).

Šis SOMEA modelis – kol kas teorinis. Reikia tikėtis, kad atlikus empirinį tyrimą, bus įrodyta, jog tokios OM edukacinės aplinkos leidžia studijas ne tik susieti su realiu gyvenimu, bet ir sudaryti sąlygas studentams tiesioginių studijų metu veikti organizacijoje, kurioje jie kuria organizacines žinias, tampančias organizacijos turtu.

Reikšminiai žodžiai: organizacinis mokymasis, edukacinė aplinka, universitetas, studentų organizacinis mokymasis.

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