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Influence of Personal Competency on Sustainable Development Knowledge Creation in the Organization

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Abstract

A modern world is turning to sustainable development (SD). In Lithuania we still lack SD professionals in the public sector but some assumptions can be made that public sector employees gain SD knowledge and competency in their daily activities.

A natural experiment was organized in Neringa municipality with the aim to prove how organizational learning may be used as a tool to integrate SD into the organization's activities. The methods of interview and observation from the inside were used to reveal influence of personal competency on integrating SD knowledge into a strategic plan. The paper reveals research results.

Keywards: knowledge creation, sustainable development, competency, qualification, public institution

Introduction

Public administration as an educational subject was integrated into the Lithuanian system of higher education only after the state gained independence. Data provided by the State Department of Civil Service (Report of 2011) show that in 2011 about one third (32%) of all civil servants were 51–65 years old (29.7% in 2009). A big part of civil servants and those employed in the public sector have no qualification in public administration therefore it can be claimed that they have only practical competency.

Changes in the structure of practical qualification and competency have been noticed. However, various discussions arise about a qualification in public administration raises as a specific profession. Detailed analysis of the structure of the Lithuanian public sector showed that individuals with a diverse educational background and qualification are employed in the public sector. According to Denhardt (2001), no discipline provides people with all knowledge of modern public administration. It means that specialists should develop competency when studying other disciplines and performing their functions. Referring to this, it is clear that public administration employees should gain professional competency and develop their individual specific competency in their daily activities.

Sustainable development (SD) is the most relevant issue of a modern world. Recent global problems impel all organizations to incorporate the principles of SD into every activity it has planned. Unfortunately, it should be admitted that not only small municipalities are lacking SD professionals but also public administration at the regional and national levels. Analysis of spatial and land planning documents showed that public organizations at all levels more or less incorporate the dimension and principles of SD into their documents. That leads to an assumption, that public sector employees gain knowledge of and skills in SD and apply that to their daily activities, i.e. integrate the principles of SD into planned (or planning) activities.

Juceviciene and Burksiene (2009), Porter and Kordoba (2008), Williams (2008), Zink (2008), Bell and Morse (2003) stated that the best way of integrating the principles of SD into the organization's strategic documents is organizational learning. Knowledge of sustainable development, important for the organization, is being created in the learning process. To make the process successful a specific background for that is needed (Burksiene, 2011; 2012). In other words, persons, who are involved in the process of integrating and improving the dimension of sustainable development by learning, need to have a specific background or an adequate level of sustainable development knowledge. Referring to Adomßent and Hoffman (2013) and de Haan (2006), it means that they should have shaped competency. Referring to Gardner (2006), it might be that those persons are experts in one or more fields of occupation, specialists–experts are very appreciated by any organization and the public sector in particular (Raipa, 2012). Referring to the statements above, the author maintains that public sector employees with practical SD knowledge applied in their work activities and having a specific background are specialists–experts in SD.

Comparing the functions of large and small Lithuanian municipalities, it is obvious that a small

municipality administration performs the same legal duties and obligations and carries out similar functions as a big municipality administration. What is different is the amount of activities per specialist because the area of administrative territories and the number of population they service differ. It means that a specialist in of a small municipality carries out much more diverse activities and functions, must be an expert in more than one sphere and have a full-scale of competencies. Being experts-practitioners they not necessarily have a required educational qualification.

In that context, small municipality administration is capable of performing all specified functions and achieving the main goals. It is also capable of successfully integrating the principles of sustainable development into their planned or foreseen activities due to its competent experts–specialists who have the basic knowledge of SD. Thus a wide range of personal competencies, expertise and the basic knowledge of SD are very important factors developing sustainable activities in any organization and in the public sector of a small municipality in particular. Competent experts–specialists who have the basic knowledge of SD may have a big influence on organizational sustainable development knowledge creation. They should be valued and their competencies should be employed in the process of organizational SD learning. The paper deals with research question: *how personal competencies and qualification make influence on developing organizational sustainable knowledge creation?*

The aim of this research is to identify influence of personal competencies on the process of organizational sustainable knowledge creation.

Research object: influence of personal competencies on the process of organizational sustainable knowledge creation.

Objectives:

- To reveal the process of organizational sustainable knowledge creation.
- To overview the role of qualification and competencies in the process of organizational learning for sustainable development.
- To present the methodology and results of empirical research conducted in Neringa municipality administration.

The first part of the paper reveals the process of organizational sustainable knowledge creation. In the second part the meaning and the role of qualification and competencies in learning sustainable development are overviewed. The third part presents the methodology of empirical research conducted in Neringa municipality administration which is the smallest municipality of Lithuania and research results. Results revealed the peculiarities of personal qualification and competency and prove their influence on the process of organizational sustainable development knowledge creation. Research showed that employees with a wide set of qualifications and competencies and the basic SD knowledge are the most important actors of the process. Observation from the inside also revealed that a political standpoint and opinion about SD have a great impact on the process of incorporating the principles of SD in a public organization.

Literature analysis showed that the issue is of interest for researchers. De Haan (2006; 2010) analyzed the concept by establishing a link between education and sustainability on the basis of international debates over competencies. He was the first to define competencies by using a German word *Gestaltungskompetenz* (de Haan & Harenberg, 1999). Adomßent and Hoffman (2013) dealt with the importance of shaping competencies of society to be more sustainable through education and learning. The authors noted that the whole discussion and its implementation are still at an early stage. Barth, Godemann et al. (2007) considered the possibilities of the both, formal and informal, learning and their link with competence development within higher education. In July 2013 Bickel wrote: knowledge of and skills in sustainability are still poorly defined, sustainability itself is lacking credibility, which in turn hinders people's ability to identify and acquire skills they need to make solutions sustainable. The authors attempted to bring together the newest ideas about what set of core knowledge and skills white collar professionals across all sectors should have. Therefore the phenomenon of competency and sustainable development is still relevant. Empirical research into the issue is still lacking, some scholars focus on business rather than on the public sector. Research described in this paper is innovative as it analyses competencies and qualifications of public sector employees in a small municipality and reveals what competencies some of them have and what impact that makes on others in the context of organizational sustainable development learning.

Methods. Literature analysis is used in the first and second parts of the paper. Findings of empirical research are discussed in the third part. Natural experiment of organizational sustainable development learning was organized in Neringa municipality. Methods used in research into personal competencies and qualifications and their influence on the process of sustainable development learning are as follows: a semi–structured interview, observation from the inside of the focus group in the process of organizational learning, concept mapping and the

Epstein (2008) method PDCA (plan, do, check and act) (Burksiene, 2012).

1. Creating organizational knowledge for sustainable development

Trakselys (2011), Edwards (2009), Malik and Malik (2008), Zulauf (2007), Kudokiene and Juodaityte (2005) emphasized importance of organizational learning and its role in the organization that is adapting to a rapidly changing environment. Continuous changes in a modern environment oblige all organization members to learn. Domarkas and Jukneviciene (2010), Casey (2005), Palowsky (2003) stated that it is important not only to acquire new knowledge but also to create and share it while learning. Bennet and Bennet (2008), Bukantaite (2006) expanded the definition of organizational learning by explaining that it is a systemic process that includes all kinds of learning in an organization, gaining of new knowledge, new skills and competencies.

It is established that learning occurs not only at an individual level but also at a collective (group, organizational) level in the knowledge society and that leads to the formation of individual and collective knowledge (Wiseman, 2007; Pasteur, Pettit, van Schagen, 2006; Lawrence, Maws, Dyck, 2005; Easterby–Smith, Lyles, 2003; McElroy, 2000). Creative and innovative individuals seek to establish a dialog with and a feedback from those with whom they share attitudes and ideas. Jucevičiene (2007), citing Jarvis, Holford and Griffin (2004), stated that group or collective learning is something more than a sum of simple learning of individuals. Collective learning always occurs in a smaller or larger group where all members share individual knowledge, gain common experience and agree on common things important for each group member. In other words, collective knowledge is being built in a special process of interaction. This knowledge becomes organizational when it is formally acknowledged (formalized) in the organization and made mandatory to its all members.

Some authors (Jones and Volpe, 2010; Richter, West and Dick, 2006) argued that the organization's members prefer to identify themselves with a particular group rather than with the organization as a whole. But for organizational knowledge creation that is important for the whole organization it is not enough only to hold discussions within one single group. Inter-group knowledge sharing is one of the main conditions for converting informal knowledge into a useful legal form, acceptable for all organization members. Conceptual arguments regarding the process of organizational learning for sustainable development were presented in detail by the author of this paper in her doctoral dissertation and research papers.

Juceviciene and Burksiene (2009), substantiating organizational learning for sustainable development, also emphasized that organizational sustainable development knowledge creation occurs at the individual, group or collective levels. Knowledge creation or organizational learning is a spiral process where knowledge is being created, shared and increased in the SECI (socialization, externalization, combination and internalization) cycle of Nonaka (Nonaka, Takeuchi, 1995). Firstly, tacit individual knowledge is converted into organizational knowledge and later it again becomes new tacit individual knowledge as a theory in use.

Refering to Juceviciene and Burksiene (2009), it is also important to emphasize that some members of the organisation may have gained sustainable development knowledge in their daily activities or in a cognitive way. In other words, they have achieved a real zone of individual development or the zone of approximate development according to Vygotsky (1986). Therefore, it is necessary to involve those members into the process of sustainable development knowledge creation.

For the learning process to happen in a modern organization, it is proposed to create the environment, where individuals and their groups are able to exchange insights, experiences and knowledge. It means that a constructive way of involving members into the learning process builds a favourable learning environment based on the SECI cycle of Nonaka of sustainable development knowledge creation (Nonaka, Toyama, Byosiere, 2003). In this environment proper managerial factors are used to help initiate discussions and dialogues where learners reflect and interpret shared knowledge and create new common knowledge categories of sustainable development (Burksiene, 2012).

According to Bell and Morse (2003), each organization has unique individuals with their unique attitudes, experiences, understanding and values or other characteristics. In the context of sustainable development, it is necessary to emphasize that individuals have different attitudes to continuous personal improvement, qualification and personal competence development, they also have different capabilities to innovate and learn. This uniqueness is most evident at different levels of basic individual sustainable development knowledge (Burksiene, 2011). Referring to that, I argue that *those members, who are more open to innovations and learning, have a higher degree of personal knowledge of sustainable development and higher competencies in this context.* But they may have no appropriate qualification

or, in other words, be not educated in sustainable development. This knowledge could be gained in daily activities, while reflecting and integrating information from different external sources into personal understanding and behavior.

Therefore importance of personal competency and qualification in the sustainable development knowledge creation process is obvious.

2. Role of competency and qualification in organizational sustainable development knowledge creation

Gardner (2006) stated that individuals in modern organizations must be experts at least in one field of activities and have a synthesizing mindset. People with those abilities are able to generate different representations of the same idea or concept. They know how to integrate ideas from different disciplines or spheres into a coherent whole and communicate that integration to others within the organization. Raipa (2012) also emphasized that experts-specialists are highly valued by each organization. Civil servants must be able not only to effectively organize their activities but also have a wide range of interdisciplinary knowledge, necessary for sustainable development. Therefore it might be that some members are experts- specialists, have a higher qualification and wider competencies (specific background) in the context of sustainable development. According to Juceviciene and Burksiene (2009), those specialists have achieved a real zone of individual development or are in the zone of approximate development under Vygotsky's (1986) theory of personal development. It means that these specialists are ready to incorporate the principles of sustainable development into organizational activities. Those experts-specialists are particularly highly valued by small municipality administration of Lithuania.

The most valuable aspect of making democratic decisions is to hold discussions among organization's members (at an individual level) and their groups (at a collective level). Such discussions accompanied by reflection and new sustainable development knowledge creation are defined as organizational learning, depending on what kind of knowledge is being created and shared within the organization. Therefore organizational learning is assumed to be an effective way of competency development of the members and converting new organizational knowledge into personal behavior patterns based on the system of values.

Competence is one of the main terms discussing the knowledge society, modern organizations and sustainable life. De Haan (2006) emphasized that competencies are successfully acquired when learning takes place particularly in this context. The concept of competencies is seen as an essential landmark for orienting towards sustainable development learning (Adomßent, Hoffmann, 2013; De Haan, 2006).

Lobanova and Chlivickas (2009), when analyzing public organizations, stated that its employees play the main role in the organization. If they have no appropriate skills and qualification the organization faces difficulties aiming at its goals or trying to implement its tasks. Then the functioning of a public organization is unsuccessful and ineffective. Therefore, according to the authors, it is very important to successfully combine different individual competencies, personal features and steer all that towards the essential activities of the organization. Thus participation of all members in decision making is claimed to be one of the most significant principles of modern public governance. Bell and Morse (2003) together with Malta's responsible authorities, while developing criteria for evaluation of the country's sustainable development, also claimed that the best results are achieved when qualified and competent representatives of governance and administration join the process.

De Haan (2010), who has been researching sustainable development competencies since 1998, emphasized sustainable development education for children, youth and society. He proposed 12 sub- competencies of *Gestaltungskompetenz* (Engl. shaping competency) aimed at educating or learning, namely, the abilities to:

1) gather knowledge in the spirit of openness to the world when integrating new perspectives;
2) think and act in a forward-looking manner;
3) acquire knowledge and act in an interdisciplinary manner;
4) deal with incomplete and overly complex information;
5) co-operate in decision-making processes;
6) cope with individual dilemmic situations in decision-making;
7) participate in collective decision-making processes;
8) motivate oneself as well as others to be active;
9) reflect upon one's own principles and those of others;
10) refer to the idea of equity in decision-making and planning actions;
11) plan and act autonomously; and
12) show empathy for and solidarity with the disadvantaged.

Raipa (2012) stated that only professional competencies have been clearly defined. Professional competency means an ability to act in several

spheres. That is directly linked to a person's education, qualification and competency or shaped sub-competencies referring to de Haan (2010). Those features may be also described as the conception of human sustainable development resources. Baceviciute and Jukneviciene (2009), Bell and Morse (2003), Bohlander, Snell and Sherman (2002) claimed that human resources are the main asset of any organization. Therefore it is very important to involve individuals into all processes within the organization as that gives effective results. *That allows claiming that involvement of organization members competent and qualified in sustainable development is unquestionable when creating organizational sustainable development knowledge.*

All that shows, that personal competency and qualification are those factors that make influence on organizational sustainable development knowledge creation. Results of empirical research conducted in Neringa municipality and presented in the next part of the paper practically validate this assumption.

3. Influence of personal competency and qualification on organizational sustainable development knowledge creation

3.1. Research methodology

Natural experiment was conducted in Neringa municipality when its strategic plan was prepared. An expert group of specialists, responsible for strategic development, was formed under a decision of the director of administration. Initially there were 9 members in the group, later 8 as one person withdrew from the experiment due health problems. The experiment started in May 2010 and lasted 11 months.

During the experiment a special learning environment was created using managerial factors, substantiated by the author of this paper (Burksiene, Juceviciene, 2013). In this environment the expert group was able to create new and to increase existing individual and collective sustainable development knowledge. This knowledge, in the combination phase of the knowledge creation process of the SECI cycle (socialization, externalization, combination, internalization) of Nonaka (1995) became organizational knowledge. A peculiar feature of the combination phase is that organizational knowledge was created and integrated in the municipality strategic plan when all interacting groups agreed on that new knowledge. After approving this knowledge at the organizational level it became compulsory for each member.

This paper does not aim at revealing the organizational learning process presented in the author's doctoral dissertation. The paper shows influence of individual competency and qualification researched by the methods of a semi-structured interview and observation from the inside. The results of a semi-structured interview revealed general expert competency of each expert, attitudes to learning and the level of basic SD knowledge. Observation that followed the interview was used as a tool to reveal how personal expert competency and basic SD knowledge influence organizational sustainable development learning.

A semi-structured interview primary had to help identify the basic individual sustainable development knowledge or the level of personal development according to Vygotsky (1986). Extra questions were used to identify unique characteristics (willingness to learn, attitude to sustainable development, motivation to behave sustainably) of the expert group members. They were interviewed on their position at work, education, fields of responsibility and asked to name the sphere or spheres in which they felt that they had expert knowledge or, in other words, to name their personal qualification and professional expert competencies. Interviews were conducted by the author of the paper in 2011 and 2012 (see Burksiene, 2011; 2012). A semi-structured interview is a useful tool for grounding individual competency and qualification for sustainable knowledge creation.

Observation from the inside was arranged with the focus group during organizational sustainable development learning as well as concept mapping and the PDCA cycle presented in the paper of Burksiene and Juceviciene (2013). Observation from the inside helped to reveal peculiarities of interacting and communicating among the individuals while creating and sharing sustainable development knowledge and to identify whether it is linked to personal competency and qualification. The researcher conducted observation from the inside in the place, developed and used the instrument of observation categories.

The method of observation from the inside allows the researcher present more objective conclusions. Unfairness may influence personal emotions and attitudes to values and should be avoided as that may lead to serious errors. The researcher should also avoid personal interest, to see what he wants to be seen.

The author of the paper worked in Neringa municipality administration for a long time, stayed there during the experiment and maintained good relations with the expert group thus the method of observation from the inside was a very useful tool.

Observation categories recorded with the focus group:

1. How does each member react to talks of other group members: reflects aloud or keeps silent?

How frequently does he reflect with his next co-worker? Reflection between next co-workers leads to common tacit knowledge creation in the socialization phase of the SECI cycle.

2. Are all willing to make comments? Are some of them more active and have more influence on common collective knowledge? Those who are more competent should share their basic sustainable development knowledge with other group members and help them achieve a similar level of personal development in the context of sustainable development (Burksiene, 2011).

All observation results of each member were recorded on paper and calculated per person.

Observation categories recorded in collective concept mapping:

1. Are all group members equally willing to make comments? Are some members more active than others? How do they personally influence the expression of common collective knowledge? Each talk was calculated and summed up. Those, who got the best summed up results, were assumed to make the biggest influence in group decisions. The surveyed were also compared by their positions, competencies and qualification.
2. How are discussions disseminated after each reflection? Each reflection (remark or question) was recorded on the observation sheet with the number of reacting members. It is argued that communication and idea generation skills develop when collective concept mapping is constructive and 3 or more people make input in discussions.

The observation categories above were tested by the following criteria:

1. Number of statements without any reflection (times calculated)
2. Times of reaction to the statements of the other members
3. Dialogues (self involvement, number);
4. Difficulty in making comments (times of starting a discussion)
5. Activeness: reaction to the co-workers' questions (figure was calculated by taking out criterion 4 from criterion 6)
6. Influence on the expression of common knowledge (times of speaking)
7. Development of discussions (how many times comments developed into a discussion; it was agreed that a discussion is an interaction of 3 or more group members with a feedback)
8. Developed or intercepted discussion moderation (times)

Observation while applying the Epstein (2008) PDCA (plan, do, check and act) cycle was arranged to reveal not only competencies and influence among the group members but also the expert group's interaction with other groups. It is assumed that in organizational learning the expert group increases common understanding and knowledge of sustainable development or, in other words, common competencies and qualification of its members. Referring to that, it is claimed that group competence may influence decisions of other organizational groups, later involved in the learning process (combination phase of the SECI cycle of Nonaka) for the formalization of new sustainable development knowledge.

One observation category chosen from the previous PDCA stages: is it equally difficult for all group members to make comments? Are some members more active than others?

It was also observed weather other groups tolerate the expert group's opinion or, in other words, the draft of the strategic plan prepared by this group. It is assumed that other groups more approve the draft document than oppose, recognize the expert group's skills. Valuing the expert group's skills (therefore its competency) would help to faster internalize organizational sustainable development knowledge.

3.2. Research results

Semi-structured interview

The portfolio of the basic sustainable development knowledge is a necessary provision for the organization in its strive to incorporate the principles of sustainable development into planned measures (Burksiene, 2011). The results of a semi-structured interview revealed that the group members had basic knowledge of sustainable development but it varied (see Table 1). In other words, they achieved different level of personal development according to Vygotsky (1986). The most competent group members achieved the level, the rest – between the approximate and potential level. Thus, the expert group members had different sustainable development competencies.

Table 1

Level of personal development of the expert group members

Group member, occupation	Level of personal development in the SD context
Deputy director of administration (1)	Approximate development zone – real development level
Head of education department, ex-director of administration (2)	Approximate development zone – rctual development level
Head of IT department (3)	Approximate development zone
Chief specialist for ecology (4)	Approximate development zone – real development level
Municipality doctor; ex-member of the council (5)	Actual development level
Chief specialist for business and strategic planning (6)	Approximate development zone
Specialist for youth affairs (7)	Approximate development zone
Specialist for urban development and infrastructure (8)	Potential development level – approximate development zone
Head of culture department (9)	Approximate development zone – real development level

Source: Burksiene (2012, p. 135)

To reveal personal competencies and qualification of the expert group members they were also interviewed about their work position, attained education, fields of responsibility and asked to name the sphere or spheres in which they feel having expert knowledge (see Table 2).

Obtained data suggest that the majority of the group members had appropriate qualification they needed for their functions according to the position in the organization. The group members also thought that they were experts in their occupations, some of them even thought that they had wider expert experience. Referring to the findings, it may be claimed that the expert group involved in strategic planning in the organization was fairly professional and competent or, in other words, qualified and professionally competent although the level of their competencies varied.

It is important to note that, according to interview findings, the group members had no special education in sustainable development and purposely did not seek sustainable development knowledge. They acquired sustainable development knowledge studying other subjects, attending various conferences and seminars or working on the strategic plan of Neringa. Some knowledge was acquired in everyday life, from TV, the mass media, etc. All group members (with the exception of member 6) pointed out that they liked learning and self-improving in general. They were also interested in matters outside their work, adopted innovations "if they were close to heart", "if they needed them".

The group member who was unwilling to learn in fact did not like theory but liked training. His involvement in training and education mostly depended on the competence of the tutor or trainer, his ability to engage learners. Therefore, it may be stated that the group members were concerned and inquisitive.

Summing up, it is clear that all experts-specialists had basic SD knowledge and were experts in more than one field of daily work although the level of personal SD knowledge and personal competency varied. It may be concluded that different levels of the characteristics determine different personal influence in organizational sustainable development learning.

Table 2

Personal qualification and profesional–expert competence of the expert group members

Group member and occupation	Education	Fields of responsibility	Self-assessment of expert fields
Deputy director of administration (1)	KU, pre-school education KTU, Management and business administration	Culture, education, sport, community health care, social care, children rights, IT, environmental protection	1. Culture, education, sport 2. Health care 3. Social care
Head of education department; ex-director of administration (2)	KU, Lithuanian philology MRU, Law	Coordination of education and pre-school institutions	1. Education issues 2. State language use 3. Administrative and labor law
Head of IT department (3)	VU, Mathematics	Development and maintaining IT	1. IT 2. Mathematical models and practical use
Chief specialist for ecology (4)	VU Ecology and environment	Environmental protection, ecology	1. Environmental protection
Municipality doctor; ex council member (5)	VU, Hygiene, sanitation and epidemiology	Coordination of municipal health care institutions and community health	1. Personal and community health care 2. Noise prevention 3. Sanitation control 4. Politics and administration
Chief specialist for business and strategic planning (6)	KU, Recreation and tourism	Tourism, coordination of the fishery business	1. Tourism 2. Social care 3. Fishery
Specialist for youth affairs (7)	KU, Humanitarian sciences, philology	Formation and implementation of youth policy, responsible for state language use	1. Youth affairs 2. State language use
Specialist for urban development and infrastructure (8)	KTU, Mechanical engineering	Coordination of urban development plans	1. Urban infrastructure 2. Civil construction
Head of culture department (9)	VDU, Religious studies	Coordination of cultural institutions, cultural events	1. Sponsorship, promotion, PR, community events 2. Marketing of culture and arts 3. Cultural education of youth 4. Cultural project management 5. City representation in events at all levels 6. Education of public administration

Observation findings: focus group

The format of the focus group activity was a round table discussion. Observation of group communication showed that all the members were explicit commenting familiar issue but not equally active. 3 most active group members made the greatest influence on common sustainable development knowledge creation: 1) representative of managerial level (member 1, made comments on all issues and often interrupted the others), 2) ex leader of the organization (member 2, had basic knowledge in all spheres of organization performance) and 3) ex council member, local politician (member 5). Member 3 showed real personal development level, members 1 and 2 – higher than approximate development zone (see Table 1), in other words, their SD knowledge was higher than the others'. As for their competencies and qualification, members 1 and 2 graduated from 2 universities and had different qualification backgrounds. Member 5 was a graduate of one university but a local politician and had political knowledge (see Table 1). It may be concluded that a personal level of competency and competency in sustainable development make influence while discussing and creating organizational sustainable development knowledge.

Other 6 group members engaged in discussions with the co-workers who used to sit next. The most active in such communication was the member who had the lowest level of personal development (member 8). It leads to the conclusion that active discussions might be useful increasing personal sustainable development knowledge (personal development level), i.e., increasing personal sustainable development competence and qualification.

Observation findings: collective concept mapping

Observation revealed that in collective concept mapping the group members firstly initiated discussions with the co-worker who used to sit next. 50 dialogues occurred during the process. Before the first real group discussion with six members, 9 monologues (statements without any reflection), 12 dialogues and 3 brief discussions occurred among three group members. Later discussions dominated in concept mapping. One member initiated 73 discussions. Interception of discussion moderation occurred during 10 discussions, 4-5 interceptions - during some discussions. The process of concept mapping lasted 3 hours, with 89 different discussions. New discussions arouse approx. every 2 min., with no calculation of parallel dialogues at the same time. Every discussion involved about 6 members. That shows a high reflection activity level interpreting and creating new sustainable development knowledge (see Table 3).

Table 3

Data on the initiative in the discussions on collective concept mapping

Character of discussion	Amount	Participants (from – to)	Average number of participants
1 initiative in discussion	73	3 – 7	5
2 initiatives in discussion	10	4 – 7	5
3 initiatives in discussion	4	6 – 7	7
4 initiatives in discussion	1	6	6
5 initiatives in discussion	1	6	6
Total:	89		6

Active communication plays an important role developing communication skills (new competency). Successful communication helps to create new common ideas. Line 5 shows high level of activeness of each group member, line 4 - that every member started more than one discussion (see Table 4). The author of this paper claims that while developing communication skills the group also develops skills and competencies of generating common ideas. Observation findings prove that communication skills developed: more than half of all primary statements developed into discussions between 2 or more participants. 161 discussions were initiated (sum of line 4), 87 (54%) developed into discussions with a feedback. It should be noted that the group members were rather considerate to each other, though each member at least once did not react to statements. The average score of personal activeness shows the level of participation in the concept mapping process. Each line was ranked from 1 (highest score) to 8 (lowest score). All scores were summed up per person and divided by 8. The lowest average score shows the best ranking position.

Average scores show that members 1, 2, 5 were most active (like in the focus group). Referring to their personal data (see Table 2), it may be stated that they were more active during collective concept mapping because of their higher competency

and professional qualification in organizational sustainable development.

Scores for member 8 show that his personal development level was lowest (see Table 1), he was passive in the focus group but his activeness was rather high in collective concept mapping (see Table 4, line 5, line 6). He started 14 discussions (see Table 4, line 4) and intercepted initiative in 2 discussions. His growing activeness in communication shows that he gained more sustainable development knowledge and competence. It may be concluded that those experts, who are more competent and qualified and have basic or higher sustainable development knowledge, make strong influence on common organizational sustainable development knowledge creation and help others develop their sustainable development competency.

Table 4

Data on interaction of group members in group concept mapping

Criteria	Group member (No.)							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. Number of statements without any reflection (times calculated)	2	3	2	1	5	1	1	0
2. Times of reaction to the statements of other members	3	2	2	2	0	0	0	0
3. Dialogues (times of self involvement)	18	16	10	13	17	7	4	12
4. Difficulty in making comments (times of starting discussion)	38	29	17	21	19	7	16	14
5. Activeness: reaction to the co-workers' questions (figure was calculated by taking out criterion 4 from criterion 6)	85	52	49	45	54	40	38	58
6. Influence on the expression of common knowledge (times of speaking)	123	81	66	66	73	47	54	72
7. Development of discussions (how many times comments developed into a discussion; it was agreed that a discussion is an interaction of 3 or more group members with a feedback)	28	14	10	10	5	3	12	5
8. Developed or intercepted discussion moderation (times)	4	9	0	4	4	0	2	2
Average score of activeness:	1,38	2,25	4,25	3,75	2,88	5,75	5,13	4,25

Observation findings: the PDCA cycle

This observation differed from the two above as was conducted not only within the expert group but also interaction and influence among this group and other ones was observed. Observation in this phase proved again that members 1, 2 and 5 were most active and had difficulties in making comments and decisions not only inside the group but also outside it. Other group members participated more formally. Although the expert group members were not equally active observation proved that the expert group made great influence on other groups while presenting a draft document, i.e. sharing common sustainable knowledge. Thus it may be stated that the expert group developed common competency and qualification in sustainable development and made a strong influence on the formalization of organizational stainable development knowledge. Research showed importance and influence of sustainable development competence and qualification not only at personal but also at the expert group level.

It is important to note that research was conducted only in one small municipality administration of Lithuania. Similar research should be conducted in other small (or not only small) municipalities to prove the findings of this research.

Conclusions

The members involved in organizational sustainable development learning have different expert competencies and the level of sustainable development knowledge. Those with a wide range of qualifications and expert competencies in several spheres are of particular importance in organizational sustainable development knowledge creation.

Those responsible for integration of sustainable development in organizational activities should focus on learning *per se* and have the basic sustainable development knowledge (the basic level of personal development within sustainable development) what will allow them to independently engage in self-development or with the help of competent co-workers.

Activeness of those participating in organizational sustainable development knowledge creation varies. It depends on managerial experience, gained personal expert competence and the level of SD knowledge.

Expert groups in sustainable development have a potential to develop common competence and qualification and make a strong influence on the other members and their groups within the organization as well as on the formalization process of a strategic plan for sustainable development.

Political will and attitudes to sustainable development have a strong impact on the process of integrating the principles of sustainable development in a public organization.

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Kompetencija ir kvalifikacija darnaus vystymosi žinių kūrime

Santrauka

Vienas iš esminių ir aktualiausių tikslų šiuolaikiniame pasaulyje yra visuotinė darni plėtra. Reikia pripažinti, kad viešojo administravimo profesionalų šioje srityje trūksta ne tik mažose mūsų šalies savivaldybėse, bet ir regiono ar nacionaliniu mastu. Išanalizavus planavimo dokumentus paaiškėjo, kad savivaldybės ir kitos viešojo sektoriaus institucijos geba vienokiu ar kitokiu lygiu integruoti darnaus vystymosi nuostatas į planuojamą teritorinę ir erdvinę plėtrą. Galima daryti prielaidą, kad darbuotojai organizacijose, veikdami kasdieninėje ar darbo aplinkoje, įgyja šį gebėjimą. Kitaip tariant, išvystoma jei ne kvalifikacija, tai kompetencija, reikalinga darnumo nuostatoms diegti ir veikloms, paremtoms darnaus vystymosi principais, vykdyti.

Burkšienė ir Jucevičienė (2009) teigia, kad darnaus vystymosi nuostatas į planuojamas organizacijos veiklas geriausia integruoti organizacinio mokymosi metu. Šio mokymosi metu kuriamos organizacijai svarbios darnaus vystymosi žinios, kurioms diegti ir plėtoti būtinas pradinis pasirengimas, tam tikra bazinė kvalifikacija ir kompetencija darnaus vystymosi kontekste.

Gardner (2006) teigia, kad šiuolaikinėse organizacijose dirbantys žmonės turi būti bent vienos srities ekspertai ir pasižymėti sintezuojančiu protu. Tokių gebėjimų turintys žmonės gali generuoti skirtingas tos pačios idėjos ar koncepcijos reprezentacijas. Raipa (2012) taip pat akcentuoja, kad organizacijose ekspertai yra labai vertinami. Valstybės tarnautojai turi ne tik gebėti efektyviai organizuoti savo įstaigos veiklą, bet ir disponuoti plačiomis tarpdisciplininėmis žiniomis, būtinomis darniam regionų vystymui. Galima manyti, kad organizacijose yra ekspertų, įgijusių didesnę kvalifikaciją ir platesnę kompetenciją darnaus vystymosi kontekste. Remiantis Burkšiene ir Jucevičiene (2009), šie specialistai (pagal Vygotskio (1986) asmenybės išsivystymo teoriją) yra pasiekę aktualų išsivystymo lygmenį arba yra artimiausio vystymosi zonoje darnaus vystymosi žinių aspektu. Vadinasi, jie pasirengę diegti darnaus vystymosi nuostatas organizacijos veikloje.

Mažose mūsų šalies savivaldybėse viešojo sektoriaus institucijoms aktualu turėti tokių ekspertų. Šiose organizacijose privalu atlikti tas pačias funkcijas ir įgyvendinti veiklas, būdingas didelėms organizacijoms, kadangi funkcijų ir veiklų vykdymas, reglamentuotas nacionaliniuose teisės aktuose, yra privalomas visoms tokio pobūdžio institucijoms. Tačiau veiklos apimtys, tenkančios kiekvienam darbuotojui, yra nevienodos dėl skirtingo teritorinio administracinio vieneto dydžio ir vietos bendruomenės narių skaičiaus. Todėl mažose savivaldybėse visas reglamentuotas funkcijas turi atlikti kur kas mažesnis darbuotojų skaičius. Vadinasi, kiekvienas mažos savivaldybės administracijos ir kitos viešojo sektoriaus institucijos darbuotojas turi gebėti atlikti daugiau skirtingų funkcijų, turi būti platesnės kvalifikacijos ir kompetentingas daugiau nei vienos srities ekspertas. Nors ir yra praktikos ekspertai, mažų savivaldybių viešojo sektoriaus darbuotojai nebūtinai turi atitinkamas visų atliekamų funkcijų profesines kvalifikacijas.

Galima teigti, kad mažų savivaldybių viešojo sektoriaus organizacijos geba atlikti visas reglamentuotas funkcijas ir pasiekti išsikeltus ar iškeltus veiklos tikslus. Šios savivaldybės taip pat gali sėkmingai diegti darnaus vystymosi nuostatas, planuodamos plėtros priemones būtent kompetentingų ir profesionalių organizacijos darbuotojų (specialistų, kurie yra ekspertai) dėka.

Vadinasi, asmeninė kompetencija ir plati praktinė kvalifikacija yra svarbūs veiksniai plėtojant darnią veiklą. Kompetentingų ir kvalifikuotų profesionalų žinios apie

darnų vystymąsi gali turėti įtakos kaupiant organizacines darnaus vystymosi žinias. Norint suprasti, kaip mažų savivaldybių viešojo sektoriaus organizacijų darbuotojams pavyksta įgyti darnaus vystymosi kvalifikaciją arba kompetenciją ir ją pritaikyti, kuriant darnaus vystymosi organizacines žinias, būtina analizuoti ir atskleisti specialistų kvalifikacijos ir kompetencijos ypatumus. Straipsnyje ieškoma atsakymo į klausimą, *kaip asmeninė kompetencija ir kvalifikacija turi įtakos organizacinių darnaus vystymosi žinių kūrimui?*

Neringos savivaldybėje atliktas eksperimentas, kurio metu inicijuotas darnaus vystymosi organizacinis mokymasis, pritaikius Nonaka ir kt. (1995) SECI žinių kūrimo modelį ir atitinkamais vadybiniais veiksmais (*Focus* grupė, koncepcijų žemėlapių konstravimas, PDCA ciklo taikymas) sukūrus tinkamą mokymuisi aplinką. Mokymosi metu naudojant pusiau struktūruoto interviu ir stebėjimo iš vidaus metodus buvo vykdoma ekspertinės grupės narių stebėsena. Interviu metu atskleista kiekvieno grupės nario praktinė kvalifikacija ir kompetencija. Nustatyta, kad iš tiesų mažos savivaldybės administracijos darbuotojai turi ekspertinių žinių daugiau nei vienoje darbo srityje. Stebėjimo metu nustatyta, kad kuriant organizacines darnaus vystymosi žinias itin svarbų vaidmenį vaidina ir didesnę įtaką daro platesnės kvalifikacijos ir didesnės kompetencijos specialistai, t. y. ekspertai, kurie yra smalsūs ir linkę mokytis. Kitaip tariant, kvalifikacija ir kompetencija tiesiogiai susijusi su įtaka kuriant organizacines darnaus vystymosi žinias ir integruojant darnaus vystymosi principus į organizacijos planus ar veiklas. Sėkmingam darnaus vystymosi organizaciniam mokymuisi taip pat svarbu, kad šie specialistai turėtų bazinių darnaus vystymosi žinių. Tyrimo metu buvo stebima, kaip vadovai dalyvauja darnaus vystymosi organizaciniame mokymesi ir domisi procesu. Atskleista, kad viešojo sektoriaus organizacijoje diegiant darnaus vystymosi principus rezultato sėkmė priklauso nuo politinio palaikymo ir teigiamo politikų požiūrio. Tiriamoje organizacijoje politinio palaikymo ir susidomėjimo trūko.

Pagrindiniai žodžiai: žinių kūrimas, darnus vystymasis, kompetencija, kvalifikacija, viešoji organizacija.

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