CONVERGENCE OF THE VIRTUAL AND THE LIVING REALITIES: A CONSTRUCTIVIST GROUNDED THEORY ON UNIVERSITY STUDENTS' SELF-REGULATED LEARNING

KASPERIŪNIENĖ Judita*, ŽYDŽIŪNAITĖ Vilma**

*Aleksandras Stulginskis University; Vytautas Magnus University, Kaunas, Lithuania

** Vytautas Magnus University, Kaunas, Lithuania

Abstract

Studies of informal learning at universities have indicated that social online network Facebook is used for learning purposes. Understanding of self-regulated academic learning processes in which students and their instructors are involved is very important for successful application and use of online social networks in university teaching and learning. This aims to reveal the learning that takes place in online social networks beyond the boundaries of universities such as Facebook, Instagram, Linkedin and related. Research object is the conditions and strategies of self-regulated learning of university students. Research question in this study is the following: "What situations, actions, interactions and consequences construct the content of self-regulated learning in a social network account?" The methodology of constructivist Grounded theory was implemented in the study. The theoretical sampling was conducted in order to involve the research participants into the study and receive the answers to the research question. For data collection were used the individual semi-structured interviews. Convergence of the virtual and the living realities is the core of university student's self-regulated learning within the virtual space. In total in the study participated 12 research participants. Findings showed that convergence of the virtual and living realities explains university students' self-regulated learning within the two contexts: the first, academic communication and the second, virtual learning. Self-regulated learning is affected and formed by the learner dependent and the organization dependent conditions. Two learning contexts emerged from analysis of our research data: virtual learning and academic communication. University students SRL strategies can be separated into two categories: self- oriented strategies and strategies, oriented towards others. The research findings revealed four types of intervening factors: technological, image formation, personal and psychosocial. By concluding it could be highlighted that professors and instructors are important players in the process of self-regulated learning of university students. The data grounded in the voices of academics, instructors and administrative staff can provide a deeper understanding of students' self-regulated learning and enrich the learning results.

Keywords: *Grounded theory; Online social networks; Self-regulated learning; University students*

Background

What kind of educational processes arise when university students learn using online social networks after the formal school activities? During and after classes the students make virtual friendships with

other students and young adults whom they know or not know face-to-face. They communicate and collaborate by text messaging and voice. Nowadays almost all students are always connected, what means they can chat, discuss and share things all day long without stop. Many of them do. As a result, all parties are continuously learning while they are communicating (Lin et al., 2015; Nicholas et al., 2015).

Studies of informal learning at universities have indicated that social online network Facebook is used for learning purposes (Dabbagh & Kitsantas, 2012). Group project activities or academic administration issues represent such examples. However, it has also been asserted that Facebook is used by students mainly for socialization and conversations about the work-studies than for actually doing work (Madge et al., 2009). On the other hand, advanced instructors can use ubiquitous technologies as the virtual tools to mediate and enhance their instruction and promote active formal learning. For this reason, online social networks can become increasingly visible in higher education settings (Tess, 2013). Social networks intervene the traditional educational establishments by decreasing the boundaries between knowledge recipients and providers through the use of internet technologies (Haythornthwaite, 2005; de Andrés Martínez, 2012). They also let the motivated learner to realize and to value information shared by the peers (Ma & Yuen, 2011; Ma & Chan, 2014). If the learner chooses appropriate virtual behaviour (Borgatti & Cross, 2003; Chou & Liu 2005; Chen et al., 2009) and is motivated to learn, then an access to online friend's thinking and virtual knowledge exchanges are not that costly. However, the online virtual networks differ in extent of self-motivation that the learners require to achieve their goals (Pintrich et al., 1993; Bernacki, 2010). Therefore, ubiquitous social media has a great potential to expand into peer-learning networks (Heo et al., 2007; Robertson, 2011).

Self-regulated learning (SRL) is a phenomenon involving three main features: 1) strategies used by learners; 2) self-oriented feedback about effectiveness of learning and 3) motivation to learn (Zimmerman, 1990). SRL integrates the following key constructs: (i) metacognitive predispositions, which include planning and organizing, setting the tasks and objectives, observing emotions and monitoring the progress; (ii) strategy creation; (iii) adaptation to changes; (iv) an engagement into learning processes through focusing on the materials and self-initiating with or without help of others (Winne & Perry 2000; Bernacki, 2010; Winne & Hadwin, 2013).

A contextual model of online SRL incorporates three dimensions. *The first* dimension consists of personal attributes such as a use of resources, a use of strategy and motivation. *The second* includes planning, monitoring and evaluation of overall processes. *The third* dimension represents a learning context itself affected by various technological factors together with the social environments (Song & Hill, 2007). Main directions of SRL studies can be distinguished into a measuring of the usage of self-regulated learning strategies (Winne & Perry 2000; Roth et. al., 2015) and a conceptualization of SRL describing it by component and process oriented models (e.g., Pintrich & De Groot, 1990; Zimmerman, 1990; 2000; Pintrich & Garcia 1994; Nicol & Macfarlane-Dick, 2006; Schunk & Zimmerman, 2012; Bjork et al., 2013).

Research on learners' agency and autonomy in networks of massive open online courses revealed challenges and opportunities that learners are facing, such as an ability to call for support on trusted educators and a role that aggregation of information from various media sources is playing in

advancement of learning (Kop & Fournier, 2011). Recent studies addressing an integration of SRL into the virtual content curricula of technology-based educational nature from the instructors' point of view (Kramarski & Michalsky 2015) also showed the need to use such technologies in classrooms.

Understanding of self-regulated academic learning processes in which students and their instructors are involved is very important for successful application and use of online social networks in university teaching and learning. This aims to reveal the learning that takes place in online social networks beyond the boundaries of universities such as Facebook, Instagram, Linkedin and related. Research object is the conditions and strategies of self-regulated learning of university students. Research question in this study is the following: "What situations, actions, interactions and consequences construct the content of self-regulated learning in a social network account?"

Methodology

Sample

The theoretical sampling was applied in this study in order to reach maximum variations of rich data (Coyne, 1997; Corbin & Strauss, 2007). 12 semi-structured interviews with students from 2 Lithuanian universities were conducted seeking to understand their online social networking experiences in regard to self-regulated learning. All interviews were held at campuses of universities over a period of a few months during spring of 2015. A sample comprised 8 females and 4 males, out of them 6 were undergraduates, 5 were graduates and 1 was a PhD student.

Methods

The constructivist GT was used to answer a question whether the theory clearly addresses the research issue. A constructivist grounded theory (GT) (Charmaz, 2014, 2006) was chosen as a research methodology since it allowed to capture multiple research participants' perspectives (Breckenridge & Jones, 2009; Breckenridge et al., 2012) rather than to look for just one main concern (Glaser, 2003, 2005, 2011). The constructivist GT is a "full package" method widely used by education scholars (Templeman et al., 2015; James 2013; Stewart-Sicking et al., 2013). Constructivist GT consists of systematic and flexible guidelines that direct collection and analysis of qualitative data aiming to construct theories which are themselves "grounded" in the data (Charmaz, 2006, 2014). Constructivist GT data collection procedures are implemented simultaneously with an initial coding which progresses towards focused, axial and theoretical coding. Analytic codes and categories within constructivist GT are constructed from empirical data without any hypotheses stated in advance and at every stage of analysis comparisons are constantly applied in order to refine the data.

Data collection. Individual interviews were chosen as a rich data collection method because it is easier to know research participants' experiences, living situations, and to explore their lived world through conversations (Kvale, 2008). The interviews were actively evolving and the discussions evoke additional questions. The shortest interview lasted 23 minutes and the longest one took 1 hour and 17 minutes. Interviews were recorded and later transcribed verbatim. Researchers conducted interviews in Lithuanian (research participants' mother tongue) and did a peer-review check of initial data coding.

Data analysis. Qualitative coding started from the first step of data collection. Coding in Constructivist GT means categorizing parts or segments of data by assigning a short name or a label that simultaneously summarizes each piece of data (Charmaz, 2006). Initial coding was implemented through incident-by-incident remaining open and close to data. Focused coding uses most significant codes often already constructed previously to describe a large amount of data aiming to categorize a qualitative data into bigger clusters. Axial coding was done following the constructivist GT scheme (Charmaz, 2014), which included conditions, (inter)actions and consequences of studied phenomena. During the all process of coding the researchers drafted the text and visual memos about the data and collected a new data recursively.

Peer-debriefing sessions were performed in order to reflect and discuss initial, focused and axial coding as well as interpretations of the temporally findings. This helped to follow constructivist GT procedures and to stay open during the all coding process (Golafshani, 2003). Research credibility and rigor were built on trustworthiness, fitness, workability, relevance (Lincoln & Guba, 1985; Davies & Dodd, 2002).

Tool

The interview consisted of the following questions:

1st block of questions. Tell me, please, about the instructors and/or professors as online friends in your virtual account. Why, if at all, you became virtual friends with them? Could you please describe a virtual interaction with professors and/or instructors in your online account? Why you invited them and/or accepted virtual requests from teachers? What is the value of online social communication with teachers? What, if anything, you personally contributed to the academics and what do you gained while communicating online?

2nd block of questions. Describe the reasons to become virtually connected with your professors and instructors. Would you be able to tell why academics liked to become virtual friends with you? Give me please some examples of such connections.

3rd block of questions. Have you experienced situations in which professors and/or instructors asked you to accept virtual friendship? How did you respond to those situations? Why? What have you learned from online connection with your professors? What do you think they learned from a connection with you?

Ethics

A qualitative research always has a potential of harm. Therefore, researchers ought to make reasonable assessments of a likelihood and severity of particular kinds of harm (Hammerslay and Traianou, 2012). Issues discussed with the students concerned inter-communication between students and academics, reciprocity and relationship.

Research participants were informed about the purpose, methods and intended use of acquired results. The confidentiality of data was respected, conflicts of interests were avoided and risks of harm were minimized by preserving privacy, keeping research participants information confidential and making all

the data anonymous. By doing so the researchers protected the research participants against intrusions into their academic life (Hammerslay & Traianou, 2012).

Research participants were introduced to the research topics, however the interview questions were not announced beforehand. All research participants were willing to participate in research. The research participants were informed that data would be audio-recorded and later analysed anonymously.

Findings

For Lithuanian university students the biggest challenge is virtual academic communication with their instructors and professors. Public communication with academics and scholars is common and widely acknowledged before, during and after the formal lectures. Nevertheless, it is still not popular in a virtual world, although internet social networks open a possibility to become connected and peer-learn from one's formal professors. Findings of our study summarize university students' perspective on exploring this opportunity.

Convergence of the virtual and the living realities as a core of university student's self-regulated learning within the virtual space. Convergence of the virtual and living realities explains university students' self-regulated learning within the two contexts: the *first*, academic communication and the *second*, virtual learning. Academic communication is an integral part of continuous net communication. It starts during formal studies. It is extended in nets and vice versa. Academic communication for research participants means getting and staying in touch with other members of academia, group chats, and discussions:

> *These group discussions… they are very convenient. Using messages you will not make the same. If you need to discuss something in a group, in students' self-government or in a circle of friends, then... We run virtual chat of four friends for the two years; this is very convenient (R11).*

Academic communication is understood as a non-official virtual contact with an instructor past the formal studies. Our study showed that university students are "smart internet technology natives" – they are connected all the time and immersed in various net activities. Communication in the net becomes a natural part of research participants' everyday life. For them the SRL densely and intimately happens in a matrix of everyday social transactions in the internet: exchange of experiences and young adult life trajectories; entering of voluntary, motivated, regulated, spontaneous, in some cases- undigested learning contexts and social groupings that make up experience across all their life-worlds. Virtual learning means gaining new knowledge while online, following news and instructors re-shared materials, selective screening of texts, popular science readings, peer and group online educational activities:

> *... (other net friends) read the paper, share it... <...> They upload news for us to learn something new. Yes, I deepen my knowledge. <...> for example, about the nesting-boxes. I am sure, if I read the newspapers, internet portals such as <…> I would not pay attention to that topic, for sure (R9).*

The borders between studying at a university and outside the university start to "vanish". The self-regulated learners receive various types of data that can be used and are applied in formal studies. They learn to coordinate their networked time and plan, organize, adjust, control and handle virtual activities

which lead to a creation of educational value. A gap between formal and other forms of learning diminishes, and the boundaries between the virtual and live converge.

Conditions that form SRL structure of university students in nets. Self-regulated learning is affected and formed by the *learner dependent* and the *organization dependent* conditions.

Learner dependent conditions includes a surfing in the net; a self-presentation; a participation in the net activities; an account construction and the net membership. While surfing the net, the research participants use the social networks to search comprehensive information about other people (whom they know or not know in reality). Some use social networks for job search or searched for information about particular companies and experts. Several find information about studies and learning materials online, while others argue that there is no information in online social networks related to formal studies:

> *... I am not saying that I search something in the nets for my learning, no, I am not searching. <...> If I haven't found till now something that may be necessary for me, I am not sure, if I may find it even if I would search longer (R9).*

Alternatively, the research participants pay attention to presenting themselves virtually, to creating groups and organizing the group memberships and sharing the information:

> *... We established this study group not because of "so-so", it was obvious reason for it. We needed to exchange information about the coming exams. We had to upload materials, to ask how things are and how others move forward, search for these materials, use them (R7).*

Participation in net activities includes passive observation of virtual friends and following academic, popular science, political and everyday life news. The research participants perceive the value of being involved in common discussions with academics:

> *I learn from him (the instructor, whom I have in my virtual friends list) every day. I learn what he shares, what messages he propagates. But the most important for me is to see how people communicate in a net group. I observe this more. How they argue, how they discuss and critique each other and which models of interactions they use. <...> he catches on many topics. I can't exclude any of them. All the topics are very revealing (R12).*

While constructing the accounts, students search for new virtual friends and groups. They are attentive to the expansion of a circle of their virtual friends and whom to include. It is still an open question whether to include all persons: existing and future students who would like to be included; or only individuals whom they know in reality. Selective virtual friendships connect individuals whom it is hard or impossible to reach in reality. Usually, the reasons why other people would like to be virtually connected are important to the students. However, the virtual connections with academics and instructors are different. A lot of students' connections are initiated by academics community. Students like to connect professors when they need to learn more about a subject. Or they already have the non-formal contacts and are already engaged in common real activities. The research participants expressed a preference of reaching a person via the net without being virtually connected. For some there is no need to be connected with all academics – they can be contacted without having joined virtual activities:

> *Are they my virtual friends or are they not – it doesn't influence whether I can access them or not. <...> Personal communication develops through private messages. Messenger. And if you communicate in groups, pages and communities – it is not necessary to become virtual friends (R12).*

Organization dependent conditions. The SRL forming conditions, dependent on the university, in which the formal studies and study administration are comprised. In this respect the research participants use nets for sharing the study schedules, revising and checking the information. They plan real meetings and academic activities using virtual tools and use social network account for various organizational matters. Events are administered virtually; academic questions are raised and solved in nets; information about face to face academic activities, lectures, tasks are communicated and informed online. The research participants share official university news and academic information in their personal social net pages with a broader audience. In doing so they seek to promote their institution and broadcast academic events and achievements for future students, students from other schools, and local communities:

> *I see – I have three thousand friends. And I see that one thousand from them liked university page. This means two thirds <...> don't see information. Maybe they would see something if it would be posted in my personal page. <...> because of that I share through my wall all the time. And I hope that somebody likes it (R2).*

Learning context. Two learning contexts emerged from analysis of our research data: *virtual learning* and *academic communication*. Virtual learning means virtual hearing of various information by the respondents while being online as non-stop. This includes an effective learning and selective data sampling; using the smart tools and technologies; following the web news and popular science portals. Besides that the respondents initiated formal study activities and have read, shared, saved learning materials as well as provided assistance and did group activities with other learners.

Academic communication is important because of a deep engagement into net activities. It was noted that academic communication comprised students' inter-communication; communication with the academics, professors and instructors and communication with formal study administration. As a separate topic the research participants raised challenges of academic communication in solving various types of disputes for example a birth growth. Academic communication varies from a casual issue solving and publicizing pre-understandings, thoughts and opinions to the private and public arguments and sometimes clashes:

> *.... the discussion starts between two persons, bigger circle enters and finally huge conflict emerges. And later, somebody needs to interfere and to console them. If not, the borders can be overstepped and a big clash may combust. An argument that, for example, can be solved usually in five or ten minutes, if it happens in Facebook, in which many people become involved, cannot quickly to reach a finish but it is very easy to develop fast into a quarrel (R2).*

Students' self-regulated learning strategies. University students SRL strategies can be separated into two categories: *self-oriented strategies* and *learning strategies, oriented towards others*.

Self-oriented learning strategy. Self-oriented learning strategies of university students involve self-preservation: seeking for self-advantage; passive observation and protection of personal information. Seeking of the self-preservation, the research participants do not share their personal data and personal life issues; they make the different visibility of their personal accounts:

> *... in internet you need to know your borders how much personal information to upload (R5).*
>
> *All the time when I upload information, I think, if somebody will look through it, it would be no shame on me. <...> I do not share whatever. <...> and I also noticed – the company, with whom I mostly am, also does not have a goal to promote themselves (R2).*

While not presenting the personal information to others, research participants would like to review personal information of their academics. They follow teachers, instructors, academics and teachers secondary contacts projecting their personal benefits in future:

> *... I follow what they do, where they are engaged and how they can be useful for me. I may need their contacts later... (R3).*

> *... the connection was not "because of something". I look to the future. If I need something from them in future (R6).*

Passive observation is another strategy behold in findings. The respondents prefer observing others and staying not-visible; following and watching online activities of their virtual friends or even observing the virtual friends account status. Another important issue that research participants raised was their students account observations made by the administration. The intention of school administration and academic staff to understand students' issues was interpreted positively and supported by the respondents. An important matter is continuous information tracing while being connected all the time. Because of that the research participants do not lose any information provided by their virtual friends and peers:

> *... you see everything. Immediately. Straight after upload, you look through immediately – will not miss nothing, because you are online all the time. One hundred percent of students, who are there (in nets), they are connected all the time (R6).*

Learning strategies, oriented towards others. Strategies oriented to others include sharing; advertising in nets; activating others; competing; and content publishing. Sharing consists of sharing academic information and materials as well as sharing study administration and management related information and personal information. In many cases the sharing starts because it is interesting to a person. Later such sharing may lead to a possibility of sharing either privately, or in an open, closed or hidden group. In some cases sharing grow into a peer to peer consulting. The issue envisaged by research participants is the loss of information because of selective sharing, weak response or sharing without any response:

> *You see, somehow I lose the desire to share... <...> For example, I searched for the study report materials. And see, wow, this is very appropriate, maybe others also would listen to that. Maybe for somebody this would be useful, maybe somebody would learn from this... <...> I didn't receive the response... I am not sure, if I would upload (materials that I found for others) next time (R8).*

The challenge in providing information to students lies in undergoing the situations in which not all members of a real academic group use social networking tools. This co-relates with the issue of how to find a better solution in activating others. The research participants attract permanent visitors of their accounts by providing interesting texts; presenting emotionally attractive content; seeking to involve everybody to the virtual activities:

> *This text attracts visitors, they "are caught" as I say and so become the permanent visitors, followers on Facebook and so on. For example, frequently users are caught by pictures. Facebook allows posting of many pictures for public. You need to know that they can come only to look for the pictures. And if they will like them – they would read everything (R11).*

Positive comments from virtual friends help to raise motivation for writing and sharing more educational information, materials and helping others. However, this motivation can be quickly suppressed by a passive attitude of others towards an initiative of a leader. Some research participants

see the leadership from study group elder as very important for the development of the virtual group and would support these initiatives; but others choose to stay silent and take no actions:

> *... you see, there is an elder in a group, a leader <...> and many people follow the leader. Then the leader says – ups, I don't know this, I am ineptitude, I am not spending my time (in networks), I will not visit the net group every day and will not look through that you will write – this is automatically such negative attitude. And this negative would catch followers... (R7).*

This "better to stay silent and without any action" idea quickly "infects" main players of the virtual group, who may be real group leaders. Initiatives, not supported by a group leader and other virtual group members are condemned. As the biggest challenge and the main strategy of virtual learning the students see involvement of elder professors and academics to common virtual activities:

> *... elderly people, I think, are not at the user end of all these networking resources. Lecturers, they would like, for sure, us reading books, doing everything that "apparent", in a parent way. But if we push learning forward, we, students, know where to find everything more quickly. In the nets! So maybe and for some professors would be worth to connect and look through what are we doing and where? (R6).*

Students like to re-publish various internet texts (e.g. news, information, slides and texts formally presented by a teacher during the formal lectures and discussions that they think are important). They like to publish and share personal texts and important life events (in many cases seeking to engage others to the conversation or finding alter egos). The research participants value academics who virtually re-publish their personal formal study materials. Sharing information with the target reader is recognized as an important matter:

> *While writing you think about a particular group of people. <...> and you know, that maybe I and my texts would be understood... People are different. For example, you write a post per day. You know that in a particular that group you would be read, understood and commented. And you yourself will grow (R8).*

There is so much information online that getting lost becomes easy. The research participants feel stressed because of big number of sites and accounts they find with the same name. Another challenge they face is finding the required post in the huge amount of various texts. The research participants solve this through the posts of the virtual friends. Still there are some students who don't use networks and they need to receive academic information by other tools, e.g. e-mails, phone messages or calls. The research participants don't approve this:

> *There are students who don't use networks, because they simply regret spending their time in the net and for them that virtual communication is not necessary. And they believe that somebody must inform them continuously and personally through other means. But maybe I also waste my time informing them by phone? (R11).*

Intervening factors influencing SRL of university students in nets. The research findings showed four types of intervening factors: *technological, image formation, personal* and *psychosocial*. Technological factors consist of limited compatibility of technologies used by respondent's virtual friends and peers and their ability to control these technologies. Such control requires knowledge about the net security; an aspiration to "taste" new innovative technologies; the data flow management; the smart, connected, wearable device usage skills. The research participants augment and extend their net activities by using other devices and agree with continuously changing rules of the web:

> *First of all then we come to the net, we agree on the net rules. <...> And probably no one have read that they sign. By the way, these rules are continuously changing. I was wondering... (R12).*

While talking about image formation the research participants stress their preconceptions and non-confidence in academics that interfere positive academic consciousness and form academic disjuncture. The research participants show non-gullible reactions to academics and offer to become their virtual friends. They fear future outcomes if the professors will see their virtual life. Regardless, the students wish to review their instructors' profiles and a virtual wall:

> *I think this is the reason, why students don't connect to their academics. For example, they publicize their personal life, <...> where they have been, registering to various places. Maybe because of that they don't want to connect with their instructors, that this would not affect somehow... an academic community and a mutual understanding. Even I heard that they hide their identity, what they do and with whom they are (R12).*

> *Surely I had looked through the account of academics. You cannot find something related to studies in that account. More personal information ... (R10).*

Personal intervening factors include a management of the time being in the net that was directly related with the respondents' inconsistency in general and their motivation to study. Regardless, the students suggest how to accelerate and make the formal learning smarter through virtual technologies: the instructors may form groups and invite their students to participate in common virtual activities; the real student group leaders should take initiatives in starting new online activities:

> *... it would be wiser if these instructors would belong to some group and you would emerge into that group (R7).*

Psychosocial factors encompass academic esteem, academic recognition and opinion creation from texts. In terms of academic esteem the respondents speak about learner-teacher academic ethics, courtesy, politeness. On the negative side are the online intrigues, following instructors' academic and personal virtual life, and commenting online about the instructor's real life activities:

> *... I noticed that they share. Here my groupmates were interested a lot about our instructors' personal life – whom she is married. Yes, yes... they were talking about that... One instructor is married to this person, and this is married to that. It was very interesting to talk about it during the lecture. To know what and where... (R8).*

Consequences resulting from a convergence of the virtual and the living realities. All conditions and strategies that students use lead to learning how to work continuously with various net materials and make the studies purposeful. For the research participants a continuous working with the net materials mean a continuation of virtual activities in real life; transformation of virtual ideas to real lectures; application and implementation of virtual texts provided by experts to the real work activities and receiving real bookings and the official work assignments. Purposeful activities of the research participants consist of the following aspects: following in the net of interesting webpages and virtual expert people; analyzing virtual texts; learning from virtual friends; using the net for completing the formal academic tasks and assignments; sharing academic documents; generating ideas in virtual seminars; finding useful academic information in the nets; learning languages while gaming; comparing information from various sites and making decisions from the virtual texts:

... through Facebook, through group we communicate. Would we perform this, or maybe would not make that, some additional questions. We raise ideas, share events that it is worth to visit. We have workshops, create virtual ideas for posters and then later we hung these posters publicly – not virtually but in a well visible place for everybody (R7).

Structure of self-regulated learning of university students. Structure of self-regulated learning of university students in a social network account created a phenomena - *Convergence of the virtual and the living realities*. Through our research we discovered that for students a formal learning at the university and learning while following their professors and instructors virtually converged. More, the technological, personal and psychosocial gaps still exist (see Fig. 1).
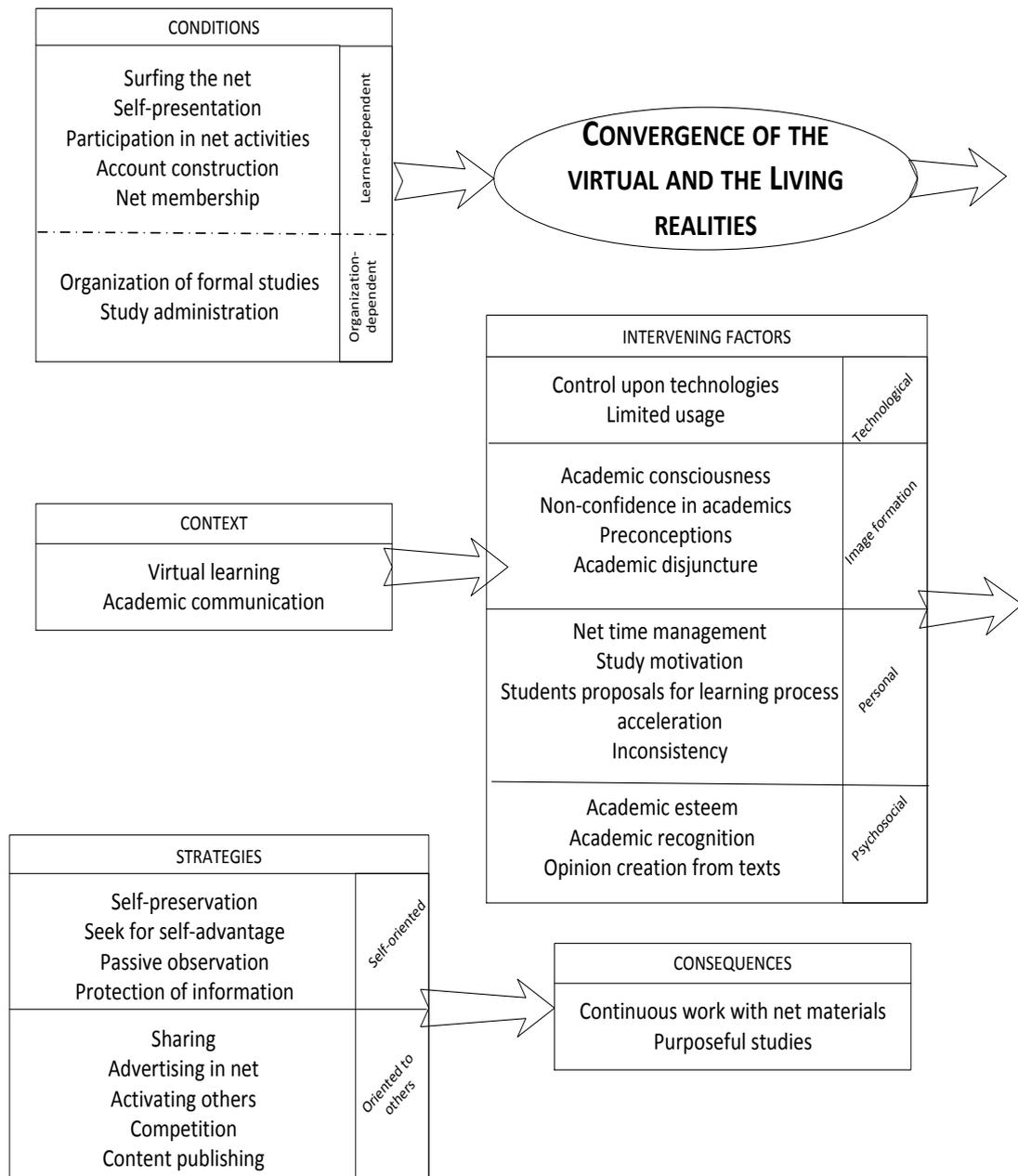
CONDITIONS	
Surfing the net Self-presentation Participation in net activities Account construction Net membership	Learner-dependent
Organization of formal studies Study administration	Organization-dependent

CONVERGENCE OF THE VIRTUAL AND THE LIVING REALITIES

CONTEXT
Virtual learning Academic communication

INTERVENING FACTORS	
Control upon technologies Limited usage	Technological
Academic consciousness Non-confidence in academics Preconceptions Academic disjuncture	Image formation
Net time management Study motivation Students proposals for learning process acceleration Inconsistency	Personal
Academic esteem Academic recognition Opinion creation from texts	Psychosocial

STRATEGIES	
Self-preservation Seek for self-advantage Passive observation Protection of information	Self-oriented
Sharing Advertising in net Activating others Competition Content publishing	Oriented to others

CONSEQUENCES
Continuous work with net materials Purposeful studies

Figure 1. *Grounded theory on university students self-regulated learning in nets*

They facilitated a virtual learning to receive as much knowledge as they can from their professors and instructors. The downside that the respondents see in virtual learning from their instructors is that some instructors do not use networking as intensively as they should and the learners would like them to.

Discussion

The Grounded theory revealed the processes of SRL of university students in online social networks. Data analysis led to the construction of a core category: convergence of the virtual and the living realities. In this study this convergence emerged through the academic communication and the virtual learning. By media the convergence is described as merging a mass communication flow through various digital platforms. Generally it is being studied in three contexts: ubiquitous technologies, online communication and virtual content (Hartley, 2012). Our findings showed that academic communication can enhance, reinforce and strengthen and otherwise facilitate the learning processes. Findings also present an alternative to a widespread perception (Madge et al., 2009) that development and control of learning occurs during formal studies or live academic communication.

This study results showed that behaviorally regulated students created the learner-dependent conditions enabling them to acquire academic knowledge by virtually surfing the net, by participating in virtual activities and by purposively constructing profile. In this research we determined that the learner- and organization–dependent conditions make an integral part of the behavioral regulation. The learners' behaviors engaged in virtual activities may differ from their domain-level motivations. These behaviors change in accordance with the changes in task conditions (Bernacki et al., 2013).

Our findings indicate that the convergence of the virtual and the living realities provides the opportunity for the self-regulated net users to select an interactivity level of the contents while sharing. This extends understanding about a "blurring of boundaries between a recipient of the knowledge and the knowledge provider" (de Andres Martinez, 2012) in a virtual space. While sharing educational texts, advertising, moderating virtual groups, activating virtual friends, and publishing the content, the self-regulated university students consume and disseminate knowledge. The strategies of self-regulated learners clustered into two directions: self-oriented and oriented to others. This contributed to a contextual model of SRL of Song and Hill (2007) online by extending our understanding about learning strategies.

Our findings revealed subjective academic fears of university students, their preconceptions, non-confidence in their teachers and scholar disjuncture as the intervening factors influencing the academic communication and virtual learning. Results clustered intervening factors into four groups: the technological, the image formation, the psychosocial and the personal. Such clustering was done from findings of the empirical research and can be tested in other educational settings. These findings support favorably the factors that condition sharing of knowledge in social networks reported in other studies showing that social ties in the network influence user's intentions whether to participate in virtual activities (Chen et al., 2009).

Professors and instructors are important players in the process of self-regulated learning of university students. The data grounded in the voices of academics, instructors and administrative staff can provide a deeper understanding of students' self-regulated learning and enrich the learning results. Findings contribute to a better understanding of university students' SRL processes in the social networks of the

internet. The strategies that the learners use and described the intervening factors that are fostering the learning were clarified in the study.

Conclusions

Convergence of the virtual and living realities is the core category explaining students self-regulated learning in the contexts of the virtual learning and the academic communication. Conditions that influence self-regulated learning are learner and organization dependent. Strategies that the learners use are self-oriented and oriented to others. Four types of intervening factors exist: the technological, the image formation, the personal and the psychosocial. The convergence of the virtual and living realities leads to the continuous work with the net materials and the purposeful studies. Professors and instructors are important players in the process of self-regulated learning of university students. The data grounded in the voices of academics, instructors and administrative staff can provide a deeper understanding of students' self-regulated learning and enrich the learning results.

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