

The Means of Organizational Learning Assessment

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Abstract

The article presents analysis of research on organizational learning, on the grounds of which the research methodology of the expression of this phenomenon is created. Having performed evaluative research in the companies of service sector JSC “Lietuvos Telekomas” and bank “Alpha” suitability of the research methods was checked. The expression of organizational learning was assessed and the problems were actualised by using the methods a questionnaire survey, semi-structuralized interview and document analysis.

Key words: organizational learning, expression of learning, the factors of organizational learning.

Introduction

In the modern world in the processes creating and manufacturing products specialised knowledge and its creation gains an especial meaning alongside the classical elements of production (land, capital and work). Knowledge and abilities to render and use knowledge and skills in new situations form the basis of competences of individuals and organizations, enable organizations to be adaptive and flexible and compete successfully in the market. Therefore, nowadays various organizations pay much attention to learning, the process which helps organizations create and use knowledge for constant change and improvement (Cummings, Worley, 1997). Scientific literature discusses possibilities of constant, reflexive and integrated (comprising individuals and their groups) learning in order to gain new knowledge and develop competences that are vital for the organization. In the latter decade attention paid by researchers of such branches of science as management, education, psychology and economics to one of the newest learning paradigms, i.e. organizational learning as the process that increases awareness of the organization how to act or competence of its activity, an ability to implement planned changes and achieve the goals, is noticed al. Though the problem of organizational

learning has been investigated rather broadly in scientific literature, however the majority of them are theoretical or based on particular practical works in this sphere. Because of a lack of methodological research basis, it is difficult to determine and assess the expression of this phenomenon in various organizations.

The subject of the research: organizational learning assessment.

The aim of the research: to reveal methodological aspects of organizational learning assessment on the example of empirical investigation in the companies of service sector.

The following *objectives* have been set to achieve this aim:

1. To present analysis of empirical investigation on organizational learning by foreign and Lithuanian scientists.
2. To set the attributes of organizational learning factors and to create research methodology of the expression of organizational learning on the grounds of them.
3. To check suitability of research methods on the expression of organizational learning by performing empirical investigation in the companies of service sector JSC „Lietuvos Telekomas“ and bank „Alpha“ and to reveal essential problems of learning in these organizations.

Research methods: questionnaire survey, document analysis, analysis of data received during the interview, methods of statistical analysis: descriptive statistics, verification of statistical hypothesis, correlation and factor analysis. Computer programs MS Excel and SPSS were used for data processing.

1. Empirical investigations on organizational learning

The conception of organizational learning (hereinafter referred to as OL) is frequently criticised as non-integrated and not checked empirically. Due

to the complexity and multifactority of OL it is difficult to perform reliable quantitative research, therefore, most frequently OL is presented as a theoretical construct based on occasional interviews, personal opinions or conversations with the heads of the companies. One of such attempts is presented by Tannenbaum (1997), who questioned five hundred people in seven companies and determined 9 attributes of the conditions of organizational learning and 3 factors of the evaluation of learning results. A similar experiment, though having less empirical data, belongs to Moilanen (1999). However, none of these cases determined clear assessment criteria or optimal level, after reaching which the organization could be considered as the learning one.

The earliest research on OL were performed in USA, though quite often they were performed by practitioners who mainly pursued quick and short-term changes in organizations that could ensure a successful activity. The methods employed by them were not always well-founded by scientific research, thus on the grounds of this research it was difficult to set the ways which could help organizations to remain dynamic for a long time. Frequently this practitioners' experience could not be applied to other organizations due to the organizations themselves or the peculiarities of the means that caused the changes.

Karen E. Watkins and Victoria J. Marsick have been performing theoretical and empirical OL researches for over twenty years. The research performed by the scientists enabled to develop a reliable research instrument - *Dimensions of the Learning Organization Questionnaire*, which was applied in research in more than 200 organizations (Watkins, Marsick, 1998). The relations between OL and changes in various organizations of USA, Columbia, Malaysia and Holland were set and assessed by this instrument. This research revealed the majority of OL aspects: the impact on the organization's knowledge and financial results. The researches performed in business enterprises and their associations, non-profit and public institutions conveyed that OL had the biggest impact on the creation and implementation of novelty, customers' confidence and loyalty, better quality of goods and services. Knowledge changes that influenced the investment in organizations determined better financial results. Moreover, it also proved preconditions that learning could be „instilled“ in the system and structures of organization activity, and could be shared and regularly used for knowledge creation.

As in organizations quite often an opinion that knowledge sharing reduces the individual value of the employees prevails, OL provides a possibility for the employees to constantly gain new knowledge in exchange for sharing the knowledge they have. Some

interesting and significant aspects related OL and activity changes were determined, e. g. it was observed that OL as the process that determined the activity was emphasized only when it was a part of strategic management of the organization. An other set phenomenon was also related to observation, i.e. soaking up the knowledge in the organization was possible only when there was a system of knowledge soaking up and sharing created in the organization. This reveals that in the investigated organizations learning is perceived as a more artificial than natural process, which has positive impact on activities.

Factor analysis of OL factors on individual and group levels revealed that the set factors were totally different from the factors reflecting learning on organization level. It conveys that learning culture lays in employees' consciousness and such well known OL factors as constant studying, learning in a team, empowerment of the employees, dialogues and interviews promoting learning are essential but not sufficient for seeking for organizational learning.

Research also revealed some negative aspects of the questionnaire used: only middle managers and the senior executives felt comfortable when answering the questions. Meanwhile lower managers and specialists did not always express their opinion. Sometimes instantaneous studies could not record activity changes in the primary stages of learning because of non-contemporaneity of learning initiatives and results. Some changes in organizations could not be associated only with learning; they could also be influenced by other internal initiatives or changes in the external environment. Long-term research revealed that OL not always determin positive changes in organization, in primary stages of OL even opposite results are received, i.e. learning has a negative impact on the financial results of the organizations.

Research performed by Watkins and Marsick conveyed a declaratory and non-systemic nature of OL in some organizations. It was proved that OL not only creates new knowledge and influences innovations in organization but it also has to be oriented towards the goals of the organization and the strategy. Direct application of an OL assessment instrument (questionnaire) created by the researchers is complicated in Lithuania because OL is not one of the strategic goals in the majority of organizations (profit-making and non-profit companies). However, the adapted instrument can be applied in research on OL expression in various Lithuanian organizations.

In 1997 Lahteenmaki, Toivonen and Mattila performed empirical investigation which partly filled some gaps in OL. The sources of the primary means of the research were previous research on the process of learning and changes (Senge, 1996). The research

aimed to create a dynamic OL model. Such OL attributes as changes in order, labour processes arrangement, feedback and promotion systems, climate and culture, leadership, information rendering, openness of intercourse, participation in decision making, team work, collaboration and risk were investigated and assessed. Though the majority of attributes identified in the research reflected the process of organizational learning as all-embracing, during the assessment of interrelations of the attributes the researchers divided them in three groups reflecting different phases of the learning process: attributes of learning abilities improvement; attributes of creation the mission, goals and strategies by collaboration; attributes of future creation together. These three attribute groups reflect OL status on individual, group and organization al levels. The research authors ascertained that if the attributes of all these three phases are positive, the organization can be characterized as having two-cycle or generative learning: individual and organizational learning take part simultaneously with the process of knowledge, skills and conditions necessary for future formation. If the attributes of the first and second phases are negative and the attributes of the third positive, there will be only one cycle learning (Argyris ir Schon, 2004). Till now this model is based on a sole empirical study, therefore it must be verified by analogous research in other organizations.

Theoretical and empirical investigations on learning process in the organization are being performed in Lithuania, too. A group of researchers from Kaunas University of Technology paid much attention to the investigations of this topic. P. Jucevičienė (1994) researched the university as a learning organization, and Kaunas, Šiauliai, Utena citizens as learning communities; she presented the conception of learning nets in partnerships and a research methodology. It is necessary to mention the works of B. Stanikūnienė and P. Jucevičienė (2004), where the conception of experiential learning based on collaboration is presented, as well as learning nets in partnership and their research methodology are provided. The works reveal possibilities of individual activity, environment, knowledge and personality studies, which enable to fix and improve ones personal theories of activity through experiential learning.

Scientific literature also describes theoretical research on OL. The formation of a continuously learning company and the main features of the personnel in the context of management were analysed by A. Sakalas (2003). In the research of P. Žukauskas and O. Stripeikis OL is associated with the management of changes and economics based on knowledge.

A. Pundzienė and V. Dienys (2003) investigated employers' need and preparation to develop learn-

ing in the workplace. In conclusion of this research it is stated that "Lithuanian organizations of non-foreign capital are un able to refuse a standardized market model, therefore learning in the workplace is not their basic priority. [...] The main reasons that block collaboration of organizations and education institutions are a lack of funds, inappropriate culture in organizations, unsatisfactory quality of education services" (Pundzienė, Dienys 2003):

Probably the most comprehensive research on the features of a school as a learning organization is provided in the dissertation of B. Simonaitienė (2004). Her research which aimed to find out the features, activity criteria and indicators of a school as a learning organization comprised 17 Lithuanian schools, where over 1000 teachers and pupils were questioned. During the research the created matrix model of activity criteria and indicators of a learning organization were verified and suitability of such a model when performing analogous research in the field of educational practice was grounded. Moreover, the most significant differences of the expression of the phenomenon of a learning organization in management and educational environment were revealed. It is stated that business and service organizations are induced to learn by the wish to remain in the market, while the learning of education institutions may be determined by social or conjunctural decisions, even strivings for fashion or image, therefore, in an educational environment a learning organization is described as a conceptual idea or pursuit, which can be reached by specific education institution.

The majority of research are conducted in education institutions, the activity of which can not be conceived without learning or only one or several aspects of OL are investigated. Research revealed that learning of the majority of organizations is fragmentary and could not ensure their adaptive change. Though a need for the development of interaction between economic activity of the world and education is dictated by political and economic factors, only a part of Lithuanian organizations are prepared to accept the challenges of learning development.

2. Research methodology and exploratory survey

According to research performed in foreign countries and Lithuania, the phenomenon of OL can be researched from different aspects. Theoretical research aims to reveal the nature of OL, factors influencing it, impact on the behaviour of individuals, their groups or organizations, to substantiate the application of the conception in some kind of environment. Undoubtedly, the context of organizational learning is also important, i.e. in what environment (business,

educational or public sector) learning takes place, what changes occur and what influence they have on OL. In these cases qualitative research is performed, which aims to reveal a holistic picture of OL in some kind of environment or its interrelations with other elements and processes of the environment, to get deeper to particular factors of OL. To reach these aims the methods of activity and case study, content analysis, non-structuralized or semi-structuralized interview are employed.

Quantitative research is performed with the aim to measure and assess the expression of OL in different environments, to set solution of some problems by applying the chosen OL model and to foresee adequate ways solving these problems. In such cases intervention research is conducted in various organizations (business companies, non-profit companies or public institutions, etc.) by using the methods of employees' questionnaire, content analysis of the documents and a structuralized interview.

The majority of researchers who investigate OL emphasize the necessity of intervention research in order to analyse and reveal the peculiarities of OL in various organizations. In addition, complexity of the object under the research demands systemic attitude towards the research itself. A new systemic attitude towards the research into social and individual problems is based on the provision that different qualitative and quantitative research methods that supplement each other in different phases of the research are necessary for the investigation of these problems. Therefore, triangulation method, enabling to analyse the phenomenon from several positions and to perceive more widely the phenomenon being investigated, is applied in OL research.

2.1. Research instrument of the expression of organizational learning

In the thesis of the author of the article (Balvočiūtė, 2007) theoretical and empirical investigations of the research on OL are generalised and the following *factors of organizational learning* on individual, group and organization levels are distinguished and the features of their expression are set:

- employees' striving for personal mastership;
- internal relations of partnership;
- characteristics of the organization (educational policies in the company);
- information accumulation, knowledge creation and dissemination;
- organization culture that is favourable to learning;
- management and control that is favourable to learning.

These factors enabled to investigate OL as the process uniting individual strivings for mastership of its members, internal partnership, knowledge creation, organizational policies and culture and to assess learning expression in the organization. The features of OL factors formed the basis of a questionnaire survey.

Empirical investigation was performed in order to verify the reliability of a questionnaire survey in the investigation of the expression of OL in various organizations. The research was carried out in two stages. During the first stage (February–March, 2005) an exploratory survey of the expression of OL was carried out in 74 organizations in Šiauliai district. In the second stage (February–April, 2006) intervention research on the expression of OL was performed in two service sector companies. Anonymous questionnaires were sent to the respondent by e-mail (Outlook) with reference to the webpage <http://dim.su.lt/~karaliux/testas/index.php>. Data was saved in the data base and later, having used ODBC, it was exported into SPSS.

The methodical basis for the composition of the questionnaire was the following:

1. The conception of the factors influencing organizational learning (Senge, 1990).
2. Replicate research of S. Balčiūnas and R. Balvočiūtė, in which it is referred to the attributes of the expression of organizational learning set by Lahteenmaki, Matilla and Toivonen.
3. The model of a learning organization of Karen E. Watkins and Victoria J. Marsick and a questionnaire compiled by these authors (Watkins, Marsick, 1999-2005, McCaffrey, 2004).
4. Research data of "The need and preparation of employers to develop learning in a workplace" by A. Pundzienė and V. Dienys.

Likert scale was most frequently used for the research on respondents' opinion. Nominal and interval scales were also used in so called "passport data" part of the questionnaire.

Research data was processed by SPSS 13.0 program: average values of the variables, their frequency, standard deviations and errors were calculated and single factor dispersion analysis was carried out. In order to generalise research results and to set factors of organizational learning, analysis of interrelations of the questions in the questionnaire reflecting these factors was performed. The model of mathematical factor analysis was applied for this purpose (Alpha factor analysis, turning off factor axes by VARIMAX method) (Čekanavičius, Murauskas, 2002). Having generalised the factors, expressing some kind of attribute, and assessments, the interval scales were formed on the grounds of which these attributes were measured. Reliability of these scales in homogeneous

sense was evaluated by calculating Cronbach's Alpha Coefficient.

Seeking for more definite interpretation, the interval scales were transformed into the rank ones and their ranks were interpreted and named by taking into consideration the content of the statements.

2.2. Analysis of the results of the exploratory survey on organizational learning

A questionnaire, which enabled to find out respondents' opinion on the environments of OL, abilities necessary at work, attitude of the heads of the companies towards learning and methods applied for employees' education was developed. 284 managers of the highest and medium ranks and specialists working in the companies of different type and size in Šiauliai region and in extramural studies at Šiauliai University were questioned. The majority of respondents (73%) work in profit-making companies. The average age of the respondents is 32, 6 years.

Having calculated the repetition frequency of the answers it was found out that 80% of respondents thought that success at work depended on an ability to study and emphasized that life-long learning was necessary. 90% of respondents claimed that they learned from their experience, 66% – from co-workers. Hence for respondents reflection of their own experience is a more important source of new knowledge than generalization of other persons' experience. This data shows that the heads and specialists understand the necessity of continual learning in a constantly changing environment.

Respondents were asked what abilities were the most important for work of managers and specialists, development of what abilities must become the priority of organizational learning. The survey revealed that communication skills and tolerance were the most necessary. Quite often problem solving, team work, planning abilities, organization and activeness

were also necessary. Mean while project development and negotiating abilities were not necessary or they were rarely used.

An other block of questions aimed to find out what ways of education were applied in the organizations. Most frequently (59%) the colleagues who had more experience advice was used. 41% of the surveys studied in seminars, while special work groups for problem solving were rarely formed (30%), more rarely – work rotation (19%). It is necessary to note that respondents' answers did not name a teaching method which would be marked as "frequently" and "very frequently". This indicates that employees' education in the organization is episodic. Having compared competences necessary for the organizations and education methods used for their development it was noticed that the ways that help to develop communication, team work and tolerance abilities (rotation of work, special work groups to solve particular problems, site visits to other companies) were not used or used very rarely. It shows that traditional methods of education, which are not always suitable for the development of competences the need of which was stressed, are used.

Having generalised research results, four meaningfully interpreted and statistically significant factors (factors which determine OL) were found, reflecting four different sides of organizational learning: *reflexion, purposeful activeness, learning environment and execution of management functions*. Having generalised the assessments of the attributes that express some kind of factor, interval scales were formed on the grounds of which these factors were measured.

In the other stage of the investigation the relationships among the identified factors that determine OL were searched. Having performed their internal correlation it was set that the characteristics of reflexion were not related to other factors of OL (Table 1).

Table 1

**Relationships among the factors that determine organizational learning
(Spearman's correlation coefficient)**

	Execution of management functions	Reflexion	Purposeful activeness	Learning environment	Abilities necessary for activity execution
Execution of management functions	1,00	0,14*	0,49**	0,42**	0,58**
Reflexion		1,00	0,15*	0,05	0,2*
Purposeful activeness			1,00	0,29**	0,40**
Learning environment				1,00	0,25**
Abilities necessary for activity execution					1,00

* statistic significance of the relationship $p < 0,05$

** statistic significance of the relationship $p < 0,01$

Meanwhile the relationship of the learning environment and purposeful activeness of employees at work was direct: respondents who claimed that the learning environment and the conditions in their organization were very good had highly expressed purposeful activeness, and those who negatively assessed the learning environment were markedly less active.

Matrix analysis showed that the strongest statistical relationships were between management functions executed by respondents, purposeful activeness and evaluation of the learning environment. The more various management functions were performed by the employees, the higher their learning activeness was. Research also proved the fact that the strongest direct relationship was between the execution of management functions and a need for abilities required for the execution of these functions. In the other stage of the research the correlations of the factors determining OL and abilities necessary for the execution of activity and learning were investigated. It was proved that the higher purposeful activeness of the employees is, the bigger demand they feel for abilities to perform the activity.

One more important relation was revealed between OL environments and abilities required for employees to perform activities. Research results showed that the more favourable environment for learning in the organization was, the bigger demand for abilities required to perform employees' activities was observed. The strongest relations were between the learning environment and a need for team work, project development abilities, initiative. Favourable learning environment showed up less need such abilities as tolerance, planning and organizing.

Research defined the most important factors determining OL that enabled to get a better understanding of the object under investigation and get ready for further research. It was set that the learning environment was closely related to other factors influencing OL: purposeful activeness of employees in learning, performing activities and a need for abilities required for activity implementation. It was also conveyed that the heads and specialists of various organizations understood significance of learning in the organization, however, only half of them considered the internal environment in the organization to be favourable for learning that leads to insufficient usage of the possibilities provided by OL.

Organizational orientation to the employees teaching but not to the acquisition of required knowledge and abilities by reflexive learning was also revealed. This was influenced by prevailing traditional teaching methods which, restrict acquisition of abilities required for the employees.

3. Research analysis on the expression of organizational learning performed in JSC „Lietuvos Telekomas“ and bank „Alpha“, and relevance of the problem

Exploratory research not only revealed the peculiarities and problems of OL, but enabled to improve research methods on the expression of OL, reliability of which was verified by performing intervention research in two service sector companies. Four more blocks of questions, which enabled to set what place OL takes among other processes in the organization, what factors mostly induce learning and respondents' personal attitudes towards learning, were added to an anonymous questionnaire.

It was found out that a questionnaire survey could not show a versatile picture of OL, therefore other research methods were employed: semi-structured interview questionnaire was developed, grouping, analysis and interpretation of documents regulating employees' learning were done.

3.1. Participants of the research

Two companies of service sector, i.e. joint stock company „Lietuvos Telekomas“ (since 2007 JSC „TEO“) and bank „Alpha“, were chosen for the research. This choice was determined by an increasing role of service sector in Lithuania. According to data from the department of statistics, the number of employees working in service sector has been constantly increasing and in 2005 it was 56,9% (1473,9 thousand)¹ of all working inhabitants of Lithuania. Increasing competition is characteristic for nowadays service sector, therefore professionalism of the personnel is becoming a significant factor of competitive advantage in a service organization. According to B. Magnin, in order to appropriately respond to these challenges a service organization needs the employees' autonomy based on their empowerment. “These are the main characteristics of learning organizations, where every employee reveals difficulties of his/her activity, searches for ways to solve them and in such a way he/she furthers constant improvement of the organization“ (Daft, 1997).

Both companies that participated in the research have been in the Lithuanian market for over 15 years and are well known in the country. They provide services for customers in the majority territorial subdivisions and have subsidiaries. The companies pay much attention to the quality of the provided

¹ Department of Statistics of Lithuania (2005). The inhabitants employed according to the kind of economic activity and sex. <http://www.std.lt/veb/main.php>.

services. The markets of the providers of telecommunication services as well as financial mediation services are quite limited; approximately twenty companies compete for the provision of similar or analogous services. Peculiarities of the activities of the companies determine the main difference between these companies: JSC „Lietuvos Telekomas“ focuses on the objectives of speed of service provision and simplicity in the development of new technologies, while traditionally specific features of a financial mediation company are conservatism: safety, reliability and consistent growth, the priorities in the activity of the bank „Alpha“

Research sample. In order to ensure representativity of the research the variety of random sample, so called nested sample was chosen, i.e. “all elements of the population have equal opportunities to be included into the sample” (Merkys, 1995). The lists of the employees of the companies under investigation were compiled when making a random sample. The departments of maintenance, service instillation, service development, private and business clients in Šiauliai, Kaunas, Panevėžys regions of JSC „Lietuvos Telekomas“ and the subdivisions of the bank „Alpha“ in Šiauliai, Kelmė, Palanga, Anykščiai, Akmenė, Kuršėnai, Telšiai were selected at random.

The population of respondents was 3478 elements (on the employee lists in the both companies in April 2005). As research results are applied to the whole population, a minimal number of the surveyed or the sample volume (Kardelis, 2005) show representativity of the research.

The research aimed to reach a 95% ($p = 0,05$) reliability, thus z (Student number) = 1,96. As previous research on the expression of OL is insufficient to set precisely the most-likely values of the investigated attributes, the least favourable variant when S (average standard deviation of the sample) = 50% (it is presumptive that half of respondent will provide positive assessments of the attributes and vice versa) was chosen.

Having surveyed 100 respondents in the exploratory survey it was revealed that respondents chose positive variants of answers (46–66%) when answering the main questions on the questionnaire, thus allowed inaccuracy was 5% (calculated according to the formula: $\Delta^2 = \text{choices \%} * (100 - \text{choices \%}) / N$), and the volume of the sample – 346. It can be stated that 355 respondents questioned during the research (283 employees from JSC „Lietuvos Telekomas“ and 72 employees from bank „Alpha“) sufficiently represent the entirety being investigated and research results can be applied to the whole population.

Selection by gender was combined with the distribution of the whole population on the grounds of

the characteristics: 56% of women and 44% of men were chosen to be questioned. During the research 39% of men and 61 percent of women worked in the both companies. As according to the age the major part of the employees was of 26–35 years old, thus this age group dominated among the respondents.

3.2. Data analysis of the intervention research

Average age of respondents was 35,2 years, the oldest respondent was 62 years old, the youngest – 20 years old. The following two main groups of respondents can be distinguished: the heads and specialists.

63% of respondents have higher education, 19% have higher non-university education, 11% seek for a diploma of higher education. The majority of the heads (90%) has higher education, only 8% have higher non-university education. The education of specialists is more diverse, however, the same tendency remains: 57% of respondents have higher education, 22% have diplomas of higher non-university education and 8% have a certificate of secondary education. 31% of respondents study in different education institutions, the greater part – at universities.

Almost half of respondents during the assessment of the activity of the company where they are employed claim that it “constantly raises higher goals for itself but it is not always capable to implement them”. Most favourable assessments of the company activity were provided by the specialists of 26–35 years old with higher education. Least favourable assessments of the possibilities to improve the existing situation were made by specialists of 18–25 years old, having the same education. It can be presumed that young and educated employees are not sufficiently involved in the process of the companies’ activity improvement.

The survey revealed that the most necessary were communication abilities (97%) and professional knowledge (93%). In addition, the following abilities were also always and frequently needed: problems identification and solving (83%), loyalty (81%), team work (73%), initiative (79%). Project development and implementation abilities, knowledge of foreign languages and negotiation were least important.

Having performed factor analysis of a need for the discussed abilities, two main spheres of abilities were distinguished. The first factor had 34,8% of total dispersion, the second factor – 17,3%. Conditionally they could be called as activity competence and professional competence. A need for activity competence was markedly weaker than a need for professional competence. This can be explained by the particularity of the samples of respondents: specialists dominated (78%), and the heads made up a markedly a lower

part (17%). As a precondition it can be stated that the specialists notably rarely planned and organized activities, developed projects, negotiated, worked in a team than the heads. Abilities more important to them were related to the requirements for the functions in a particular workplace or activities performed.

One more block of questions aimed to find out what ways and methods of teaching/learning were used in the organizations. Most frequently employed were the following: advice of and consultations with the employees who had more experience (always – 23%, often – 38%), computer programs, the Internet (respectively 16% and 39%) seminars, courses and lectures (respectively 12% and 29%). The latter are attributed to the methods of passive teaching, i.e. the information is passively transferred during teaching. These traditional methods are popular, inexpensive, they ensure standardised provision of the teaching material and can be used to teach many people at the same time, however, when applying them the only possibility of feedback is tests. Computer teaching has all advantages of individual teaching/learning, which ensures quick feedback. Thus, these methods are more suitable to transfer professional knowledge but are not suitable at all for the development of communication, a team work, problem identification and solving abilities and initiativeness, which were indicated by respondents as being the most necessary at work. Active group methods like employee rotation, site visits to other companies or other subdivisions, problem solving in a group are not used or used very rarely. Therefore, employees lose a possibility to learn from each other, discuss and stimulate thinking.

Most frequently learning takes place in the company that organises teaching. Only 39% of respondents indicated that they learned in a workplace. This shows that respondents distinguish between working activity and learning process. This statement is proved by a small number of those who learn at home (4%). It may be presumed that the majority of respondents perceive teaching/learning very partially, only as a process stimulated externally. The main factors promoting learning are development of new technologies, customers' needs, quality ensuring and competition. Employees' needs and changes in the organization have a considerably smaller impact. This indicates that sustaining of compulsory learning, which is most frequently influenced by the external environment, is characteristic to the organizations.

The method of factor analysis, which enabled to set the internal structure of OL factors, was employed for data processing in the questionnaire survey. It is necessary to emphasize that the scales designed on the grounds of factor analysis are not identical to OL factors, which were set in accordance to literature

analysis on OL. Although, OL was not distinguished on group level as a separate factor, its separate constituents such as “formation of mobile teams to solve particular problems” and “collaboration of the departments and individuals in the organization” were included into other factors, which reflect the expression of OL in the organization.

Factor analysis helped to find out seven meaningfully interpreted and statistically grounded factors like: *assessment of personal features; learning and career planning; learning environment; possibilities of information acquisition and sharing; use of knowledge in professional activity; leadership; knowledge of the goals of the organization*. The values of Cronbach Alpha coefficient in three scales is above 0,64, this indicates a sufficient degree of compatibility of constituent statements. The first two factors, reflecting purposeful activeness of the employees regarding learning, are attributed to OL factors on an individual level. The first factor has 34,2% of total dispersion and the second factor – 13,6%. The other four factors can be characterised as OL factors that unite the levels of the group and the organization. The first factor has 28,7%, and the other factors respectively have 8,6%, 7,1%, 6,4% and 5,9% of total dispersion.

During the analysis of purposeful activeness it was revealed that the employees very positively assessed their own features important for work and learning. The employees' self-sufficiency and an ability to perform work properly and in time were especially emphasized. The expression of the factor of learning and career planning is average: the majority of respondents indicated that they sometimes developed self-education plans and planned their career; however, the greater part indicated that they did not discuss their individual education plans with the heads. This shows that learning planning is oriented towards the needs of the individual but not to the need of the organization.

Having analysed frequency of average values of OL factors it was set that an average expression of learning was characteristic to the organizations. The “strongest” constituents of the factor of the learning environment were an incentive to work masterly and professionally and a prevailing common attitude that it is necessary to improve and apply knowledge gained in practice. Mean while the expression of material support for in-service training is the weakest. The employees tend to share information with their colleagues, however, one third of respondents stated that information received was not transferred directly to the people associated to it and they rarely helped each other to learn, shared methods of individual work, worked in a team and focused on group tasks.

The majority of respondents indicated that in professional activity it was necessary to learn all life, but only a quarter thought that gained knowledge could always be used at work, a third thought that gained knowledge always had impact on the efficiency of the activity. Although less than a half of respondents indicated that they had a leader who they followed, however, even 60% of respondents thought that they learned from the leaders and tried to use experience gained. It can be stated that the research proved the importance of leadership on learning, however it revealed that a need for leadership was dissatisfied. 61% of respondents considered that the organization in which they worked had a commonly developed vision, mission and strategic aims, but

38% of respondents were not aware of these aims. A fifth of respondents assumed that new ideas were not accepted in the organization and new services as well as products were not created.

In the other stage of the research relationships between the identified OL factors were searched (see Table 2). Having performed internal correlation among them it was set that the factor of learning in the workplace was not related either to the factors of individual purposeful activeness of the employees or with the factors of OL. This proves a precondition that learning in the organization is very narrowly perceived, dissociated from the activity and other processes in the organization.

Table 2

**Relationships among the factors of the expression of organizational learning
(Spearman's rank correlation coefficient)**

	Learning in the workplace	Personal features	Learning planning	Learning environment	Informat. acquisition and sharing	Use of knowledge in prof. activity	Leadership	Knowledge of the goals of the organization
Learning in the workplace	1,000	,025	,011	,066	,029	,083	,037	,074
Personal features	,025	1	,409**	,168	,279**	,242**	,036	,234**
Learning planning	,011	,409**	1	,279**	,218**	,278**	,217**	,182**
Learning environment	,066	,168**	,279**	1	,501**	,404**	,301**	,455**
Information acquisition and sharing	,029	,279**	,218**	,501**	1	,341**	,387**	,388**
Use of knowledge in professional activity	,083	,242**	,278**	,404**	,341**	1	,352**	,305**
Leadership	,037	,036	,217*	,301*	,387*	,352*	1	,253*
Knowledge of the goals of the organization	,074	,234**	,182**	,455**	,388**	,305**	,253**	1

* statistic significance of the relationship $p < 0,05$.

** statistic significance of the relationship $p < 0,01$.

The relationship of average strength was set between two factors of individual purposeful activeness – those respondents, who valued their personal features important for learning, more often tended to plan their learning and career.

The strongest relationship related to the learning environment and other OL factors: the more favourable learning environment was, the more frequently possibilities of information acquisition and sharing were marked, application of knowledge in professional activity was observed, more precise knowledge of the goals of the organization was and the significance of leadership was accepted.

One of the most important research findings is *that weak relationship between individual purposeful activeness of the employees and the factors of the expression of OL was set*. This means that both the employees' favourable assessment of personal features necessary for learning, and learning and career planning are distantly related with the OL factors. While transferring the results of this research to separate levels of organizational learning it can be stated that individual learning of the employees in the organization is little related to learning on the organizational level.

Results of the research performed in JSC “Lietuvos Telekomas”

Having performed data analysis of the questionnaire survey of the employees in this company and internal correlation between the attributes of OL expression, analogous results in the both companies were obtained:

- relationship of average strength was set between two factors of individual purposeful activeness (Spearman’s rank correlation coefficient is 0,496);
- strongest relationship was between the learning environment and other OL factors: possibilities of information acquisition and sharing (Spearman’s rank correlation coefficient is 0,543), use of knowledge in professional activity (0,471), knowledge of the goals of the organization (0,425), leadership and collaborative learning (0,526).

It is necessary to note that the factor “leadership and collaborative learning” rather strongly related to the factors “possibilities of information acquisition and sharing” and “use of knowledge in professional activity”. Thus education of the leaders and stimulation of collaborative learning expand possibilities of

information acquisition and sharing and help to apply knowledge in professional activity.

Obtained results in this stage of the research proved a raised precondition that relationship between *individual purposeful activeness of the employees and the factors of the expression of OL was weak.*

In order to get a more precise analysis of obtained data in a questionnaire survey, analysis of the documents regulating the activity and learning of the employees of JSC „Lietuvos Telekomas“ was performed. The most significant documents selected for the study were the following: the programme of activity improvement of the company; labour contracts; collective agreement; orders related to the employees learning in the organization and outside it; organizational structure; competences development programme in the company prepared by KUC. Other means of communication between the organization and the employees (publications, informational statements, letters to employees, annual reports of the organization, boards, educational programmes for the employees, announcements on leisure events) which provide information on decision making were also analysed. This analysis identified some aspects of management policy, directing the organization to learning (Table 3).

Table 3

Organization management aspects directing the organization to learning

Principles of staff management	<ul style="list-style-type: none"> • Orientation towards business and activity results. • Team work and partnership. • Everything has clients, internal or external. • Empowerment and accountability. • Horizontal communication and collaboration.
Processes of staff management	<p><i>Selection:</i> Aim of the company: to create and develop long-lasting labour relationships with the employees. Recruited employees are acquainted with the company’s activities, main products and services structure, history, organization culture, induction program for new employees is organized.</p> <p><i>Education and management:</i> Occupational development of the employees: common liability of the company and the employee. The first step towards education of the employees – performance assessment. The company creates various learning possibilities – in the working place, KUC and elsewhere. The company stimulates and maintains the objectives of the employees to continue further general education according to possibilities.</p> <p><i>Salaries and stimulation:</i> The Company seeks to hire, retain and stimulate well-qualified employees. The principles of salary are legal, oriented towards inner justice and external competitiveness.</p>
Mission	We satisfy client’ needs for communication and information by providing high-quality and simple-to-use communication services.
Vision	The best partner of communication services in Lithuania.
Values and main factors of success	<p><i>Openness:</i> we communicate openly and are open to novelties and changes.</p> <p><i>Responsibility:</i> relationships with customers, co-workers and society are based on the principle of responsibility and we keep the given word.</p> <p><i>Activity:</i> we understand the business environment and create the value for the customers and shareholders.</p> <p><i>Collaboration:</i> we are respectful and benevolent with the customers and colleagues, develop a team spirit.</p> <p><i>Continuity:</i> invoke „TeliaSonera“ company group knowledge of the business field.</p> <p><i>Motivating:</i> constant stimulation of the employees.</p>

Table 3 to be continued

Aims	Out of seven steps of the company activity improvement program we can identify two aims related to organizational learning: <ul style="list-style-type: none"> • To improve inner structure of the organization and staff strategy. • To accept ideas from the employees, thus enabling to stay the leader on the telecommunications market until 2010.
Collective agreement	<ul style="list-style-type: none"> • Learning holidays are granted on the basis of a certificate from the education institution for the period indicated in that certificate and paid referring to how studies of the employee correspond to his/her working competence. • Company employees are taught and paid according to annual training plans, which are made up under an agreement between the heads of the departments and the employees considering necessary education and the field of the company development and its financial possibilities. • In case company employees' education program is expensive, the employer and the employee agree on the use of funds for training of the employee's competence and his/her salary as specified in the labour contract with the employee.
	<ul style="list-style-type: none"> • The employer, following the policy of study support and order for study payment, can conclude an agreement on study payment with the employee of the company, upon studies in higher schools corresponding to individual plans for competence training, and pay for these studies under conditions stipulated in the agreement. • While determining the size of payment for granted learning holiday, the manager of the employee should evaluate how the study program and individual study plans of the employee correspond to his/her needs for competence improvement. • If the study program and individual study plans correspond to the needs for competence improvement an average salary is paid during the time of learning holidays. In all other cases, a part of average salary is paid during the period of the holidays, which was agreed between the employee and his manager.
Study support policy of employees the company	<p>Aim: to ensure that employee competence improvement in a long-lasting program would be beneficial for the business of the company, customers and the employee. The most important principles:</p> <ul style="list-style-type: none"> • Competence improvement is not acquiring of an absolutely new specialty according to which the person would like to work in the future; it is deepening of acquired knowledge in study program of higher degree. • Improvement in such areas of competence is supported, if it is especially relevant for the company. • The company supports the objectives and initiatives of the employees to improve competence, use it in every-day work, by bringing benefit for the Company and customers but not a wish to obtain a document certifying acquired knowledge. • The company seeks that the input of the employee himself would be seen as competence improvement, therefore, company support payment of an appropriate part of studies. • Every half of the year the main fields of studies being financed and their financing priorities are considered by the company. They are determined by needs for competence improvement and financial possibilities.

Summarizing the results of a questionnaire survey and data analysis of JSC „Lietuvos Telekomas“, we can state that rather much attention is paid to teaching (learning) of the employees and training of their competences in the company. Planning learning activities in the organization, involvement of all the members of the organization into the learning processes, combination of the needs of the employees with the interests of the company, investment into education, training of the employees and managers' participation in educational processes show a positive expression of organizational learning. The employees also frequently help each other to learn, share work methods and information they have. They are involved in the creation of the aims of the organization. It is paradoxical but only a half of respondents indicated that they develop self-training and career plans, and even less of them discuss them with the mana-

gers. In the company teaching methods, training of collaboration and group learning are not used or rarely (e.g., problem discussion in groups, site visits to other departments, employee rotation), not enough attention is paid to employee learning, initiative the employees' is not always stimulated and their recommendations are assessed insufficiently. More than a half of respondents indicated that they do not learn in the work place or learn rarely.

Results of the research performed in bank "Alpha"

Summarizing the results of a questionnaire survey in bank „Alpha“, an average OL expression was determined. Active reaction to the needs of customers and technological changes, assessment of the employees' knowledge and abilities and consultations for the employees foreseeing and realizing the aims of

the organization are noteworthy. However, learning and career planning is fragmented; even more rarely these plans are discussed with the managers. Certain contradictions were also noticed: 60% of respondents indicated that they share information they have with the colleagues, but only half of them help each other to learn, share their work methods. Analogically, 60% of respondents know that the organization has commonly a developed mission, vision, aims but they are know to only 31% of respondents. It is rarely learned in the organization discussing the problems in groups, observing the work of other departments, employees rotation practically is not practiced.

Analyzing the results of factor analysis of learning factors analogical results were obtained in the both organizations, but, differently to the employees in JSC "Lietuvos Telekomas", bank "Alpha" employees were more likely to connect foreseeing organization aims and understanding them with leaderships abilities. This assessed OL factor was in the most advantageous way. Independence and initiative of the employees was assessed as more advantageous than self-confidence and obstinacy seeking for the aim.

Having performed inner correlation between OL expression features tenuous link was identified between learning conditions in the organization and learning and career planning (Spearman correlation coefficient 0,36), self-confidence and obstinacy seeking for the aims (0,358) and leadership oriented towards other aims (0,325). Independence and initiati-

ve of the employees is also related to self-confidence and obstinacy seeking for the aim. Inverted relation is typical for the factor of self-confidence and leadership oriented towards they aims, the more people are self-confident and hardly seek for the aim, the less the follow the leaders.

The research showed that personal learning of the employees is related only to the learning environment (organizational level). Under more advantageous conditions the employees more frequently plan their learning and career, they are more self-confident seeking for the aim. At the same time the relation with other OL factors was not identified or was even inverted.

According to bank managers opinion, learning is not regulated in the documents of the company, as a qualification improvement system is just being developed. Therefore, seeking to reveal OL expression in bank "Alpha" in a more detailed way, the method of non-structuralized interview was chosen surveying four employees from the bank (two managers and two specialists). The respondents of different age groups and having different work in bank experience were surveyed. The most important aims of the interview were to find out what aspects of organization management orient the employees to learning (talks to the managers), and how these of management aspects determine learning of the employees (talks to the employees).

Table 4

Organization management aspects orienting the organization towards learning in bank "Alpha"

Managers attitude	Employees attitude
<i>Mission and aims of the organization</i>	
The objective to satisfy the needs of the residents in all possible ways, stimulate the development of small and medium business, realization of regional projects are emphasized. Therefore, the aims of the organization are oriented towards external customers.	The employees know the aims of the organization but the most important, according to them, is to do work duly and in time, what is foreseen in their official instructions or are indicated by the managers.
<i>Aspects of staff management</i>	
Attempts are made in the organization to hire and retain highly qualification employees. Internal and external contests are organized for employee selection. Selection is oriented to higher education (not necessarily economics or banking), to experience and knowledge and skills necessary to perform certain activity. For newly employed a probation period of 3 months is compulsory. Career plans are not developed in the organization but the employees have a possibility to be promoted (some managers started their career as „tellers“). The activity, rights and responsibility of the employees are regulated by official instructions. The employees are assessed annually by internal experts from the organization.	Employee selection is performed by the managers of the highest level. During an interview, the biggest attention is paid to the assessment of personal competence and particular business abilities of an applicant (work experience in financial institutions, etc.). During his probation period the employee is constantly consulted by more experienced colleagues. Later work related problems are solved consulting the head of the department; rarely discussed with the co-workers. The main motive of learning is a possibility to be promoted. Especially low learning motivation is typical for the employees of the lowest level. During employee assessment (the first assessment is performed after a half of the year in employment, later – every) professional knowledge and business

Table 4 to be continued

<p>While taking decisions individual decisions prevail, mostly it is referred to the managers professional competence. The managers acknowledged that they use decision making with the colleagues insufficiently.</p>	<p>competence of the employee are assessed (abilities oriented towards the objectives of the activity). Assessment results determine changes in salary.</p>
<p><i>Learning support</i></p>	
<p>The managers support employee learning in various education institutions (flexitime working schedules are made up, learning holidays provided by the law are granted, during which an average salary is paid for the employees, and other privileges provided by the law²).</p> <p>From the year 2006 learning plans are being made up, in which the managers of the departments foresee what knowledge and abilities have to be acquired by the employees and what ways of teaching they recommend. Every year the organization budgets learning of managers and other employees by invoking the experiences of foreign partners.</p> <p>The organization willingly collaborates with Šiauliai University, offers practice for final year students, and later recruits them.</p> <p>During the probation period the employees are constantly trained by the specialists and the managers of departments with more experience. Learning results are not discussed publicly.</p> <p>A need for employee learning has not been researched.</p>	<p>The managers only partially support employee learning in education institutions: flexitime working schedules are made up and holidays of 1–3 days are granted during exam session.</p> <p>The employees do not develop individual learning plans. Teaching (learning) in courses and seminars is limited (especially small possibilities are for the specialists of the lowest level). Feedback is not sufficient other, knowledge and skills acquired in the courses are not transferred or discussed in the organization.</p> <p>All necessary information related to job is provided for the employees (official instructions, manuals, consultations by experts, etc.).</p> <p>The employees practically do not have any possibility to learn collaborating in groups.</p> <p>Learning results are not discussed publicly.</p> <p>A need for employee learning has not been researched.</p>

Information obtained in interviews meaningfully supplemented results of a questionnaire survey. It was identified that efforts of the organization are oriented towards learning (training) of the employees. Training in the organization is initiated by the managers, and employee learning needs have not been researched. Professional competence of the managers is the most important factor of teaching and the source of knowledge. Insufficient investment into learning of the employees, small possibilities of learning collaborating and small possibilities for the specialists of lowest level show the disadvantages of OL. We can state that supported learning is typical for the organization when the most important attention is paid to effective performance of tasks, when it is sought to provide the employees with knowledge and skills necessary at work, changing needs of customers, technological changes and changes of the competitive market “force” to learn.

4.4. Conclusions

The paper presents the analysis of empirical investigation on the assessment of organizational learning expression by foreign and Lithuanian scientists. Referring to the methodological aspects of

these investigations and obtained results, OL factors on individual, group and organizational levels were identified, their features were set and on the basis of them the a questionnaire of anonymous survey was made up. In exploratory survey certain disadvantages of the research instrument were noticed so the questionnaire was improved, additionally the methods of document analysis and non-structuralized interview were used. The selected research instrument enabled to research OL as a process, joining individual objectives for mastership, inner partnership, creation of knowledge, organizational policy, culture and some aspects of its management, orienting organization towards learning.

OL expression assessment methodology was checked while performing interventional research in two companies of service sector: JSC „Lietuvos Telekomas“ and bank „Alpha“. Factor analysis helped to find out seven meaningfully interpreted and statistically grounded factors: *assessment of personal features; learning and career planning; learning environment; possibilities for information acquisition and sharing; use of knowledge in professional activity; leadership; knowledge of the goals of the organization*. Having evaluated the factors determining compatibility of the features and their possibility to reflect various aspects of OL, we can state that these factors can be used while performing analogous investigations in other organizations.

Having performed correlation analysis of these factors, close relationship between the learning en-

² Articles 181 and 210 of LR Labour Code regulate learning of employees in organizations. LR Labour Code and its comment. (2003). Vilnius: Study of business researches and legal analysis.

vironment and other OL factors has been identified. The research revealed one of essential OM problems as well: individual purposeful activeness of the employees in the researched organizations is not related to the factors of OM expression. Therefore the precondition has been put forward that individual and group learning is necessary but is not a sufficient condition for OL.

The following peculiarities of OM have been identified in the research as well:

- Mostly traditional teaching methods are used in the organizations, and they are not always appropriate for training of necessary abilities;
- Meaningful distinction of working activity and learning was revealed;
- Supported and compulsory learning is typical for the organizations and mostly it is determined by changes in the external environment;
- The importance of leadership on learning has been approved but unsatisfied need for leadership has not been revealed.

Learning expression peculiarities of the both organizations have been also identified in the research.

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Organizacijos mokymosi vertinimo priemonės

Santrauka

Straipsnyje pateikta užsienio šalių ir Lietuvos mokslininkų organizacijų mokymosi raiškos vertinimo empirinių tyrimų analizė. Atsižvelgiant į šių tyrimų metodologinius aspektus ir gautus rezultatus išskirti organizacijų mokymosi raiškos požymiai individualiu, grupių ir organizacijų lygmeniu, sudaryti anoniminės apklausos ir interviu klausimynai. Atlikus faktorinę analizę buvo nustatyti septyni organizacijų mokymosi veiksniai: asmeninių savybių vertinimas; mokymosi ir karjeros planavimas; mokymosi

aplinka; informacijos įgijimo ir pasidalijimo galimybės; žinių panaudojimas profesinėje veikloje; lyderystė; žinios apie organizacijos tikslus. Šio fenomeno raiškos vertinimo metodologija buvo patikrinta atliekant intervencinį tyrimą dviejose paslaugų sektoriaus įmonėse. Įvertinus veiksmų ir juos sudarančių požymių suderinamumą ir galimybę atspindėti įvairius organizacijų mokymosi aspektus, galima teigti, kad šie veiksniai gali būti naudojami atliekant analogiškus tyrimus kitose organizacijose.