

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ
ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ
«КАЗАНСКИЙ (ПРИВОЛЖСКИЙ) ФЕДЕРАЛЬНЫЙ УНИВЕРСИТЕТ»

ОБРАЗОВАНИЕ И САМОРАЗВИТИЕ
EDUCATION AND SELF DEVELOPMENT

Том 15, № 4, 2020
Volume 15, № 4, 2020

Казань – Kazan, 2020

Internet Communications: Time Phenomenon in Online Activity

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DOI: 10.26907/esd15.4.03

Abstract

The article focuses on a theoretical overview of time phenomenon in Internet communications. Advanced technologies and virtual interactions make interaction and communicative competence priorities in Internet communications. Time is seen as both a biological and a social phenomenon and the notion of time competence embraces the ability to establish and maintain social contacts within the indicated timeline and capability to extend and restrict the timeframe of communications. Based on a theoretical analysis of reflection and regulation of communicative activity in Internet communications the authors have devised a training programme "Enhancement of time competence in Internet communications". This five module programme is aimed to university and high school students. The article also presents the results of implementing this programme.

Keywords: psychological time, attitudes to time, time competence, communicative activity, Internet communication, communications, training.

Феномен времени и коммуникативная активность в Интернет-взаимодействии

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Аннотация

В статье представлен теоретический анализ проблемы времени в Интернет-коммуникации. Отмечается, что развитие технологий и виртуальных форм взаимодействия выдвигает на первый план коммуникативную активность человека в Интернете. Время для человека выступает природной и общественной субстанцией. В статье уделяется внимание временной компетентности как компоненту коммуникативной компетентности. В данном контексте понятие временной компетентности включает в себя способность устанавливать и поддерживать в течение определенного времени необходимые социальные контакты, умение расширять или сужать временные рамки общения. На основе проведенного теоретического анализа проблемы рефлексии и регуляции коммуникативной активности в Интернет-коммуникациях нами предложена программа тренинга «Развитие временной компетентности в Интернет-коммуникации», адресованная старшеклассникам и студентам и состоящая из пяти модулей, а также представлены результаты ее апробирования.

Ключевые слова: психология времени, отношение ко времени, временная компетентность, коммуникативная активность, Интернет-коммуникация, общение, тренинг.

Introduction

The rapidly increasing pace of life and virtual interactions significantly reduce direct interpersonal communications giving priority to Internet communications. Time is the key resource in human life and plays several roles. The first is operational, indicated through activities and behavior in diverse time conditions. The second is identified through strategic time management and is reflected in the individual's ability for time planning and time reflection. The third role lies in person's unconscious area and has an impact on different life aspects and attitudes to time in lifespan (Grigorovskaya, 1999).

Time competence can be found in all types of activities including communication. Time competence encourages successful communicative activity and influences the individual's satisfaction with interactions. An individual's communicative activity reflects readiness and capabilities to interact at interpersonal level and to communicate directly and indirectly (in particular through Internet communications). Communicative activity is an integral multi-component phenomenon that is made up of a variety of components: dynamic, emotional, regulative, motivational, productive, cognitive, and reflexive components. The *dynamic component* is demonstrated through proactiveness, desire to contact and wide networking (called 'ergicity'), and on the other hand, through instability in contacts and low net contacts ('aergicity'). *Emotional component* concerns the processes of Internet communications that engage positive emotions like joy, admiration, and happiness, and in contrast, the negative emotions of sadness, disappointments, aggression, rage and reluctance. The *Regulative component* can also involve two opposing aspects. On the one hand, a person may rely on his/her own abilities and communication skills underpinned by the understanding that the effective interactions with counterparts in the nets depend a lot on his/her proactiveness (internality in Internet communications). On the other hand, the success of Internet communications may be influenced by proactiveness in other participants and an impact of external environment (externality in Internet communications). The *Motivational component* implies that a person strives to establish good rapport, to solve problems together, to know those with whom they are communicating better, and give a hand and support (socio-centricity). Otherwise, they may have their own motivation that is significant for them, without considering opportunities for their partners (egocentricity). In the *productive component* Internet communications provide important new information, and consequently, new opportunities for problem solving, and help in finding solution to some practical issues (objectivity in Internet interactions). In addition, it encourages better understanding between participants and eliminates conflicts and strains (subjectivity). The *Cognitive component* contributes to a deeper and more integral understanding of

communicative activity and its role in lifestyle and life activities. However, a superficial vision of participants' own communicative activity may be mistaken for conformity, and conventionality (awareness). The *Reflexive component* tends to assess communication barriers and emotional misperceptions in communications, to figure out the difficulty in creating an integrated image of a communication partner, to evaluate the situation of an interaction with its advantages and disadvantages and to assess the success and failure of current and prospective communications.

The transition from face-to-face interactions to internet communications has consequences for empathy, social reflection, de-centration, time reflection, and self-presentation.

Literature review

Time is viewed by human beings as both a biological and social phenomenon. Through consciousness, a person is seen as a holder of an objective chronological time and an organized psychological time while he/she performs life activities (Kuzmina, 2017). An individual's regulatory capacity may be part of time competence, defined as an ability to manage time themselves. Zhappar (2015) defines time competence as the ability to allocate personal time resources effectively between aims and tasks, to implement plans in due time, to have a sense of time, to identify own place in time-space dimension and to organize personal activities using planning instruments and self-regulation methods. According to this definition time competence is composed of two components: process-oriented and instrument-based. The former is represented through planning and identifying priorities, while the latter includes such properties as measurement, focus and management of work capabilities.

According to Korchemniy (2012), although time competence (orientation in time) demonstrates living in time, it also identifies the situation when a professional is able to fully acquire his/her professional subject area and to maintain it in the current present, to predict options of actions and their effects on the future and evaluate the past in terms of gaining experience and applying its potential.

As a result of comparative analysis of event-time parameters for populations of different professional, social, gender and age groups, Sovetova (2000) identifies the criteria of time orientations which are also indicators of time competence. In her view, time organization may be observed through awareness of time management. That, in turn, can be expressed through understanding the importance of time phenomenon as opposed to ignoring time, via non-value of time and the insight of time. It is also reflected in time formats that determine its cycle, linearity, rhythm, past, present and future dimensions, time values (Santalainen, Voutilainen, & Porenne, 1993).

In her research Bolotova (1997) analyzed time competence as a component of communicative activity. In this context the notion of time competence involves such component as "an ability to establish and maintain social contacts in the indicated timeframe, capabilities to extent and restrict timeframes of communications, vary time and space of communications according to the situation."

According to Bolotova's concept, the phenomenon of time competence implies an ability "to listen to, to have empathy, to be open in sentiments, to trust partners, to keep up the balance between psychological positions, to value time, to have a sense of time and space and to be adequate in time boundaries in communications, to know own energetic potential in time and to establish social contacts related to time realities" (Bolotova, 2006).

Yaksina (2002) sees time competence in the context of time perception and proves the assumption that the adequacy of perception reflected in individual time type (t-type) has an impact on the development of time competence. From her viewpoint,

time competence plays a structural role in interpersonal communications. The notion of “competence in time” is defined by the author as “the set of knowledge and skills, related to the sense of time and space in communications and the comfort in time boundaries, it is linked to establishing interpersonal interactions in time realities.” She claims that time competence comprises time management strategies, aimed to develop a sense of time; organizational activities and interpersonal contacts in time as well as tempo and rhythm related to individual biological time and biorhythms.

Ruban (2003) suggests that competence may be manifested in psychological capabilities in order to manage time boundaries and communications limits in interpersonal interaction; in immediate time-orientation, an ability to speed up and slow down participants’ own actions. “Skills that are defined as time competence involve abilities to identify a problem in time, to set realistic time goals, to restrict and extend timeframes of communications. This cluster of skills and abilities allow amplifying the notion of time competence in communications and individual professional competence.”

Rogers (2008) sees the issue of time in communicative interactions from the position of readiness to perceive others “in the here and now”, which is likely to happen due to the abilities to concentrate on individuals’ own and counterpart’s’ state of mind at this point in time.

By analyzing a dialogue, Petrovskaya (1989) recognizes that time is an important component in communications. In communications and interactions, it is essential to give an interlocutor and a counterpart certain time to get the insight of the present and to make the projection of the future.

In his concept Sztompka (1996) focuses on interactions of actors in social space in time that is equally seen as an objective (real), social and qualitative-subjective time.

Currently studies of time competence phenomenon in Internet communications are a focal point for psychology. There are several concepts about the role of Internet communications for individual’s development and for the enhancement of society at large. This is global mass media that enables users to save time, and limit time boundaries in social and business communications. According to research by Bolotova (2006), there is a real increase from 15 to 40% in the productivity of those employees who use Internet in their professional area compared to other staff of the company. In addition, there are some empirical data that the Internet provides opportunities to help the development of certain abilities, I-concept and motivation.

However, Internet communications may also be a cause of social isolation, interpersonal alienation, and a loss of the sense of real time and space. Continuous use of the Internet may be a cause of alienation from reality and may bring serious negative consequences. The current psychology agenda includes issues of Internet addictions. In contrast to other types of well-known addictions, where the period of addiction takes years, the time for Internet addiction is much shorter: For 25% of addicts, it only takes six months and for 58% it only takes a year (Bolotova, 2006).

Negative impacts of Internet communications may include:

- the issue of the ratio between CMC time and real time communication. “Constant upgrading in the nets turns to be an annoying ritual, complying with compulsive behavior” (Soldatova & Pogorelov, 2008);

- the issues of the time spent in Internet communications. Longer interactions can cause a risk of technology-related brain-tiredness as a form of exhaustion called hypodynamia (Mararitsa, Antonova & Eritsyayn, 2013);

- the issue of setting up temporary platforms for cyberbullying;

- the problem of time organization in internet communications i.e., pointless time-spending and “virtual surfing” in social nets.

According to M. Castells, the composition of the net community which, apart from time and space, engages technology that updates the heterochrony of chronotope, tends to change the speed of participants' interactions and the rate they work with information (Castells, 2000). Time is transformed in the Internet: the boundaries between the past, present and future are likely to level off; and "irreversibility gives way to reversibility" (Sameluk, 2006). Information, as Selyutin (2012) notes, stops being "new" and "old" it turns to be "relevant" or "irrelevant". "Relevant" information is defined by the importance of the text for the user rather than referring to timeframes. Time stops being linear category and becomes spatial thus allowing users to develop their own virtual chronotope, which is significant to them in a certain timeframe.

Importantly, time management in Internet communications is seen as a complex social phenomenon. The literature survey shows that the major research focus is on psychological and social trends. The pedagogic ground of this social phenomenon is not addressed scientifically and requires the creation of a theoretical background and practical substantiation. This is based on a multidisciplinary approach.

The study

Based on the theoretical survey and training experience we developed a training programme called "Enhancement of time competence in Internet communications". The programme is addressed to high-school students and university students, as well as those who consider themselves as the Internet-addicted and spend little time in reflection. The training is underpinned by the concepts of cognitive and behavioral approach and focuses on the development of new behavior patterns in Internet communications.

The programme is made up of several modules and aims to enhance the potential and capabilities of trainees in terms of time management in their Internet communicative activity, and thus activate their communicative resources. The main assignments and activities in the programme engage role plays, case studies, problem situations, and group discussions.

The of training content includes:

- a. situations that allow consolidating knowledge of time management in Internet communications;
- b. situations that aim to enhance and develop the ability of self-awareness and time reflection.

The "Diagnostics" module aims to identify time activity in Internet communications. Trainees are given the opportunity to participate in diagnostics which include:

- A pictographic assessment technique of technology perception (Rasskazova, Emelin & Tkhostov, 2015),
 - "Internet-based assessment of psychological boundaries change (MIG-TS-2)", (*ibid*),
 - "Communicative activity in Internet communications" (questionnaire) (Vasyura, 2019),
 - "Time competence of an individual" (questionnaire) (Kuzmina, 2017),
 - "Are you an organized person?" (questionnaire) (Reznik, Bondarenko, & Sokolov, 2012).
- Technique such as "Complete the sentences" may be used to analyze students' perception of time parameters of communicative activity in the Internet.

The activities of this Module should help students' awareness of their behavioral patterns in Internet-interaction. It should also help to overcome frustration and enhance their desire to cope with difficulties and acquire effective patterns of Internet interactions.

The module “Purposes of communications in Internet space” enables students understand the purposes of virtual communications, and to help them set the system of communication purposes in social nets and internet platforms. It also provides them with the knowledge of risks in Internet communications. As a result, trainees should trigger the process of developing life attitudes and values much needed to resist computer addictions. One of the outcomes of the module is to develop abilities to consciously manage their own activities to acquire state-of-art information technologies related to time management.

The module “Power of emotions and aspirations in Internet communications” develops abilities to control emotions, to understand the role of emotions and feelings in their communications (both direct and indirect), to understand and control their own emotions, to be able to have an insight of their emotional states and to predict them in Internet communications. While training, the students learn to control intensity of emotions, to eliminate emotional strains and to manage own behavior in social nets. It results in the development of skills that enable them to control emotional behavior, to regulate sentiments and senses, to develop an adequate attitude to a computer and games, to diminish anxiety and fear of self-expression, the fear of mismatching the environment, and to manage mobility as well as the desire to manage time of interactions and collaborations.

The module “Time organization in Internet communications” aims to develop planning skills and managing time in communications. The outcome of the module is developing the skills of self-organization and time management of Internet communications, and the enhancement of Internet communications culture.

The “Reflexive” module is concerned with after-training diagnosis of time management skills in the Internet, and the evaluation of training results.

Methodology

The programme was piloted in the group of students who are active Internet users and social media participants, from the engineering college in the city of Verkhnyaya Tura, Russia. The first stage employed questionnaires with 80 students. The questionnaires “Time competence of an individual” (Kuzmina, 2017), “Are you an organized person?” (Reznik, Bondarenko, & Sokolov, 2012), and a pictographic assessment technique of technology perception (Rasskazova, Emelin, & Tkhostov, 2015) were used to get an objective picture of needs analysis. In the pictographic technique, respondents were given the sheet of A4 in the centre of which the circle of 5 centimeters in diameter was drawn. The instruction and the list of ten different objects were placed in the upper part of the sheet. Three of the ten were technology objects (Internet, smart phone and TV), the other seven acted as distractors (family, friends, work/study, personal qualities, interests, values). The instruction said: “Imagine that the sheet is your life and everything that surrounds it. The circle in the centre represents you, yourselves. Below you will find the list of different things. For each draw the circle wherever you want in the sheet, then add the relevant number. Draw the first one without thinking, no matter how well it is drawn. Please draw all ten circles, even though something seems inappropriate in your situation”. Then the diameter of each circle and the distance to the centre were measured (the circle representing the I-circle). The data was processed with Fisher test, nonparametric Wilcoxon signed rank test and SPSS STATISTICS 17.

Research results

The results that 25.9% of the respondents demonstrated low time-management skills. Basically, these students are often late, they do not set goals and plans and act chaotically. Above all, they do not count and analyze their time losses in communications.

The remaining 74.1% respondents showed an average level of organization skills. However, this indicator did not allow us to identify the respondents' system of self-organization. In more complicated situations they demonstrated good planning and organization skills whereas in simpler and less tense settings self-organization skills were not used.

Most students (62%) showed no desire to plan their time and put priorities in their activities and 67% of respondents lacked the need to perform their job within deadlines. Most respondents see task-planning as a waste of time and energy. Importantly, for 14% of respondents, the issue of time organization was significant and relevant. This group of students showed a great deal of interest in learning to plan their activities and communication time.

Only 5% of the respondents were able to analyze and control their own time. They found it crucial to count the time spent online. However, 95% of respondents were indifferent and even negative to the process of analyzing and controlling time. Those students perceived life as enjoyment, thus most of their activities and decision making are of spontaneous nature. 76% of the students insist that their time organization is made on a gut feeling while 47% did not feel like they need planning their time at all. The majority recognized they were not aware of any methods and techniques of time-organization and consider planning as boring and a waste of energy. Time management techniques tend to be important for only 14.5% of respondents.

The preferences for time modes that are preferable in daily activities, the majority of students (90.5%) prefer time uncertainty and none rejected this mode. Setting their own timeframes and deadlines is of great importance to the students. As many as 57% of students prefer to work in a fixed timeframe based on time management and time accounting but 14.5% thought this mode was inappropriate. Students demonstrated ambivalent attitudes to compressed time boundaries with 47.5% classifying this time mode as undesirable. In contrast, 38 % preferred this time mode in their jobs and saw such condition as mobilizing and motivating.

The assessment of indicators in time competence allow us to identify a group of students ($n=20$) with underdeveloped time competence. Furthermore, based on the findings of the pictographic assessment techniques of technology perception this group of students was compared to the group whose competence indicators were rated from average to high ($n=60$). This showed that 55% of respondents with low time competence include Internet in their identity whereas only 15% of respondents with well-developed time competence included it. Using the Fisher test the significance of variance between two groups, was $\varphi=3,399$, $p\leq 0,01$. This means that students with low criteria of time competence more often include Internet in their identity, i.e. they have blurred psychological boundaries and they are left open to the manipulations and control over from their Internet counterparts.

Thus, students with low communication competence were invited to participate in the above training "Enhancement of time competence in Internet communications"; 20 students agreed to participate.

After the training was completed, they were given a final test. The nonparametric Wilcoxon signed rank test was used to identify statistical significance of pre-training and post-training indicators (see table 1).

The data from the table 1 show significant discrepancies in the ranks of organization skills before and after training. The training outcomes were measured through

- Their attitude to time as their individual resource,
- Their awareness of individual goals,
- Time perspective (based on individual desire and individual potential), and
- The development of time-management skills.

Table 1. Statistical significance of variance of student organization skills (students' self-assessment) (Wilcoxon signed rank test).

Indicators	Ranks before training	Ranks after training	Positive ranks	Negative ranks	Shift	T emp	Asymp. sig. (2-tailed)
Indicators of integrated scale of organization skills	608	729	140.50	30.50	+	45.5	0,017

Table 2. Indicators of statistically significant variance of time competence before and after training (Wilcoxon signed rank test).

Scales	Shift	Temp	Tcr	Asymp. sig (2-tailed)
Aspiration to complete their work on time	+	17	34	0,05
Keeping order	+	5,4	27	0.02
Efficiency of time organization	+	8,3	27	0,02
Mode of time uncertainty	-	14,3	34	0,05

Those data are shown in Table 2 and demonstrate that statistically significant variances in the experimental group were observed in four scales of time competence: other significant variances were not stated. After training the criteria of such scales as “Aspiration to complete the work on time”, “Keeping order” and “Efficiency of time organization” increased, whereas indicators of “Mode of time uncertainty” scale diminished. We can infer that the students were aware of the importance of timesaving while training. They improved their abilities to plan their life at large, developed their desire to plan communications and activities and aspiration to meet deadline and to complete their work within the timeframe. The mode of time uncertainty was less preferable and the students strived to acquire time management techniques.

Above all, we analyzed the results of repeated test based on pictographic assessment technique of technology perception. This showed that 20% of trained student included Internet in their identity. The training sessions had an impact on student perception of the Internet; they started to effectively manage individual boundaries on Internet communications with their net counterparts.

In summary, the results show that the training programme to develop the awareness of time value and time competence can be applied at colleges of further and vocational education. With the awareness of time value and organizational skills, individuals can manage to keep control over the current moment rather than “situational” time that encourages successful socialization and effective time management in Internet communications. The training provides settings and an environment that enables students to reach their full potential and to develop time reflections and regulations in their communicative activity. Furthermore, the effects of the enhancement of time competence are likely to be sustainable and will have a positive impact on effective communicative activity of youth communities.

Conclusions

In conclusion, it is recognized that:

The problem of time phenomenon in Internet communications is multifaceted and multidisciplinary. However, it is underestimated and little attention is paid to it in psychology and pedagogy, and in the scientific community at large.

The results of the programme suggested may be extrapolated across other subject areas. It may be applied by practitioner teachers and psychologists as well as educators and school psychologists, and by those who set priority tasks and standards for academic and pastoral duties. Because each module represents a unit of accomplishment, it may be used either separately or as part of relevant educational programs.

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