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Judita KASPERIŪNIENĖ

**UNIVERSITY TEACHERS AND THEIR STUDENTS
SELF-REGULATED LEARNING
IN SOCIAL NETWORKS**

Summary of Doctoral Dissertation
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VYTAUTO DIDŽIOJO UNIVERSITETAS

Judita KASPERIŪNIENĖ

**UNIVERSITETO DĖSTYTOJŲ IR JŲ STUDENTŲ
SAVIREGULIACINIS MOKYMASIS SOCIALINIUOSE
INTERNETINIUOSE TINKLUOSE**

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Introduction

Research relevance. University teachers and their students' effective academic communication influences the study motivation and learning results (Anderson & Carta-Falsa, 2002). Teachers who maintain contact with their students could adapt academic texts following the study group demands. (Hagenauer & Volet, 2014). The world of smart technologies creates the virtual connection based on mutual trust phenomena that unfolds not only in a classroom within the frame of a formally established schedule, but also via social networks. The scholars investigating the importance of self-regulated learning in social networks depict ambiguous and contradictory teaching and learning scenarios (Kjærgaard & Sorensen, 2016; Panadero et al., 2016). These scenarios help foreseeing the conceptual changes arising from the formation and implementation of formal studies (Järvelä et al., 2016; Karabenick & Zusho, 2015; Winne, 2015; Bjork et al., 2013). The essential task of a contemporary teacher is to professionally ensure the digital communication by sharing the knowledge of the subject he or she teaches. This task can be achieved only by a self-regulated networked communication between teacher and student, which overstep the boarders of the traditional university. Social networks are becoming a medium that converge various learning forms immersing a person into a global virtual educational process (Manovich, 2009). The key problems that require a more thorough analysis and practical application in higher education institution are university students' withdrawal to networked life together with problems of social networks transparency and ethics (Jenkins et al., 2009). Greenhow and Robelia (2009) initiated the on-going scholarly discussions regarding the possibilities of using social networks in the ubiquitous learning process (Gikas & Grant, 2013; Tess, 2013; Corona et al., 2013; Davis III et al., 2012). Other fundamental questions are the monitoring, analysis and application of the university teaching and learning good practices, experiences and learning skills application in daily activities (Vuopala et al., 2016; Salmon, 2013; Yang et al., 2013; Dede, 2008; Surowiecki & Silverman, 2007). The gaining of knowledge through the participation in educational activities in social networks is researched by Paulin & Haythornthwaite, 2016; McGill et al., 2014; Duffy & Jonassen, 2013; Cohen, 2013; Garrison, 2011 and other scholars. The student's aim to learn and understand the information provided live by the teacher is replaced by networked learning (Kjærgaard & Sorensen, 2014; Ito et al., 2013). The concern of the university teachers to provide learning material by integrating various live teaching methods is replaced by a desire to find ways how to apply the peculiarities of social networks to learning. In social networks teachers motivate students to seek knowledge, develop their skills, create, and share (Davis & Fullerton, 2016; Laurillard, 2013).

Scientific problem. One of the most important factors during the ongoing period of modern university reorganisation, the creation of study and science clusters and the

optimisation of study programmes is the recognition of self-regulatory learning of university teacher and his/her students. Self-regulated learning indicates the ways how attract students, motivate and guide them through the process of studies. The analysis of voluntary university study participants in social networks allows recognising the self-regulated learning strategies (Simões et al. 2015; Bae, 2014). These strategies could be fully or partially applied in the process of formal studies (Zimmerman & Schunk, 2012). The assessment of the factors intervening the networked self-regulated learning leads to assumptions how to activate the teaching and learning (Beishuizen & Steffens, 2011). The increasing popularity, accessibility and simplicity of the interface encourage social network users to stay online, participate in virtual educational activities as well as to create new content (Davis III et al., 2012). Learning is not an individual activity of a self-regulating person, since the learners construct their knowledge from various virtual sources (Sokół et al., 2015; Nakamori & Wierzbicki, 2005). The teacher's task is not only to create, develop, share or post the learning material, but also to help students design their personal learning paths (Breslin & Decker, 2007). Teachers show, consult and assist students to create the logical connection of existing and new knowledge (Anderson et al., 2014). Based on the theories of social learning, the generalised insights on the change of the teacher's roles are provided (Bollden, 2014; Bjork et al., 2013). The communication and collaboration in the social networks is being explored (Tess, 2013; Selwyn, 2010). The networked learning technologies influence university teaching (Dabbagh & Kitsantas, 2012). The communication and educational relationship between the teacher and students is changing (Bechmann & Lomborg, 2013; Priem & Castello, 2010). The learners become responsible for the control of their learning process. The learning takes place by carrying out the active virtual communication, collaboration, experimentation, problem solving, participation and involvement. The traditional roles of university teachers and students are changing. The teachers become an active participants of the learning process by creating and posting networked educational content (Cahill, 2014; Forkosh-Baruch & Hershkovitz, 2012). Education policy makers pay particular attention to the technological possibilities, analyse the teaching resources, learning objects, audio, video lectures and educational content (Beetham & Shape, 2013). The mass of educational materials helps in learning only if the person stays motivated and controls his/her networked time. However the analysis of scholarly literature suggests that processes of teachers and their students' self-regulated networked learning have not been fully investigated.

Main research question: how self-regulated learning of university teachers and their students is processed in social networks?

Research object: self-regulated learning of university teachers and their students in social networks.

Research aim: to construct a grounded theory which explains university teachers' and their students' self-regulated learning in social networks.

Research novelty. The State Progress Strategy, which presents the ideas on creating successful future in Lithuania, provides the guidelines for the creation of intelligent society, which is constantly learning, is active and fosters solidarity (The Seimas of the Republic of Lithuania, 2012). In order to implement the vision of a modern and dynamic society, it is important to realise the motives of the self-regulated learners; their learning strategies; the reasons why the active learners change their minds when faced with learning difficulties; and other processes of self-regulated learning. The creation of an effective life-long learning system requires an analysis of the processes that take place in virtual communities. Modern internet technologies enable the organisations, communities, interest groups to spontaneously build social networks. Any person has an opportunity to join the group, virtual project or initiative, to become its leader, participate and initiate new activities. The architecture of a virtual network, technologies and the use of social network for solving educational tasks has been thoroughly investigated. However the development of educational relationship between the teacher and his/her students outside the formal university borders, which is formed by immersion into social networks plus the content and dimensions of self-regulated learning in social networks, has not been elaborated upon. Smart technologies enable students and teachers continuously participate in online activities. However social networks tend to be analysed using the formal classical models of teaching and learning between a virtual content creator - teacher and the audience – students. Online texts are analysed as finished products, without taking into consideration the fact that virtual texts are personalised and mainly reflect the opinion and beliefs of a person posting them (Castells, 2011, Van Dijck, 2009). Networked texts are not static. Virtual friends and group activities influence online text change, updates and polysemous meanings. The question regarding the teaching and learning strategies used by teachers and students online in order to manage their time and not to become addicted to virtual world has not been answered. The need of the self-regulating people to share the educational materials and popular science texts is often suppressed by the desire to preserve privacy and secure their inner world. The virtual participation activity allows making conclusions about people's trust (Kietzmann et al., 2011). The scientists investigating social networks in higher education emphasize the technological and psychological factors of participation in virtual activities (Hsu and Lin, 2008). The change of teaching and learning roles of self-regulated persons in social networks has not been thoroughly examined. Online personal contacts and content that virtual friends share are analysed (Chen et al. 2015; Moore, 2013; Rennie & Morrison, 2013; Baltar & Brunet, 2012). Educators, psychologists, communication and media experts do not agree on what kind of knowledge, skills, attitudes and regulations have influenced the

self-regulated people to post educational content and actively engage in social networking activities. Scholars argue how creative learners construct their knowledge and personal learning paths. It is still not answered how formal educational relationship influence virtual teacher-students friendships and what is the educational value of learners' participation in social networks. Time, space and cultural boundaries vanish in social networks. The specificity of the cultural context of Lithuanian university community remains. E-learning and distance education, as the phenomena of university socio-cultural system, has been investigated by Lithuanian educators. They maintain that the rapid change of modern information and communication technologies creates a background for the change of roles between teachers and students. One of the major distance learning weaknesses is considered to be a shortage of social interaction (Butrime et al. 2012). The social interaction between virtually connected teacher and a student constantly takes place in social networks. Foreign and Lithuanian publications analysis showed that the topic of self-regulating Lithuanian university teachers and their students who peer learn while communicating and cooperating via social networks is not widely discussed among the educators.

Scientific value of dissertation research. This research focuses towards the recognition of self-regulated learning processes in social networks. Self-regulated learning in social networks cannot be isolated from the development of social skills. Social skills are related to literacy, critical thinking, technical and research, organisational planning skills; ability to adapt to new situations, skills to work independently, demonstrate initiative, take care of learning or work quality. The analysis of the teachers' and students' virtual participation, communication and collaboration strategies and the factors interfering in their learning process leads to the insights regarding students' social skills and competence development. The research has identified the following new competences related to immersive participation in social networks: playful behaviour – free experimentation in a specific environment or space while solving problems of the physical world; ability to adapt in changing situations while presenting and changing one's virtual identities, improvising and constantly rediscovering one's personality; ability to dynamically construct and virtually simulate real world processes individually or in a group; reasonably collect, sort and redesign social media content; qualitatively and simultaneously perform several activities; master and reasonably use ever-changing social and technological tools and solutions that enhance physical abilities of a person; collectively create and exploit network intelligence; evaluate the reliability of texts found on a network. These skills and competences should be further developed in university studies. The research of the teachers and students' self-regulated learning in social networks initiates a discussion regarding the virtual divide of joint voluntary participation of both groups of research participants. The virtual participation is closely related to the problem of ensuring the

social network transparency and the personal data protection and ethical challenges of teaching and learning. The research indicated the direct links between the grounded theory of university teachers and their students self-regulated learning in social networks and interactive virtual learning. The grounded theory supplements the framework of the interactive virtual learning explaining five steps of Salmon (2013) model and specifying the growth of interactivity during the self-regulating teachers and students' learning in social networks.

Implications of findings. University students have assimilated social media technologies and spend a significant amount of time communicating on the internet. The research about students' virtual learning would lead university teachers to constructing formal studies by controlling the assumptions, strategies and intervening factors of self-regulated learning in social networks. Social media leads to the communication and dispersion of information. The recognition of self-regulating teachers and students' communication, cooperation and learning in social networks allow improving the formal communication between a teacher and students as well as the informal virtual communication via social networks. Teachers and students spend their free time browsing social networks. The knowledge of self-regulated learning strategies in social networks would allow using the potential of social media not only for the spreading of information, but also for training and creation of new knowledge. Students, who spend their time in social networks communicate, collaborate, share study texts and peer learn. The information, which is purposefully posted on this network, could reach and affect the learning path of not only the student, but other people as well.

1 Conceptual framework of university teachers and their students self-regulated learning in social networks

Self-regulated learning (SRL) is learning where a student plans, controls and evaluates his or her own learning process and results (Zimmerman, 1990). Scholars analyse prerequisites, assumptions, nature and constructs of self-regulated learning. While researching self-regulated learning, the following questions are raised: How motivation for self-regulation in learning emerge, grow and develop? What procedures influence students' consciousness and intentions to operate? What key processes develop when self-regulated learners seek their academic goals? How social and physical environment affect students' self-regulated learning? How learners gain and develop self-regulated learning skills?

The chapter on *Conceptual framework of self-regulated learning of university teachers and their students in social networks* explains self-regulated learning in higher education taking into account social networks as the tool for communication, collaboration and peer-learn among the university teachers and their students. The

chapter is divided into three subchapters, thoroughly explaining SRL in higher education, SRL in social networks and learning co-regulation in university studies. The position that SRL goes behind the walls of formal university teaching and learning and both main academic actors (university teachers and their students) become learners is followed throughout all dissertation research (Fig. 1).

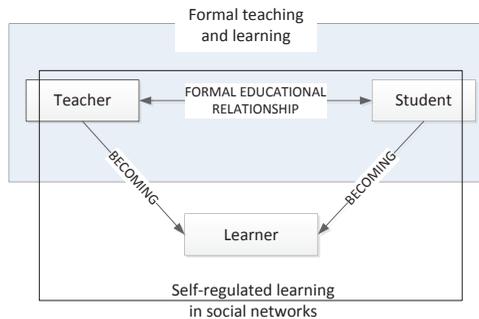


Figure 1. The formal university teaching and learning and self-regulated learning in social networks arenas and main actors, operating in these arenas. Arrows indicate actors' behaviours.

The dissertation research was carried out using the constructivist grounded theory as the methodology for empirical research. The substantial peculiarity of the grounded theory methodology is the synchronization of empirical data collection and analysis processes. The data is analysed after the first interview collection and this process continues until the saturation of data and construction of theory. There is no need to test pre-formulated hypotheses or find existing empirical justification prior to data collection (Dunne, 2011). The theoretical part of the dissertation was prepared having performed an empirical study and constructed the theory of self-regulated learning of teachers and their students in social networks. The review of scholar literature was intended for deepening the understanding about self-regulated learning in higher education context using social networks, and finding the links with other contexts, processes and dimensions.

1.1. Self-regulated learning using social networks in higher education context

Self-regulation is defined by sociologists as a tripartite process formed by personality, behaviour and environment (Bandura, 1986). Psychologists define self-regulation as the planning of personal thoughts, feelings and actions and their cyclical adjustment to personal goals (Vohs & Baumeister, 2011). When explaining self-regulation mechanisms, Karoly (1993) claims that self-regulation refers to those internal

and transactional processes that enable an individual to guide themselves to set goals over time across changing circumstances and contexts. Regulation encompasses modulation of thoughts, actions and behaviour as well as automatic use of specific mechanisms and meta-skills. Self-regulation is initiated when routine activities are impeded or when repeatedly carried actions do not bring the expected result. Educational researchers define self-regulation as an independent, academically effective learning, which consists of meta-cognitive, motivational and behavioural elements. (Perry et al., 2002). In the literature analysis of SRL in higher education, Winne and Hadwin (1998) university study challenges were explained. Differences between studying at university and secondary school were indicated. It was stressed out that studying is usually an individual activity, although students often work in groups. Students interpret and change the learning objectives raised by their teachers. Their learning grows step by step. Usually students themselves look for and systemise information found in textbooks, online resources, scientific pools, virtual libraries and databases. Self-regulated learners construct and co-construct their personal learning environments to meet specific needs and perform many actions simultaneously (e.g. at the same time communicate with friends in social networks; drink coffee; listen to music and learn). The main phases of self-regulated learning: planning and goal determining; observing learning progress; controlling and evaluating; reacting and reflecting to the study task and context were stressed (Pintrich, 2004). Differences of academic support in face to face university studies and other forms of SRL were distinguished (Green et. al., 2015). The strategies used by self-regulated learners as well as self-regulation processes were identified by Zimmerman (1989). Self-regulation strategies enable a person to plan actions and processes that stimulate learning and acquisition of new skills. In most cases, learners use the following self-regulation strategies: self-evaluation, organisation and transformation, goal setting and planning, information seeking, self-monitoring and record-keeping, environmental structuring, giving self-consequences, rehearsing and memorising, seeking social assistance, and reviewing (Cohen, 2014). Self-regulated learning theories claim that learners use meta-cognitive and motivational strategies (Gutiérrez-Braojos, 2015). Self-regulated learners construct and create their own learning environment (Dabbagh & Kitsantas, 2012). Learners who use self-regulated strategies are actively involved in selecting the form of teaching and the amount of teaching instructions (Sha, 2015). Researchers who follow meta-cognitive approach associate self-regulation with the choice of a cognitive strategy (Schraw et al., 2006). Two conceptions of self-regulated learning are explained: the broad one then self-regulated learning takes place when the learner is given the freedom to decide not only how, but where, when, under what circumstances, and in what environment he can learn; and the narrow one than the learners plan, monitor and evaluate their learning process under defined and little changing conditions. The three

self-regulated learning models were described in detail by Zimmerman and Schunk (2011), Boekaerts et al. (2005), and Corno (1989). There are five interrelated and iterative components of self-regulation: goal selection; goal cognition; directional maintenance; directional change and reprioritisation; termination (Zimmerman, 2013). Research examples are provided.

1.1.1 Self-regulated learning in higher education

Students usually are not actively seeking academic support in traditional academic spaces as they know that in the classroom, where they meet their teacher face-to-face, they will always have a possibility to give questions and receive answers. Persons, who learn in social networks advice, question and expect to receive answers from their colleagues or virtual friends. Contemporary students are excellent at communicating online, however, they lack the knowledge and skills to navigate, perform searches, understand and summarise the material found on the internet. The students who are able to plan their learning, use effective learning strategies, monitor and control the learning process are better at managing the information online (Green et al., 2015). The learners need the support from their teachers and other students when seeking social goals: domination in the group of students, popularity, and closeness, compatibility of academic and social activities. Social goals influence the personal benefit striving in seeking support from the teacher (Kiefer & Shim, 2016). The examination of the relationship between self-regulation and learner achievements indicated that interest in the study subject promotes self-regulation and determines learning outcomes. Students who are interested in the taught subject achieve better learning results (Lee et al., 2014). Student activity emotions, such as learning joy or boredom, satisfaction, pride, hope, anxiety, anger in the face of difficulties, and result emotions having received the evaluation encourage self-regulation (Pekrun et al., 2011). Formative assessment acquires special significance in self-regulated learning. Formative assessment helps develop self-regulation skills (Gardner & Gardner, 2012). It is designated to allow the learners to find out what they have learnt, what knowledge they have obtained, what skills they have mastered and what they are lacking. Self-regulating learners evaluate themselves positively and seek more thorough assessment of their knowledge and skills as it helps them pursue further learning goals (Bose & Rengel, 2009). Self-regulation can be used to achieve a twofold aim: to gain scientific knowledge and to maintain emotional well-being (in order to boast to study friends and secure safety) (Boekaerts & Corno, 2005; Boekaerts, 1999). Although self-regulated learning has been researched for long, self-regulated behaviour of university students is not yet fully known. So far it is not known which self-regulated learning components have the strongest impact on student learning success and in what stages and contexts; how situational and individual

factors correlate and interact; how self-regulatory competences develop under various institutional conditions. Various models, measurements and designs of self-regulated learning do not form a comprehensive picture of university students' self-regulated learning (Schober et al., 2015).

1.1.2 Self-regulated learning in social networks

In today's mediated world, the performance limits of social networks and other social media converge (Greenhow, 2011). All social media allows any internet user to participate in the creation and sharing of multimedia content (Pettersen, 2012; Kaplan & Haenlein, 2010). Social networks are unique and attractive for their transparency. The opportunity for everyone to be constantly virtually involved without interruption and be engaged in sharing of new texts exists. Reflexive empowerment envisaged. Personalised and fragmented learning curriculum is traced. Creation of new relations of physical and virtual worlds is observed (Ahlqvist & Teknillinen Tutkimuskeskus, 2008). Social networks have been investigated by many researchers as a classical model of producer (teacher) – text (study materials) – audience (students), analysing the evolution of the relationship between the person sharing texts and the audience reading those texts. Bechmann and Lomborg (2013) claim that multimedia texts posted by students, teachers or other members of the virtual community are usually personalised, thus reflecting personal opinion, beliefs and attitudes. The texts in social networks are fragmented. They are rather temporal resources and ideas sharing. Due to active participation of virtual friends and collective text change, the virtual materials may be updated any time and in many cases later they acquire a different meaning. In virtual space, where new social connections are made every day, creative comprehensive presentation of one's personality takes place (Bechmann & Lomborg, 2013). Self-regulating learners set individual learning goals using social networks and other smart technologies (McCardle et al., 2016). The main reason of students' virtual connection is the strive for active social interaction, quick obtaining of the information about social events, formal and informal events at university or student community, leisure time playing virtual games and messaging online. Young people are actively involved in the activities of social networks in order to satisfy the need of social interaction rather than non-formal learning. Studies show that students would like teachers themselves initiate communication by mean of virtual tools (Greenhow et al., 2009). Other authors contradict that students are not eager to invite their teachers to become virtual friends even though they willingly participate in shared virtual groups (Manso-Vazquez et al., 2014). The disclosure of virtual identity helps teachers create a mutual bond and good climate of the student group as well as activate the processes of students' formal learning. Students are motivated by informal praise and support from the teacher (Gallo

& Adler, 2014; Mazer et al., 2007). The use of modern social media helps motivated students receive support during the learning process. The research on studying online and in virtual spaces identified the main challenges of self-regulated learning: evaluation and administration of technical access to the learning material, asynchronous learning, text discussions and conversations with many people at the same moment, management of the information overflow, personal isolation and the feeling of “being segregated” (Whipp & Chiarelli, 2004; Eastmond, 1995). Self-regulated learning in various virtual spaces includes the following components: consideration phase of the learning necessity; cognitive considerations during the learning process; motivation for the studies (Harris et al., 2010). Learning in virtual space together with colleagues and partial support of the teacher allows forming self-regulated learning skills.

1.1.3 Learning co-regulation in university studies

In today’s networked world scientists become interested not only in an individual, but also in socially regulated learning. In scientific literature, socially regulated learning is known as learning co-regulation or socially shared learning regulation. In co-regulation, learning responsibilities are divided among all participants of the social learning process. Participants collectively regulate their own learning activities. Decisions are taken by consensus (Järvelä et al. 2015). In co-regulated learning the person achieves better learning results than studying individually (Volets et al., 2009). The development of co-regulated learning requires the environment where all participants, seeking the same goals, would be able to participate at the same time. Social networks provide all conditions for the development of this type of learning. Peer support for learning can be provided to simulate the learning process, creating certain learning "frames" or in support of other learners, teachers, parents, and even relatives. While modelling the individual learning, participants peer-provide information about the study activities, performance, and related processes. Specific characteristics are being provided and discussed. The effectiveness of a model is being considered. The teacher together with other learners can engage into the learning co-regulation not only as an expert, but as an equal participant of the learning process (Hadwin et al., 2011). Teacher support methods and approaches in the case of learning co-regulation shows that the decrease of the impact of teacher on self-regulated learning increases self-regulation of students. In learning co-regulation students find it important not only to understand the task, but also to use active learning strategies. Teachers are participating in learning co-regulation by asking to clarify, supplement, modify materials; offering to paraphrase texts; demanding proof of learning; modelling the thinking and suggesting topics for discussion and reflection. Senior students already become capable of controlling their learning without the teacher’s guidance, selecting the necessary text

independently and generating new learning contents. For these students interactive assistance of the teacher is less necessary (Azervedo and Hadwin, 2005). University students who are actively participating in the activities of learning co-regulation and have the average self-regulating skills must be provided with an opportunity to cooperate. Garrison & Akylol (2015) argue that virtual learning environments can be an excellent medium for the development of co-regulation skills.

1.2 Social networks and higher education

Higher education institution becomes a place where social capital is being stored and created, if only the academic community actively participate in social network activities. Relations with people having similar professional interests and habits of leisure time spending help person to survive in an academic community. Social networks in higher education in many cases are studied as a tool for promotion of university and its educational community. Understanding of the interaction and conjuncture of learning forms in a virtual environment enables the use of social networks for self-regulating learning and acquisition of knowledge. The problem of academic ethics on online social networks is not completely solved. These are the main issues analysed in this chapter.

1.2.1 Promotion of person and organisation through social networks

Social networks virtually unite people for the common purpose, mainly to solve problems and meet personal needs. According to social characteristics of people participating in social network activities, networks can be of various kinds and types: formal, informal, horizontal, vertical, linking, merging, strong or weak (Dufur et al., 2013; Putnam, 2002). Such features of social networks as the ability to form social identity, maintain a virtual conversation, exchange and share the content, participate and passively monitor various activities, establish and maintain contact, introduce oneself and act in groups makes it possible for all actively or passively be involved in social network activities (Kietzmann et al., 2011). Investigating the factors that motivate to participate in social networking, Hsu & Lin (2008) distinguish the factors of technology absorption, knowledge sharing and social impact. Technological and knowledge sharing factors shape the attitudes towards the use of social networks. Social influence factors reinforce the need to use network tools (Hsu and Lin, 2008). Bechmann & Lomborg (2013) researched that teachers and their students engage in virtual activities in order to achieve social unity communicating and connecting with more experienced friends and colleagues. Students collaborate with an active person in a more creative way in order to express and introduce themselves. They engage into virtual activities, seeing the best

practices of colleagues or acquaintances which are already using the network as a source of knowledge. The virtual friends behave differently: they create virtual image by sharing diverse content (Quan-Haase & Young, 2010); participate in interest groups or communities as the way of expressing social unity (Meyen et al., 2010); passively observe; seek information and knowledge; would like to be virtual entertained. Persons are connected because they want virtual identity to be visible in the online environment (Bechmann and Lomborg 2013). Academic community members, who do not participate in virtual activities, justify it by not having enough time or desire to show greater interest in technologies. In opposite, active teachers use social networks as a teaching tool outside the classroom (Kassens-Noor, 2012). Student participation in a virtual group together with teachers and university administration allows maintain and strengthen the existing academic relationship (Moran et al., 2011). Teachers and students help each other in finding various academic topics that would meet individual interests. Teachers answer study questions and their students save time dedicated for the journey to the university and back to solve administrative issues. Both parties help each other to overcome temporary social isolation at the end of the course or during holidays. Social networks are widely used by students and young people, thus virtual space provides a great opportunity for the institution to advertise its activities. Students willingly share various texts, present, comment and gather information. This is the way they learn and transfer the information about the university or study materials.

1.2.2 Interaction and convergence of learning forms in virtual spaces

Individual aim of university studies, teaching and learning outcomes, teachers' personality and competences and relationships between the educational process parties influence why, for what purpose and how people use social networks for educational purposes. In the case of university studies, the teacher is often a senior communicator, purposefully selecting and adapting media (Manovich, 2009).

The first step of social networking is the construction of a virtual identity. Every person wishing to present himself virtually has two options – first is to provide accurate information about oneself or second- to create a desired image, giving oneself non-existing characteristics. Having constructed the identity, having tried the possibilities of online networks, massively multiplayer online role-playing games and other social media, learners have to decide whether to continue surfing the web and operating in the same network or start looking for other ways to communicate, study, relax and entertain. People who spend their time on the internet firstly look for virtual entertainment. After they get involved into the educational online entertainment, people learn to remember facts, consider historical, physical or natural phenomena of life,

analyse the actions of their own and others, and discuss how to behave in one situation or another.

Teachers of higher education institutions use social networks to promote active learning (Tess, 2013; Selwyn, 2010). According to Drexler (2010), personal or individualised learning environments are closely related to social networks because both spaces enable the possibility to create and share learning content. Networked learning allows students to take part in a process of creating educational content, extends the ability to access various resources, communicate, collaborate, solve problems and faster perform group tasks (Drexler, 2010; Attwell, 2007). Students who are deeply engaged into social networks must be provided the rules of social media use during the lecture. Flanigan & Babchuk (2015) study shows that students surf the internet when the lesson is not engaging. Instead of forbidding the students to use social networks, teachers can use network technologies to create a dynamic, engaging lesson, to discuss and moderate group activities. Taneja et al. (2015) found that contemporary students 'hide' in networks from uninteresting and not involving lessons.

Contemporary young people do not have a specific location or area for learning. If the teacher uploads learning material online, students can access, read and emerge into the information everywhere – on a bus, sitting on the bench in a park, waiting for a friend, communicating in university before a lesson. All they need is the internet connection and a smart device. Having this in mind, teachers can use the students' eagerness to be online and spend time on networks creatively, providing learning texts in social networks in a form appropriate for the youth.

1.2.3 Academic ethics in social networks

To control the virtual materials on behalf of a person or organisation becomes basically impossible due to the penetration of internet, dynamic change of the virtual content, networks ubiquity, and vanishing possibilities to predict who have access to the content development. Teachers sharing their texts in social networks are afraid to reveal their personal life and receive inappropriate comments online. Teachers don't want to receive critical comments from students, colleagues or university administration. Other teachers believe that online content and intellectual property is insufficiently protected. Students are concerned that their personal lives that teachers can see may affect their academic results (Heron and Belford, 2014). Neither the students, nor the teachers hurry to accept each other as virtual friends.

When the teachers publicly share academic products, texts may be seen and used not only by students that are enrolled to teachers' course but also (in many cases) by students' virtual friends and friends' friends. Teachers can share personal educational content only having ensured that their academic material will be used ethically.

Academic institutions recommend using plagiarism detection systems as it would encourage students to prepare only original study works. Social networks are pulls of educational resources, but the way it will be used depends only on teachers and their students.

1.3 Knowledge and learning path construction in social networks

Knowledge is based on information but unlike depersonalised information, knowledge is customised. A person collects and constantly updates, changes and reconstructs his knowledge. Social networks are one of the tools that help person construct knowledge (Nakamori & Wierzbicki, 2005). Learning path could be explained as personal actions leading towards learning results and outcomes. The learning path can be formalised in the university curriculum or agreed with other learners (Janssen et al., 2008). Learning path shows the following processes: how learning takes place, what decisions are made by a person, what other training participants are involved and how they influence the learner (Kanuka & Anderson, 2007).

1.3.1 Smart technology applications to teaching and learning

The main feature of mobile learning is an opportunity to learn constantly, anywhere and anytime, being constantly connected and immediately responding to every update of learning material (Sha et al., 2012; Peng et al., 2009). Research on the use of mobile technologies in teaching and learning shows that learning efficiency depends on the following factors: learner's approach to planning, setting goals and strategies, monitoring constant learning progress and work performance, evaluation of self-assessment and the results, application of obtained knowledge and skills; learning creation and updating of learning material and activities, social technologies used for communication, cooperation, teamwork, evaluation and self-assessment, and institutional support (Cochrane, 2014). In order to make learning effective by using smart technologies, learners have to motivate themselves to learn, have background knowledge and technology skills that allow them to self-plan, monitor, control and evaluate learning process and achievements. Koole & Ally (2006) offered framework for the rational analysis of mobile education (FRAME), which distinguishes three mobile learning aspects: the use of technologies, learners and social aspect, and analyses the overlap of these learning aspects. Qualitative research of students that use smart devices and social media confirms the FRAME model and emphasises two basic categories – the pros of smart devices for students' learning and disappointment with the use this type of device for teaching and learning (Gick & Grant, 2013). The learners' self-regulation skills, motivation to learn and the support and encouragement of peers is

very important. The learners' self-regulation skills, motivation to learn and other learners' support and encouragement are very important.

1.3.2 Learning path construction while communicating in networked spaces

Scholars - constructivists consider the connection between learning in formal academic spaces and outside them to be very important, asserting that actions are hidden in situations where they need to be completed (Núñez et al., 1999). Networked learning occurring within social communities and groups is associated with the sharing of experiences, negotiations and mutual dialog (Hodgon et al., 2012). Network rules and norms are constructed by communicating in social networks where communities and groups are created and people are expanding their virtual circle. As Dohn's (2014) research shows, activities on the social networks are not entirely meaningful and fully lived; they often take place outside the living world. Goodyear et al. (2014) agrees with these findings and emphasises that networked activities possess a risk of becoming artificial local activities, distant from their "original contexts". Trust in network community, going deeply into virtual activities and finding useful information on the social network is directly related to the time spent in social networks and deeper knowledge of the network (Castronova, 2006). Knowledge is socially constructed by using language and social experiences. People understand new information differently. Knowledge is constructed on the basis of previous knowledge and understanding, by socialising, by adapting current understanding to new situations, thus the presentation of learning activities should not be complex, varying, have a specific structure (Kanuka & Anderson, 2007). Personal learning path and knowledge construction in social network requires constant interaction, analysis of situation, interpretation, the ability not to be lost in constantly changing social contexts. Apart from the theoretical differences, virtual learning is constructed by creating new knowledge on the background of existing knowledge (Veerman and Veldhuis-Diermanse, 2006). Learning is more active than passive process (Blasco-Arcas et al., 2013). Language is a particularly important element of teach (Rahman et al., 2016). The space where the learning processes take place should be oriented to the learner (Anderson and Kanuka, 1999). People, related to different strength interrelationships gather, share information, construct knowledge in networked spaces. The receiving and assimilation of the texts depends on the person himself, preconception and abilities, level of technology usage. Ability to receive knowledge from social networks and construct person's own knowledge leads to the further involvement of the individuals in virtual activities.

1.3.3 Knowledge construction in social networks

Knowledge construction is new knowledge production made by adding, changing and updating previous knowledge (Wierzbicki & Nakamori, 2005). Knowledge is constructed using language, social skills, previous knowledge and understanding; while socialising; and adapting the current understanding in new situations (Kanuka & Anderson, 2007). There are five phases of knowledge construction: sharing and comparison of information; the discovery and exploration in order to find slippage, dissonances and inconsistency among ideas, concepts, statements; negotiations advanced by different participants; negotiations of meaning and co-construction of knowledge; testing and modification of proposed synthesis and co-construction; phrasing of agreements, statements and applications of the newly constructed meaning (Gunawardena et al., 1997). Bereither & Scardamalia (2014) explain knowledge building practices on the basis of the following principles: real ideas and authentic problems; expansion of ideas and improvement; diversity of ideas and search for differences; the opening of new ideas; epistemic mediation; community knowledge and collective cognitive responsibility; democratisation of knowledge; symmetrical knowledge improvement; far-reaching knowledge creation; use of approved and authorised sources; knowledge creation discourse and transformational evaluation. All these principles are used in formal studies and when creating the knowledge by using web 2.0 tools, communicating virtually (Tsai et al., 2014). Research of students' messages on network shows that informal learning by expressing opinions, funny stories, telling personal life events, encourages formal learning – search for new information and theoretical explanations. Social metacognition (questions, answers, expressing opinions) has the greatest influence on the creation of new information and theoretical comments (Chiu & Fujita, 2014). The accumulated academic experience has direct impact on the creation of knowledge in social networks (Liu et al., 2013). Knowledge creation in social networks is going to be more intensive when all the members of academic community actively engage in social communication, cooperation and exchange of texts.

1.3.4 Collective creativity and social networks

Collective creativity develops in situations where creative people collaborate to create product. The result of such activity is often unpredictable; there are no instant surprises; each person's action depends on the preceding actions; every participant is equal and equally initiates changes. Innovation is generated by an unstructured and spontaneously created group collaboration (Sawyer and DeZutter, 2009; SonicRim, 2001). Social networks are powerful tools for exploring creativity. By using network theory and methods it is possible to monitor and explore communication and social

capital (Ellison et al., 2014); the strength of social relationships (Chen et al., 2015); virtual person's contacts (Baltar & Brunet, 2012); content that the network friends share (Moore, 201; Rennie & Morrison, 2013). When studying creativity as social network phenomenon, Perry-Smith & Manucci (2015) note that it is important to find out how network evolution affect the person's creative powers; link between the technological possibilities of social networking and access to diverse scientific resources and creativity. The type of communication, course of actions, working or learning styles, the nature of the problem and its solution are important for developing the focused creativity in social network (Sonnenburg, 2004). The scientific discussion about the creativity on network and formation of network user identity has emerged when the web 2.0 develops. The questions were raised: how learners use social networking tools? Why do people participate in networked activities? What kind of knowledge, skills, approaches and regulations are needed for participation in networked activities and sharing educational content? How does a networked teaching and learning process take place? How different groups of learners construct their own knowledge? What role do teachers and professors have in this process? How students' creativity on network determine their formal studies? How teachers, who know about students' participation in the network activities, use web's 2.0 opportunities in teaching? How teachers develop their professional knowledge virtually? What is the educational value of students' participation and creative practice on network?

The development of focused creativity in social networks, is influenced by the teachers' participation in virtual students' groups; creation of positive student-teacher relationship; creative behaviour; a maintained balance between a non-restricted behaviour on networks and the posting of study texts; understanding the needs of learners' virtual communication and his/her learning style; effective use of resources. Davies et al., (2014) conducted research on teachers from two universities creativity and behaviour. It was researched although teachers communicating with students virtually may feel disapproval of their colleagues, it was important for teachers to not only have positive approach towards the students' participation in virtual activities but, if possible, to participate in them as well.

2 University teachers and their students self-regulated learning in social networks: research methodology

In this empirical research the grounded theory methodology was used for data collection and analysis. It enabled the construction of contextualised theory without reference to analytical constructs, categories and constants of other existing theories.

2.1 Characteristics of research participants

Research participants were chosen using theoretical sampling. In the beginning, only general data collection strategy was used. The collected data showed which teachers can be invited to further interviews. 20 interviews were conducted with teachers engaged in 5 scientific fields (humanities, biomedical, physical, social, technological sciences) from 5 universities located in the two biggest cities in Lithuania. 12 interviews were conducted with the students of these teachers. The research included 8 full and associate professors, 8 university lecturers, and 4 teaching assistants. The university work experience of participant teachers ranged from 1 to 22 years. The majority of research participants stressed the fact that they had experience with international project activities. Some of the teachers had the experience of teaching in foreign universities or conducting scientific research in foreign research centres. Some of the teachers had a double degree (e.g. physical and biomedical sciences or physical and social sciences). Two interviews with teachers were rejected due to poor sound quality; however, the data of these interviews were used in memos. Participant teachers were diversely engaged into social networking. Active participants had 300 or more virtual friends and took part in more than 10 different network groups. The number of other teachers' virtual friends was lower two or three times and they were less engaged or not participating in network groups. All research participants were engaged in more than one social network. Snowball sampling was used for selection of students. Teachers participating in the research were asked to recommend students research participants. Interviews were conducted with students of all three cycles. 6 bachelor students, 5 master students and 1 PhD student participated in empirical research. The research included 8 females and 4 males. Participants' age ranged from 20 to 29 years. Part of students participating in the research admitted being active social network users with 500 or more virtual friends while others claimed not being fans of social media and using social networks only if needed.

2.2 Methods

The decision to use grounded theory was determined by the researcher's intention to apply qualitative research methodology for examination of self-regulating processes occurring in social networks, and to explain these processes upon construction of a theory from empirical data, using full packet methodology.

2.2.1 Application of constructivist grounded theory to empirical research

Constructivist grounded theory is the collection of categories describing researched process (Charmaz, 2006). Constructivist grounded theory consists of

systematic but flexible set of rules for data collection and analysis. Following these rules the researcher constructs context-dependent theory. For evaluating constructivist grounded theory research credibility, originality, resonance and usefulness criteria are used (Charmaz, 2014). In order to construct grounded theory of self-regulated learning of teachers and their students in social networks, first of all research problem was formulated and the plan of semi-structured interviews with teachers and their students was prepared. Having formulated the research problem, free form memo writing was conducted. Memos were written about the research problem, research and interview questions, target group, researcher’s relationship with the research object and subjects. Memos were written until the grounded theory was constructed. The methodological guidelines for empirical data selection and grounded theory construction are presented in Figure 2.

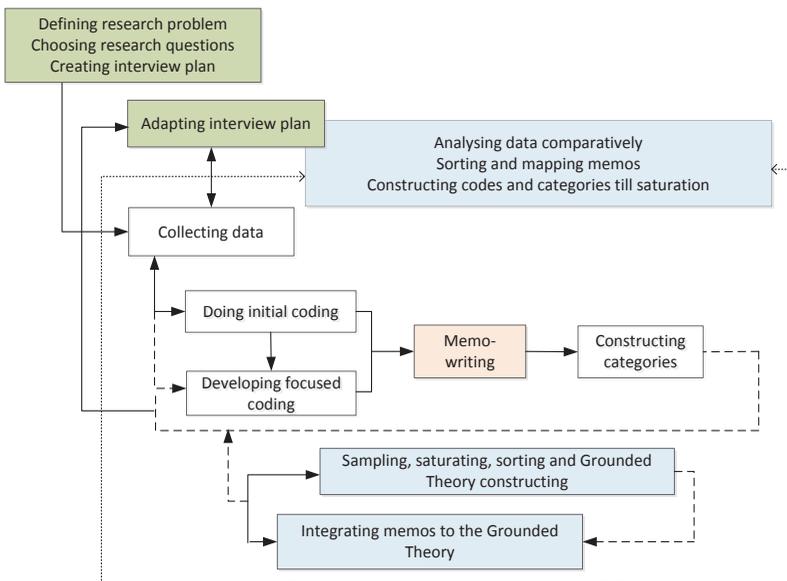


Figure 2 Methodological guidelines for the empirical research (adapted from Charmaz, 2014)

Literally expressed and tacit meanings, experiences and attitudes of university teachers and their students enabled the researcher to construct and explain the processes of self-regulated learning, which take place in social networks.

2.2.2 Data collection

Individual semi-structured interviews were chosen for data collection. Individual interviews were chosen due to a variety of individual experiences, unique stories and anticipated reluctance to open up in the group. Students, who got involved in the research, expressed their interest in the topic and method of research asking to inform them about further course of research and introduce to publications. Further analysis included those persons who enabled the enrichment of existing analysis categories or demonstrated completely new characteristics, contexts, processes. Depending on the obtained data, questions of the other interview were adapted and a new research participant was selected. Research data were stored anonymously and were available only to the researcher and her scientific consultant. Confidentiality was maintained, anonymised research data was submitted when publicising the results.

2.2.3 Data analysis

Initial coding started with conduction of the first interview. Open coding was performed incident by incident, maintaining the openness to data (Charmaz, 2006). During open coding the text which was transcribed word by word was read, it was divided into incidents, which encompassed parts of sentences or even several sentences explaining one topic, process, or event. The codes constructed at this stage identified each key word, line or segment uttered by the research participant. Everything was important for the researcher: what story is revealed by the data; what data suggests; what data claims; in what context (Glaser and Strauss, 2009). Methodological advice by Charmaz (2006) was used when coding: to stay open, not to deviate from the data, to formulate codes as simply as possible, to maintain actions in the codes, to compare data with data, not to spend too much time dealing with one code. Several hundreds of open codes were constructed for each interview. The coding was carried out without the use of computer programmes for qualitative research. The coding was carried out strictly in accordance with the procedures of constructivist grounded theory. Specific, selective and conceptual subcategories were constructed by combining open codes and comparing data with data. These sub-categories were further converged into categories, showing their interrelations. Having collected all the data of university teachers and students and having performed cyclical procedures of open and focused coding, during which memos were constantly written and data clusters were created, the third step taken was theoretical coding. The process of theoretical coding included the construction of the grounded theory of self-regulated learning of university teachers and their students in social networks in the context of virtual learning, continuous work with network materials and professional teacher's development. Two essential categories were constructed, i.e. teacher's *Creating in nets* and students' *Knowledge constructing*

in virtual spaces. During theoretical coding, it was found out how categories converge and what story they can tell about the investigated process. This research is based on Charmaz (2008) who claims that constructivist grounded theory enables the researcher to feel free by treating research process as social construction; carefully checking research decisions and direction; constantly improving methodological and analytical strategies during the research; collecting data since the sufficient amount is obtained to identify and document how research participants construct their living worlds.

2.2.4 Memo writing

Researcher's thoughts, comparisons, relationships between data were recorded in memos. Memos of different types and forms were written: about data collection, open coding, focused coding, theoretical. Researcher's insights about the process and expected results were stored. Memos were written in the form of text; maps of processes, situations, actors and data clusters were drawn. Researcher's considerations were recorded in audio memos. Memo writing was different from traditional detailed descriptions: the researcher wrote her ideas on paper in memos without regard to their interrelations or external relations with available data or constructed codes.

2.3 Quality assurance in empirical research process and findings

Confirmation in empirical research was ensured by describing and explaining the ways of reaching conclusions as well as constructing theory by indicating the relationship between categories and subcategories. The findings were illustrated by the fragments from the interviews. To test whether the findings meet the criteria of transferability, the grounded theory was presented to academic and scholarly communities of several universities as well as intensive discussions were held. The people participating in discussions "found themselves" in the grounded theory and were able to relate findings with their personal experiences of self-regulated learning in social networks.

Thomson (2011) distinguishes three criteria of research trustworthiness: research validity, research reliability and generalisability. When assessing the validity of empirical research, the descriptive, interpretative, theoretical, generalised and evaluative validity was taken into consideration (Maxwell, 1992). Descriptive validity was empirically ensured by providing the transcripts of the whole recording of analysed text when it was read by two researchers (working in a team with the scientific consultant of research), who compared parts of the text with open codes that were constructed from the same text. All the data have been used for the research as no data have been rejected. Relations among the categories were ensured, the categories were grounded

and included a sufficient amount of codes and subcategories which lead to the assumption about their saturation (Charmaz, 2006). Interpretative validity provided data on how well does the researcher “reproduce” the thoughts, meanings, behaviour expressed by the research participants (Altheide & Johnson, 1994). It was ensured by team work as well as selective discussions with the research participant. Theoretical validity showed how the theoretical constructs overlap, complement and supplement each other as well as described the process of self-regulated learning in social networks. Generalised validity, which is called transferability by other authors, shows how and to what extent the constructed theory can be applied to other contexts (Walsh, 2003). This component of validity cannot be easily tested, since it is possible that the constructed theory may be applied only to a specific group (Thomson, 2011), which in the case of this empirical research refers to university teachers, working and residing in Lithuania and can hardly be transferred to other cultural medium or target group. However the general components of the process, such as the strategies employed by the participants, or the outcomes to be reached may be transferred to other contexts of learning. Therefore this proves the generalised validity. The assessed validity was ensured by individually discussing the interim findings with the participants. The disagreements between the opinions of the researcher and the participants were marked in the memos. The concept of reliability is usually related to quantitative research. This empirical research tests the reliability qualitatively. The research validity and reliability allowed ensuring that the research design was constructed in a way that enables to extract necessary data and perform qualitative analysis of the results (Golafshani, 2003). To ensure the generalisability criterion, the findings were reviewed and checked by researcher and her scientific consultant. All the insights were included, different experiences were taken into consideration, the extracts that illustrate various situations, conditions, contexts or factors influencing the process were included in the research report when describing the findings. During the research, colleagues were consulted; interim findings were presented during the methodological seminars and conferences.

When assessing the usefulness of the created grounded theory, Charmaz (2006) emphasises they ways to interpret results; whether the categories of analysis describe and depict general processes; whether the analysis can inspire further research. The essential categories of empirical research, namely *Creating in nets* and *Knowledge constructing in virtual spaces* can be analysed in other contexts and target groups.

2.4 Research ethics

During the data collection the following principles of research ethics were met: the research design was created and the research was carried out by ensuring the integrity, quality and transparency. The research participants were informed about the research aim, methods, and potential opportunities to use the research data as well as the

risks of participating in the research. The confidentiality of the information provided by research participants was ensured. The participation in the research was voluntary and did not cause harm to the participants or others. The conflicts of interest are sought to avoid. Due to the fact that the research included university teachers and their students, a special emphasis was put on trying to maintain the anonymity of the participants. When answering interview questions about their teachers, students often did not mention the surnames of their teachers. If the names of the teachers were mentioned, they were impersonalised later. The students were not informed about the teachers that may have offered them to participate in the research. The research participants were not informed about the data collected from other research participants and about the progress of research. At the end of the interview, the participants were assured that they will be informed about the research findings which will be published.

When agreeing on an interview, the participants were informed about the topic of the research and the fact that their answers are recorded. The questions of the interview were not disclosed in advance, although there were people willing to know them. At first some of the university teachers participating in the interview felt uncomfortable with the recording which hindered them from talking. Then the recording device was turned off and a live conversation went on. Later on, the recording device was turned on by mutual consent of the researcher and the participant. Prior to recording a new interview, the participant was always informed about recording and his/her consent was obtained. The research participants were not thoroughly informed about the process of research, even if such questions were asked. Only the research aim and the plans of the researcher, related to the data collection were explained. The empirical data were collected and analysed while treating the researched participants with respect. In cases when at the end of the interview the researched participants informed that they would not want to publish a specific text, situation or context due to personal reasons, their wishes were granted out of respect.

3 University teachers and their students self-regulated learning in social networks: findings

Findings of the dissertation research reveal that university teachers and their students differently use social network as a tool and context of learning. The content of self-regulated learning for teachers and their students consists of different actions, interactions, situations and consequences. Teachers and their students apply and develop different types of expertise in social networks. For university teachers, the social network constitutes the space for the creation of knowledge and developing skills. For students of these teachers, learning on the network resembles formal learning at university. Boundaries between knowledge created in social networks and during

university studies are fading. The constructed two categories of the grounded theory on self-regulated learning *Creating in nets* and *Knowledge constructing in virtual spaces* reveal learning similarities and differences of teachers and their students.

3.1 Development of creativity in social networks

3.1.1 Creativity of university teachers in social networks “You are just doing this”

Creating in nets is a core category explaining the self-regulated learning of university teachers in two contexts, namely virtual learning and teachers’ professional development. Teachers involved in the research associate *Creating in nets* with the application of the social network to the common creative work of a group of persons and the development of online-generated ideas in other projects. In order for these ideas to develop and grow into real scientific projects, it requires continuous active participation in the network, constant creative quests, openness to others and sharing. For university teachers, creativity is the initiation and continuation of professional scientific activity provided that its lively development is impossible and other participants are practicably unapproachable. Teachers, who create online, do not emphasise the creative process themselves. “*You are just doing this*” – repeated teachers talking about what and how they operate on the social networks. “*You are just doing this*” is a hint of spontaneity, the fulfilment of network technology (there is no need to put much effort, if solutions are mastered), but also a reminder of constant “movement”, the “pumping” of knowledge, the work in virtual teams and the birth of creative product (Fig. 3).

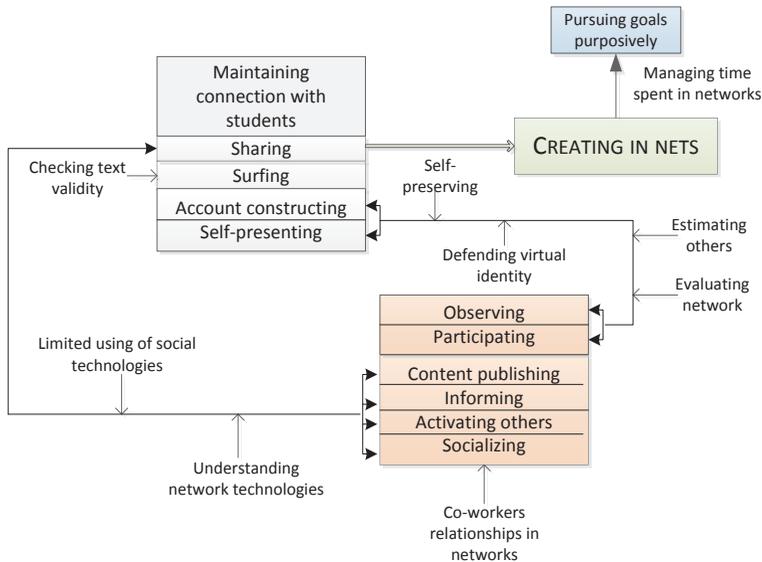


Figure 3 Graphical visualisation of the core category *Creating in nets*

Teachers, who create online, do not frame themselves to local social communication in the national language. Their virtual friends are specialists, subject experts, and international experts from all around the world. Topics examined and dealt with by teachers online are in many cases associated with scientific innovation of their subject. For university teachers, creativity online is related to sharing a variety of materials. By sharing online, teachers attribute themselves a role of an educator, publisher of knowledge. They seek to open, show, present, post, share. Teachers share educational materials with their students, introduce and elaborate in detail academic tasks online, post information about innovations and latest technologies in their subjects, initiate the development of groups designed for extra work after lectures and for posting of study material. They not only share information online but also make an attempt to present texts to students in a comprehensive, selective, clear and understandable manner. Sharing information with professional colleagues is another activity initiated and actively developed by teachers. University teachers participate in professional and scientific online groups of their university, national or international, thus collecting information published by others. Those, who have mastered English or any other foreign language, post scientific information internationally, engage in discussions with foreign colleagues, share professional experience, and announce novelties. Teachers, who devote most of their working time to teaching students rather

than engaging in scientific research, do not see the point of publicising their scientific achievements. Supposedly, it is related to the limited usage of social technologies and the lack of motivation to delve into various advantages of the social online network. The issue of the “appropriation” of ideas resulting from sharing the information with others is relevant to teachers actively creating online. Teachers, who actively share information earlier, feel as if they have been “deceived”, after participating in online groups and presenting their thoughts, ideas and the latest scientific achievements, their commonly generated ideas online were appropriated for the benefit of a single person. Information may be leaked without fully absorbing the technology of chatting online and only one-sidedly using jointly developed online content. Regardless some negative experience, creativity online is developing. Ideas born online are continued in other projects, professional and scientific creativity is gaining momentum.

3.1.2 Knowledge constructing in virtual spaces: “Gathering crumbs from around the world”

Knowledge constructing in virtual spaces is a core category clarifying self-regulated learning of university students in two contexts: academic communication and virtual learning. Teachers do not stress academic communication. They view the relation of co-workers online not as the context for self-regulated learning but rather as one of intervening factors. However, for students, academic communication constitutes an integral part of communication in social networks. It begins with formal studies, continues on online networks and vice versa. Students involved in the research recounts how they “gather crumbs from around the world”. “To gather” is not a simple activity – one must be able to control time, be actively involved, be motivated, and purposefully learn. It is not spontaneous process (Fig. 4).

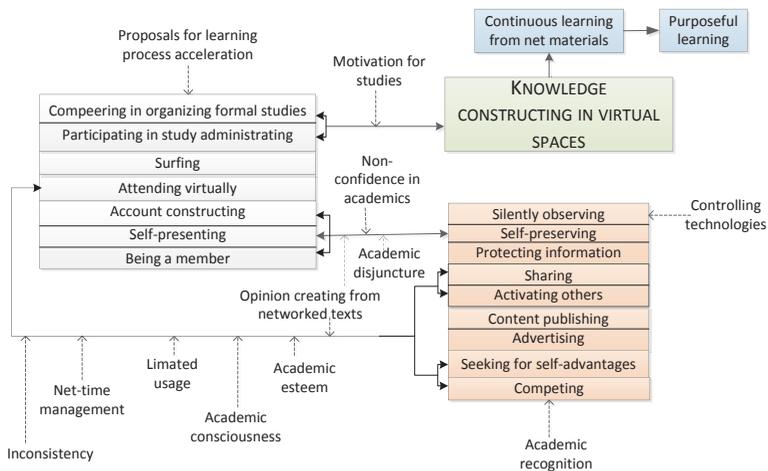


Figure 4 Graphical visualisation of the core category Knowledge constructing in virtual spaces

For students, academic communication means connection with other members of academic community, participation in group discussions and commenting. Academic communication may be understood as the contact after formal studies or as informal contact with the teacher. The study reveals that university students are “inhabitants of the world of smart technologies”. Students are constantly online, know and use various technologies: mobile phones, portable and wearable devices, virtual reality applications. They are wrapped in a wide range of activities online. Communication online for them is a natural process of everyday life. In social networks, students share their experience and life stories, motivate each other, confer and jointly solve a variety of issues. Virtual learning for them is learning from constantly being online, effective learning of information, acquisition of new knowledge through virtual communication, tracking of news, learning of information on popular science from virtual friends, mutual assistance in academic tasks. Boundaries between university studies and learning outside university are vanishing. Self-regulating learners are able to obtain diverse material online, which may be adapted to their formal studies. Students learn to coordinate their time spent online, to plan, organise, apply, perform virtual learning activities, which create educational value. For students, continuous work with online material and qualitative communication destroy boundaries between virtual and contact learning. University students attempt to continue virtual online activities in reality or to implement ideas generated in joint discussions of virtual groups. Ideas generated in joint discussions with other members of virtual groups may transform into real information or publicising activities, blog writing. Students seek to discuss activities observed online

in reality, to repeat and adapt them in their personal life; they follow entries of specialists, select and implement ideas at home according to their need. Social networking tools are used not only to inform or post but also to invite virtual friends to take part in real joint activities. During lectures and classroom activities students together with teachers continue to analyse and elaborate issues raised in the virtual group. According to university students, learning material can be equally well explained by both virtual means and through direct communication. Virtual communication with teachers and professors is the greatest challenge for students of Lithuanian universities. Students are used to public communication with teachers before and after lectures. Social networks provide perfect opportunities for virtual discussions between teachers and students and exchange of information. Not all university teachers appreciate and encourage these processes. It is a challenge for teachers themselves to control social technologies, to open themselves to the world, not only to introduce students with fundamental truths but also to take part in joint professional virtual activities with experts, to develop novelties.

3.2 Creation of personal and/or professional image

The search of various information, sources, innovations, science news online and sharing texts constitute assumptions for creativity of university teachers online. It is important for teachers to impeccably introduce themselves online and to responsibly construct the account in social network. Another important teachers' assumption is their willingness to maintain regular contact with students. Students' assumptions for the construction of knowledge in virtual environment, such as the search of various information online, constant creations, renewal of the account, and self-presentation online, resemble their teachers'. For students, networking is related to formal studies. For teachers, self-presentation online and created of the account is closely related to self-preservation. Many teachers are anxious about unreliability of network technologies; protect their privacy possibly trying to post less information. In order to protect themselves and having no substantial achievements in science, teachers express willingness to present themselves online and to post their personal data only testing social technologies. Those teachers who wish to boast about their achievements reveal their personal or professional accomplishments to their virtual friends. Other teachers seek to publicise themselves as less as possible. Regardless of the unwillingness of some teachers to share their personal data, comprehensive academic self-presentation and self-demonstration are considered significant. Teachers who seek to promote themselves pay special attention for these activities as in this way they expect to receive work orders, joint-activity proposals, strive to be heard and to spread scientific knowledge. The attempt is made to present oneself in clear comprehensible language.

Research participants apply to experts when preparing virtual CVs. For teachers, construction of the account constitutes the involvement of persons and groups in their networks. Research participants with less experience in online networking often separate work and personal accounts, virtually connecting with students through the work account. Those with more experience in networking merge personal and work interests not only accepting students to their personal account but also joining virtual professional communities. Teachers connect with those students with whom they interact in reality, carry out or have previously carried out joint academic or university publication activities. It is necessary that after joining group teachers would invite students, however, it is done selectively. Study results reveal that by sharing texts teachers creating on network help self-regulating students to actively involved in online activities addressing academic or personal issues.

3.3 Academic communication: virtual learning and professional development

Both investigated groups (teachers and students) express their self-regulated learning in social networks in two contexts. One of them – the context of *virtual learning* – is common to both investigated groups. Although university teachers and their students differently understand virtual learning and learning on the social network. The other context is different. Teachers stress *professional development*, students – *academic communication*. During the academic communication, students make contacts with other fellow students; share information obtained from the teacher in public and closed groups; comment each other's texts; interact with teachers in virtual groups; seek individual advice from the teacher. After studies, students keep contacting with teachers by virtual means and communicate informally. For university teachers, virtual learning is the motivation of others by a variety of virtual means, the encouragement to take interest in social technologies, the empowerment of students to learn independently by inviting to listen to virtual lectures and providing them with additional study material, the solution of academic issues by online means, and the encouragement of students to use social networks as means of additional studies. Being virtually connected, teachers not only teach students or invite them to carry out joint activities but also learn themselves from their current and former students. They learn about students' social life, share practical observations, monitor, assess and adapt to their lectures videos, texts, articles of popular science, novelties and innovative solutions publicized by students. Teachers raise their professional excellence by learning from what others share in interest groups, applying a variety of tools in experiments with their students, participating in common networks not only with students but also with foreign experts. They take part in virtual lectures and continue communication after the end of professional training. University teachers receive offers to conduct extra work, research,

scientific experiments together with their virtual colleagues. For teachers, virtual teaching and learning is closely related to their professional development. Students associate virtual learning with academic communication among themselves and with the teacher.

3.4 Strategies of self-regulated learning

Learning in social networks, university teachers apply passive and active learning strategies focused on the initiation, maintenance and activation of mutual relation with their students, colleagues and other virtual friends. Monitoring is a key strategy of passive learning online applied by both teachers and their students. Teachers and students understand the monitoring of networks, texts and other persons differently. For teachers, monitoring is associated with the assessment of others and of the network itself. This includes the overview of various networks, which has become a habit, as well as the monitoring of competitors and institutions. By monitoring the news, following professional achievements of others, teachers track what it is that others share in their accounts. By constantly monitoring students' activities online, teachers receive information from their students' accounts about academic events. By monitoring and reflecting online activities of experts, colleagues and students, teachers evaluate and express their opinions on the massive application of online tools within and outside the university, in Lithuania and abroad. Silently observing – news overview online, observation of institutions and groups, passive “existence” in online groups – is important to both teachers and their students. Students note that it is highly important to critically select virtual friends or followed enterprises. If posts are interesting, the theme is attractive; it is worth to follow such enterprise or organisation. Usually students seek for emotionally engaging content. Observing the formal activity of persons or organisations, students, unlike their teachers, enjoy passively scrolling daily online routine. They follow how their virtual friends spend their leisure time, what texts they share, what topics interest them. Virtual friends are motivated and activated by university teachers and their students. The activation of others by teachers and students is perceived differently: for teachers, activation is associated with students, the maintenance of contact with them; students not only activate each other to learn online but also make suggestions to teachers, professors, administration on the process of learning and its promotion. University teachers apply strategies of publicity, information and activation by maintaining contact with students through social technologies. Teachers, who are active online, constantly share and post additional study material to their students, use online tools to attract students' attention providing not detailed but rather fragmented information. Observing teachers' personal and working life students take care of the protection of information they share. It is

associated with technology management well mastered by the youth. Students recommend their teachers to take interest in virtual processes. Students suggest exploiting the opportunities offered by the network not only for re-publication of study material but also for active virtual academic communication.

3.5 The need to receive and create purposefully managing the networked time

University teachers and their students are influenced by different intervening factors to engage in self-regulated learning in social networks. The management of time spent online is important to both teachers and students. For teachers, time control is relevant to purposefully achieve the objective. For their students, time control constitutes the ability to focus on the task, compulsory activities; the saving of time while searching for congenial persons by means of networking. The importance of time management online for a person is emphasised not only by teachers but also by students. While browsing without any plan or purpose, students tend to lose the feeling of time and spend the time online in vain. The limited use of social technologies is noted by both university teachers and their students. Teachers apply technologies of social networks to maintain contact with students, while students of these teachers observe limited application of technologies for virtual learning and academic communication. Students note that teachers of some subjects use technologies only for work purposes believing that it is enough. Teachers contradict themselves saying that by working with computer only in their workplaces they can only partially use the functionality of networks. The management of technologies is important to both teachers and their students. For teachers, who attempt to maintain virtual close relations with their students, it is important to manage and master computer technologies well. Teachers prepare a variety of academic tasks, the qualitative accomplishment of which requires students to use social technologies. In this way, teachers not only engage students in more profound studies of their subject but also teach social communication, solidify their skills in technologies and communication, develop capacities. By maintaining formal academic relation with other co-workers online, active self-regulated teachers, who also are internationally recognised scholars, seek for continuous virtual academic communication as they have difficulty in finding groups of professional congenial in real life. The subjective opinion of students about the activeness of their teachers online is radically different – some of them face with teachers conducting less scientific activities. They observe the passivity of teachers online. Meanwhile those students who engage in joint scientific, research, practice activities with teachers-scholars, have an opportunity to learn from their teachers not only during formal studies but also through virtual academic communication.

3.6 Continuous work with networked content

Purposefully striving for their goals university teachers virtually learn. It is important for them to feel the “rhythm of the world of science”, and to track innovations. Seeking objective knowledge teachers take part in virtual international expert groups, where they can express their opinion, seek for common solutions, jointly implement tasks. Students participating in online activities together with their teachers continue activities, to which they are invited lively, and share a variety of texts. Experienced learners do not like such co-learners, who only monitor the information, and do not use the network for peer-sharing, do not take part in virtual seminars. Such silent observing is related to the limited use of technologies, unreliability to technologies, prejudices. Students who seek their goals do not support this approach as it bothers to share with each other, to learn from each other, suppress students’ willingness to continue to work with the network material.

3.7 Peer learning in social networks

Social network is a creative learning environment, where virtual participants – teachers and students – are engaged into the elaboration of topic which they are interested in, experiment, exchange texts and resist unacceptable content. For teachers, social online network is a virtual environment where they develop and openly promote scientific knowledge. Teachers use social networks to maintain academic contact with students, share texts and search. By means of online tools teachers tend to communicate on a variety of topics with their colleagues, meanwhile with students they only share information, activate and disseminate study material. By taking part in virtual activities, teachers protect their virtual identity, monitor social technologies. Teachers who purposefully seek their goals pay attention to the management of time spent online.

Participation in virtual activities enables university students to maintain constant relation with their friends and acquaintances. This is not enough for students who purposefully seek academic knowledge. Students wish to have influence on the organisation and administration of formal studies. They search for academic texts. Motivated students seek for academic recognition, make suggestions how to activate the study process, however, not fully rely on some online friends. By publishing content, advertising online, students compete among themselves and seek for personal benefit.

In social networks where teachers and their students meet virtually, relationships of different strength and chains of knowledge are forming, changing, disappearing and re-appearing. For all participants of social network, it is important to construct their own virtual identity, maintain mutual relations, take part in the creation of the joint network culture, reveal and develop skills and abilities. Graphically visualising the justified theory that explains the self-regulated learning of university teachers and their students

in social online networks, the core categories *Knowledge constructing in virtual spaces* and *Creating in nets* are framed and highlighted. The findings of empirical research reveal that the core categories are not interrelated. The contexts of virtual learning, academic communication and teachers' professional development are distinguished in square diagrams by different colours. The borders and intersections of contexts are graphically depicted. Conditions of self-regulated learning are marked at the core category on the left. Learning strategies are drawn in relation to the context, where they appear. Other factors influencing self-regulated learning are marked in connection with their operation direction. Line thickness indicates the relation of research participants with the given factor or process growth (Fig. 5).

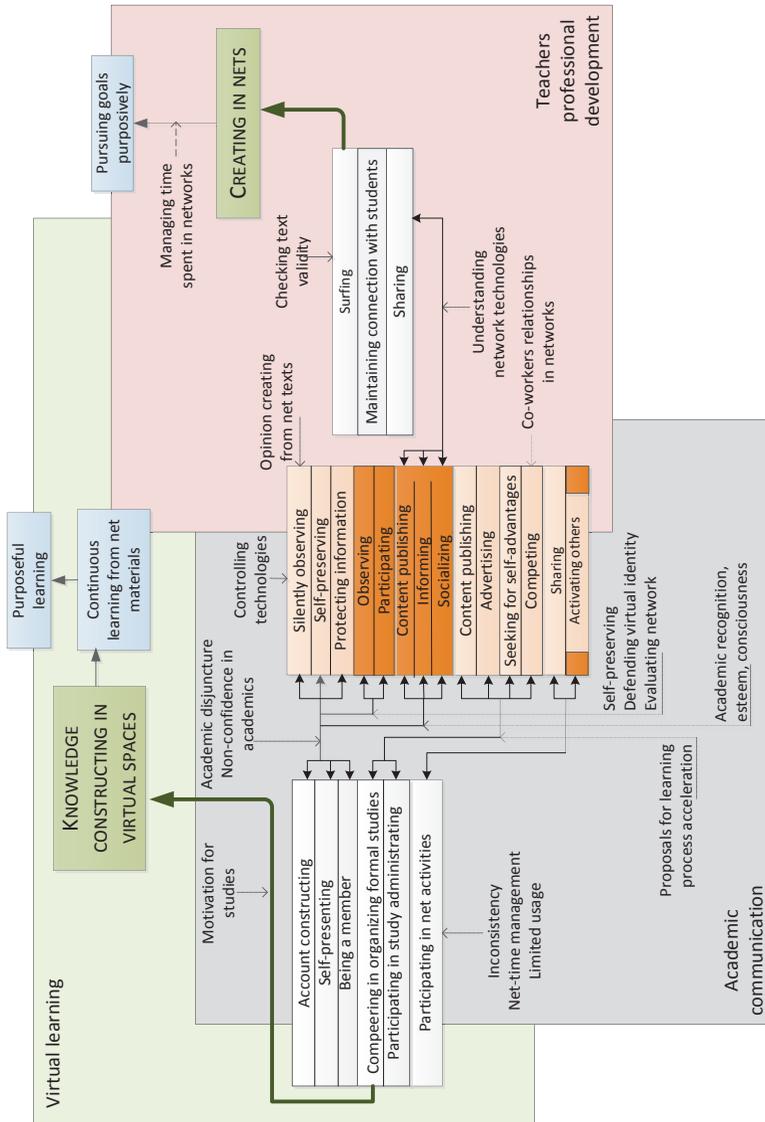


Figure 5 Grounded theory explaining the processes of university teachers and their students self-regulated learning in social networks

The medium of social networks is familiar and usual for students. Social networks makes easier for students to express their thoughts. Without being seen face-to-face, students construct their image. Connection with their teachers obliges them to virtually introduce themselves by showing their academic achievements. Teachers also feel obliged to present themselves academically as their students may meet and speak to them in virtual space. This is how virtual academic culture is created. Teachers and their students together create virtual groups, solve academic issues, freely share ideas, make suggestions how to change studies, create academic and scientific content, which can be immediately publicized and responded causing the reflection how to proceed the work with the network material, to raise qualification, purposefully seek goals. While learning from each other, all members of the network grow academically. University teachers and their students construct knowledge and create in social networks.

4 University teachers' and their students' self-regulated learning in social networks: discussion

The discussion part of the dissertation was prepared by adhering to the principles of constructivist grounded theory: searching for similarities and differences of core categories and their explanatory subcategories, also searching for their meanings, contexts, dimensions, analytical confirmations and substantiation in the works of other authors (Charmaz, 2006). In the part of the dissertation focusing on discussion, conceptual considerations of the author are provided. These considerations are based on theoretical research and the results of the constructed grounded theory.

The grounded theory about the university teachers' and their students' self-regulated learning in social networks explains the way teachers and students recognise and use social network. University teachers create online by learning. For students, the boundaries between virtual and face-to-face teaching are blurring. The core category of the research, *Creating on nets*, explains university teachers' self-regulated learning in social network in the context of virtual learning and professional growth. The research participants associate creating on nets with participation in virtual groups, in which they plan and develop ideas that turn into shared professional project, using social networks to solve creative tasks, continuing to work face-to-face on the projects that were started online. Teachers create by purposefully trying to reach their goals. These findings confirm the considerations of researchers of social media texts, namely Bechmann and Lomborg (2013). These authors claim that creating on nets is an activity that internet users carry out constantly. Social media texts are not a finished product. According to researchers, these texts are at the "perpetual beta" state, they are considered to be open for development, change and improvement. For social network users it is something unfinished, emerging, under construction, continuously on the way to "something new

and unknown”. As the core category indicates, the teachers participating in the empirical research also take part in creating new educational texts. Blurring of boundaries between the producer and the user occurs in social media; this enables users to give free reign to their creativity. The constructed grounded theory suggests that a networked user can become a producer when he/she connects and interacts virtually with other persons already on the network, thus becoming socially dependant on a group or community. When the person actively engages in virtual activities and uses technologies creatively to express himself/herself and explores his/her personal and professional identity. Person uses social media tools for information search and for developing professional competencies and everyday life skills.

Creating in nets is not only an individual activity, but also a result of working together. Creation requires encouraging cooperation and developing external social relations. Similarly to the German scientists studied by Davis et al. (2013), Lithuanian university teachers participating in the empirical research, having joined social networks wishing for free and informal communication, when spending their free time with colleagues solve conceptual issues and create innovations. The core category *Creating in nets* explains the university teachers’ self-regulated learning that takes place when the participants communicate and cooperate and create on the network together. Managers that are proficient in social networks and other businesspersons surveyed by Perry-Smith and Manucci (2015) say that creating in nets is not “a solo” activity anymore. Creativity requires social environment, as well as strong and weak interrelations of participants of social networks. Even though the context of the research (virtual learning and teachers professional development) differs from the context of Perry-Smith and Manucci’s (2015) research (businesspersons’ communication), also professions and work experience of both groups of research participants are different, the matching results show that creation in social networks is determined not by work or personal experience of individual participants, but by communication and working together and sharing within a group or a team.

The performed empirical research proved that a person’s creativity is influenced by information and news received via communication and cooperation. It clearly suggests that creativity on nets is an activity based on cooperation and it can have an unexpected result and unclear end when the participants communicate virtually. Due to the nature of the technology of the network, chance events and contingencies are probable and the actions of other participants determine the effect of interaction. Creativity, as a spontaneously occurring cooperation process, was researched by Sawyer and DeZutter (2009). The scientists proved that creativity is a dispersed process influenced by many people. Despite the incidental nature of creativity in social networks and different research groups, the relations of core category of the grounded theory with other subcategories indicate that likewise Sawyer and DeZutter’s (2009)

dispersed creativity of theatre performers, university teachers' development of creativity in social networks is based on cooperation. In order to create, every member of the group has to be invited to actively participate.

The research determined that membership and accepting new members is a precondition of university students' self-regulated learning in social networks. Creating an account, one of the possible parts of this process being membership in the network, is a precondition to self-regulated learning of both participant groups of the research (students and their professors). Researchers of media education and challenges of participatory culture, namely Jenkins et al. (2009) distinguished these forms of social network culture: affiliations, expressions, collaborative problem-solving and circulation. The empirical findings enriches Jenkins's et al. (2009) grouping of cultural forms of the net; examples and situations are provided, also strategies used in social media by Lithuanian academic community are explained. Jenkins et al. (2009) highlighted self-expression on the networks, also mentioned by Bolldén (2014), Land (2013), Anderson et al. (1996) who investigate the construction of virtual identity, which is important to both participant groups of the research. Having researched Sweden university students' and teachers' teaching and learning in social mediums, Bolldén (2014) concludes that attempting to draw a line between the things occurring during the lectures and practices of social spaces may not be possible. Contrary to Bolldén (2014), Land (2013) claims that teachers face an ethical dilemma: they should behave and teach in social networks in such a way as to set an example, however, it is unclear how to do it if they are unwilling to expose themselves. The empirical findings underline the fact that when conveying their experience in social networks teachers participating in the research have to strike a balance between trying to reveal themselves, showing their knowledge, learning, understanding and trying not to reveal fully their real identity to the students. Bolldén (2014) and Land's (2013) research results were also confirmed: Lithuanian teachers participating in social networks emphasise the importance of self-preservation and their virtual identity protection, however, they think that virtual relationships with students have to be maintained and learning and popular science content has to be made public.

Examples of the connection of subcategories *Communication* and *Co-workers relationships in networks* with core category *Creating in nets* of the grounded theory, provided by university teachers', confirm the statements of Nistor's (2016) correlative study (with the scale of more than 250 German adult players). Nistor (2016) researched that persons playing massively multiplayer online role-playing games accept new members to their closed community and trust them in team activities after the potential members have been virtually observed and evaluated over a long period of time. Players gather into virtual knowledge communities in order to find answers to relevant questions together. The findings has proven that publishing of texts is closely linked

with the intensity of participation and communication in a team (“*in order to publish, it is important to know why and for what purpose I am doing it*”), and trusting other members of the virtual group.

Participants of the research claim that when learning and doing important tasks they sometimes turn off their mobile phones, this way making sure that they are doing one thing at a time and doing it well. These conclusions partly confirm the propositions of Cavus and Ibrahim (2009) that information on the internet is constantly accessible via smart mobile devices and this can distract the person from learning. But it also indicates that the participants of the research possess self-control and the ability to effectively use technologies.

Participants of the research claim that their knowledge created on the internet is a collective agreement linking facts with personal views, convictions, values and psychological, cultural and religious experiences. Dede’s (2008) research shows that when the roles of the participants change in virtual space, a clear boundary between teacher and student disappears and the knowledge created together is determined by the previous experiences of test subjects. Dede (2008), who have researched learning technologies, was one of the first scholars to establish a theoretical basis for the importance of internet technology usage and student-teacher technology-based social relationship to formal studies. In this research examples were given how student and teacher preconceptions affect their online communication; how students’ attempts to gain academic recognition, opinion formation from texts slows down or speeds up the creation of new knowledge in a network group.

The research shows that internet connections are changing and unpredictable: some online friends replace others; texts in online accounts appear and disappear. Students participating in the research stress that it is not always clear how some content appears on the network or in their account, however, they are not angered by it and accept as it if were natural to them: “*you just understand that this is the way things are*”. Having provided a comprehensive description of the unevenness of the network, Dron and Anderson (2014) emphasised the instability of virtual connections, spontaneously appearing texts and network algorithms that filter information in unknown ways. For some of the teachers who participated in the research, spontaneous appearance of texts is still challenging. They cannot control it and have to contact specialists, friends or colleagues for help. Findings prove the theoretical considerations of Dron and Anderson (2014) that learning on the net is a social process; the whole group and not one person provides their members with learning resources. To describe processes that occur in social networks when teachers and students meet and to explain their reciprocity, Sonnenburg’s (2004) theoretical framework of collaborative product creation, describing communication (types, process, styles and relation to the problem being

solved) as the driving force of collaborative creativity, can be used in addition to constructionist theory.

The constructed grounded theory about the university teachers' and their students' self-regulated learning on a social network account compliments and expands the Salmon's (2013) framework of interactive online learning. The core categories of grounded theory, i.e. university teachers' *Creating in nets* and their students' *Knowledge constructing in virtual spaces* explain how university teachers and their students *Construct knowledge*. University teachers construct knowledge by creating on the net, their students do it by learning everywhere and using all virtual tools. In framework of interactive online learning, academic communication is linked with *Online socialization* and *Exchange of information and texts*. *Teachers' professional development* and students' *Virtual learning* is linked with *Continuous development* (Fig. 6).

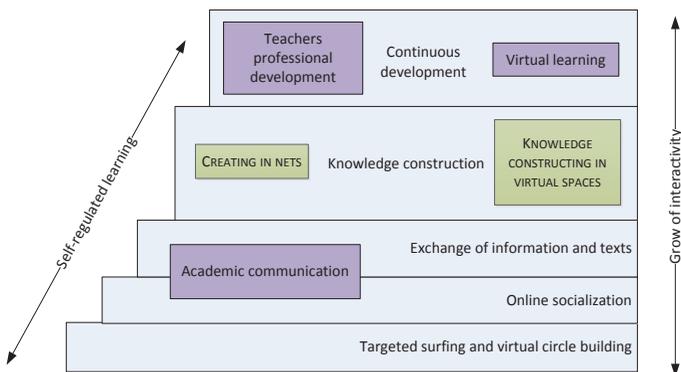


Figure 6 Links between the Grounded theory and Framework of interactive online learning

Finding the connection between the grounded theory that explains university teachers' and their students' self-regulated learning in social networks and interactive online learning set-up is the final step in constructing the grounded theory. His step shows the place of empirically constructed grounded theory in relation with other theories.

Research limitations

Innovative, full of initiative and active university teachers who are also scientists were selected for the research. These participants emphasized the creating in social networks processes. Spending free time online, using social networks for having a good time, relaxation and entertainment was not taken into account. The development of grounded theory is a continual process. Possibly, a larger sample of participants (teachers), with the inclusion of practising teachers, would result in more comprehensive data and new categories. Participation in social networks vanish language, territorial, economic, political, cultural boundaries. Lithuanians communicate, cooperate and learn not only from other Lithuanians but also from their online friends that are far away, speak in another language, live in another country. Only Lithuanian university teachers were selected for this research. Supposedly, inclusion of teachers from abroad would significantly complement and change the results.

Recommendations

Social networks have become a part of professional and social life. Participation in social network activities is useful in many ways: a person can relax, have a good time and meaningfully create texts and social value. Every person can create social network content and this can be used in many ways in university studies. For every student and teacher social networks provide free and easy-to-use tools to engage in constructing personal learning paths. Content made public can be called “alive”, constantly changing and being renewed by all virtual participants. To renew, supplement and correct the learning material there is no need for specific technical or technological solutions, complicated equipment, experts or specialist’s helped. Social network tools allow actively learning, individually and in a group, cooperating, building team-work skills.

Virtual shared communication spaces (networks, groups, pages, sites, portals) attract young people with technological solutions, game and virtual design elements. Users are encouraged to gain understanding, learn and change. It is important not to forget, when trying to use social networks for university studies that there is a thin line between learning and entertainment and it can be crossed unwittingly. Social network users themselves create and make public the learning content. There are technological solutions allowing displaying virtual friends’ content in online account. The task of the teacher trying to use the advantages of social networks in studies is not only to make academic content public but also to coordinate by way of cooperating, facilitating and moderating the activities of social network groups. This way, the flow of texts in the account of virtual group’s participant will change.

Using social networks allows the modern student to develop 21st century skills: cooperate, creatively solve problems, work in a group, research, think critically and learn to effectively divide work. The results of the research of the dissertation indicate that one of the most important challenges of participating in social network activities for teachers and students is managing time spent online. Allocation of activities in social networks, prioritising of tasks, academic, professional calendars and guidance for time spent online, personal plans for activities, and discussion in a group, self-education and virtual consultations could help better manage time.

University teachers and their students use social network tools every day. Besides that, formal communication of university's academic community in many cases requires less popular among academic youth means of collaboration: phone and e-mail conversations. Wider informal application of social networking tools used by young people and teenagers would allow universities to publicise academic life in a more individual way. This may attract future students, make a university more widely known in online communities, and reach more potential students.

Teachers making their activities, research and achievements public attract online colleagues from different countries. The dissertation research indicates that new ideas, later transformed into scientific reports and articles, are born on the social networks communicating, cooperating and creating in groups. Participating in international social network groups creates conditions for improving teacher's academic and scientific qualifications, following science news and scientific innovations, initiating projects, participating in science. Participating in virtual scientific groups is facilitated by knowledge of foreign languages and communication skills. These skills could be developed in social networks. Mastering social technologies and actively participating in virtual activities help open up and overcome fear of being under the spotlight. This leads to teacher's professional development.

Conclusions

The empirical research explained teachers' and their students' self-regulated learning in social networks. *Creating in nets* is a core category explaining university teachers' self-regulated learning. Teachers engaged in network activities create and promote learning, science and studies. *Knowledge constructing in virtual spaces* is a core category explaining university students self-regulated learning. For students, social networks are tools to keep in touch with a teacher, study friends, and to construct their personal learning paths. Virtually connected teacher and students construct information and knowledge circuits. The study results showed that behaviourally regulated students acquire academic knowledge by virtually surfing the net and don't see the difference how they gain knowledge- sitting in class or from virtual friends and pairs.

Teachers' and their students' self-regulated learning occurs in two contexts. One of them, i.e. academic communication, can be applied to both research groups. Other context differs for both groups: university teachers' learning is taking place in the context of their professional development, while for their students this occurs in the context of virtual learning.

Conditions for self-regulated learning in social networks differ for university teachers and students. Teachers understand self-regulated learning as sharing, they try to establish connection with a student and to search for various information. Students become more engaged in self-regulated learning by creating an account, presenting themselves or seeking virtual membership in the net, participating in social network activities, wanting to influence the organisation and administration of university studies.

Teachers and students use different learning strategies in social networks. Teachers communicate with their students virtually, share study and popular science content, inform and engage others, participate in network groups and observe study and free time activities of young people. Students in social networks act in two ways: some share texts, others observe passively; some protect their information, others socialize, publish content, inform and advertise; some activate peers, others protect themselves, seek self-advantages or compete.

Social networks obligate teachers and their students to show themselves as members of academic community. Knowing that one may be observed by students (or teachers) gives impulsion to create and publish study materials and scientific content, not to trash the social network with coincidental texts. Communication and peer learning helps members of both research groups in purposefully developing qualifications.

UNIVERSITETO DĚSTYTOJŲ IR JŲ STUDENTŲ SAVIREGULIACINIS MOKYMASIS SOCIALINIULOSE INTERNETINIULOSE TINKLUULOSE

Modernaus universiteto pertvarkos, studijŲ ir mokslo klasteriŲ kŲrimo, studijŲ programŲ optimizavimo periodu ypatingai svarbiu tampa dėstytojo bei jŲ studentŲ savireguliacinio mokymosi procesŲ paŲinimas, nurodantis, kaip pritraukti bŲsimus studentus, motyvuoti studijoms bei, iŲlaikant ryŲŲ su studentu, lydėti jŲ per studijas. UniversitetiniŲ studijŲ dalyviŲ virtualiŲ savanoriŲŲ susitikimŲ socialiniuose internetiniuose tinkluose analizė leidŲia paŲinti internete naudojamas savireguliacinio mokymosi strategijas (SimŲes ir kt. 2015) bei visiŲškai ar iŲ dalies jas pritaikyti formaliŲ studijŲ procese (Zimmerman ir Schunk, 2012). Save reguliuojančiŲ studentŲ mokymosi socialiniuose internetiniuose tinkluose įsiterpiančiŲ veiksniŲ įvertinimas leidŲia daryti įŲvalgas, kaip universiteto dėstytojai ir jŲ studentai gali aktyvinti mokymo ir mokymosi procesŲ (Beishuizen ir Steffens, 2011). Augantis socialiniŲ internetiniŲ tinklŲ populiarumas, prieinamumas ir Ųsajos paprastumas skatina vartotojus bŲti nuolat prisijungusius, dalyvauti virtualiose edukacinėse veiklose bei kurti naujŲ turinį (Davis III ir kt., 2012). Mokymasis nėra individuali save reguliuojančio asmens veikla, besimokantieji Ųinias konstruojasi patys iŲ įvairiŲ virtualiŲ ŲaltiniŲ (SokŲl ir kt., 2015). Dėstytojo uŲdavinyŲ yra ne tik sukurti, pavieŲinti ar priskirti reikalingŲ mokymosi medŲiagŲ, bet padėti studentams konstruotiŲ asmeninį mokymosi keliŲ (Breslin ir Decker, 2007) bei parodyti, konsultuoti, kartu kurti esamŲ ir naujŲ ŲiniŲ bei tekstŲ loginį ryŲŲ (Anderson ir kt., 2014). Mokslininkai pateikia apibendrintas įŲvalgas apie mokytojo vaidmenŲ kaitŲ (Bollden, 2014; Bjork ir kt., 2013); bendravimŲ ir bendradarbiavimŲ edukacinėse įtinklintose aplinkose (Tess, 2013; Selwyn, 2010). Tačiau mokslinės literatŲros analizė leidŲia teigti, kad universiteto dėstytojŲ bei jŲ studentŲ savireguliacinio mokymosi socialiniuose internetiniuose tinkluose procesai nėra visiŲškai iŲtirti.

Įtinklintos visuomenės mokymosi technologijŲ gausa lemia universitetinį mokymŲ (Dabbagh ir Kitsantas, 2012), keičiasi dėstytojo ir studentŲ bendravimas bei edukacinis santykis (Bechmann ir Lomborg, 2013; Priem ir Castello, 2010). Besimokantieji patys atsakingai kontroliuoja savo mokymosi procesŲ. Mokymasis vyksta aktyviai virtualiai bendraujant, bendradarbiaujant, eksperimentuojant, sprendŲiant problemas, įsitraukiant, dalyvaujant. Keičiasi tradiciniai universiteto dėstytojŲ bei studentŲ vaidmenys. Kurdamas bei vieŲindamas edukacinį turinį, dėstytojas tampa aktyviu mokymosi proceso dalyviu bei mokosi pats (Cahill, 2014; Forkosh-Baruch ir Hershkovitz, 2012).

Ųvietimo politikos formuotojai ypatingŲ dėmesį skiria technologijŲ galimybėms, nagrinėja mokymui ir mokymuisi skirtus Ųvietimo iŲteklius, mokymosi objektus, garso

ir vaizdo paskaitas bei dėstytojų viešinamą edukacinį turinį (Beetham ir Shape, 2013). Švietimo išteklių gausa socialiniuose internetiniuose tinkluose padeda mokytis. Besimokantysis turi būti motyvuotas, save reguliuojantis bei suvaldantis tinkluose leidžiamą laiką, tačiau ar asmuo mokosi vienas, ar bendradarbiaudamas? Kokie savireguliacinio mokymosi procesai vyksta?

Esminis disertacinio tyrimo klausimas: kaip vyksta universitetų dėstytojų ir jų studentų savireguliacinis mokymasis socialiniuose internetiniuose tinkluose?

Tyrimo objektas – savireguliacinis universiteto dėstytojų bei jų studentų mokymasis socialiniuose internetiniuose tinkluose.

Disertacinio tyrimo tikslas – sukonstruoti grindžiamąją teoriją, paaiškinančią universiteto dėstytojų ir jų studentų savireguliacinį mokymąsi socialiniuose internetiniuose tinkluose.

Išvados

Sukonstravus grindžiamąją teoriją, buvo paaiškintas dėstytojų ir jų studentų savireguliacinis mokymasis socialiniuose internetiniuose tinkluose. Universitetų dėstytojų savireguliacinį mokymąsi atskleidžia esminė grindžiamosios teorijos kategorija *Kūryba tinkle*. Įsitraukę į socialinių internetinių tinklų veiklas dėstytojai kuria bei kitiems populiarina mokslą bei studijas. Studentų savireguliacinį mokymąsi paaiškina esminė grindžiamosios teorijos kategorija *Žinių konstravimas virtualioje erdvėje*. Studentams socialiniai internetiniai tinklai yra įrankis palaikyti ryšį su dėstytoju, grupės ar kurso draugais, sužinoti naujienas. Virtualiai susijungus dėstytojui bei jo studentams, konstruojamos įvairaus stiprumo informacijos ir žinių grandinės. Studentai pradeda nebeskirti, kurias žinias gavo formalių studijų metu, kurias – dalyvaudami tinklo veiklose. Dėstytojų ir jų studentų savireguliacinis mokymasis vyksta dviejuose kontekstuose, iš kurių vienas – *akademine komunikacija* – yra būdingas abiem tiriamųjų grupėms. Kitas kontekstas skiriasi: universiteto dėstytojų mokymasis vyksta *dėstytojo profesinio augimo*, o jų studentų – *virtualaus mokymosi* kontekstuose. Prielaidos savireguliaciniam mokymuisi skiriasi. Dėstytojai savireguliacinį mokymąsi socialinių internetinių tinklų priemonėmis suvokia kaip *dalinimąsi, siekdami ryšio su studentu bei ieškodami įvairios informacijos*. Studentų savireguliacinis mokymasis aktyvėja *konstruojant paskyrą, pristatant save ar siekiant virtualios narystės tinkle, dalyvaujant socialinio tinklo veiklose, norint įtakoti universitetinių studijų organizavimą bei administravimą*. Save reguliuojantys dėstytojai ir jų studentai naudoja skirtingas mokymosi socialiniuose internetiniuose tinkluose strategijas. Įvaldę socialinius internetinius tinklus dėstytojai virtualiai bendrauja su savo studentais, viešina studijų ir mokslo populiarinimo turinį, informuoja bei aktyvina kitus, dalyvauja tinklo grupėse bei stebi jaunimo studijų ir laisvalaikio leidimo veiklas. Studentai socialiniuose internetiniuose tinkluose elgiasi dvejopai: vieni dalinasi tektais, kiti pasyviai stebi; vieni saugo savo informaciją, kiti publikuoja turinį bei reklamuoja; vieni aktyvina kitus, kiti saugosi, siekia asmeninės naudos ar konkuruoja.

Socialiniai internetiniai tinklai įpareigoja dėstytojus ir jų studentus pateikti save akademiškai. Žinojimas, jog gali būti stebimas studentų (ar dėstytojų) skatina asmenį kurti bei viešinti studijų bei mokslo turinį, „*nešiukšlinti*“ tinklo atsitiktiniais tektais. Bendraudami bei nuolat mokydamiesi vieni iš kitų, abiejų tiriamųjų grupių atstovai kryptingai kelia kvalifikaciją.

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SELF-REGULATED LEARNING
IN SOCIAL NETWORKS**

Summary of Doctoral Dissertation

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