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PSYCHOLOGICAL ASPECTS OF LEARNING IN THE VIRTUAL ENVIRONMENT**I. M. Lukashenko**, O. L. Lutsenko
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The article of I. Lukashenko, O. Lutsenko "Psychological aspects of learning in the virtual environment" is aimed to analyze psychological aspects of people learning and functioning in the virtual environment. There were analyzed a number of researches which highlight such psychological aspects of people's functioning in the virtual environment as motivational, cognitive, age-related, pedagogical, social, clinical, gender, psychophysiological and other ones. There are several advantages of Internet-learning in compare with traditional one – decrease of pedagogical authoritarianism, increase of learners independence, their higher responsibility for their learning, expanding the boundaries of learning, time economy etc. At the same time the Internet is characterized by specifics, which may make potential threats to the successful learning in it. These include addictions forming, identity violations, problems with the information defense, deterioration of communication quality, the development of deviations and specific psychopathology. Interaction with psychologists is desired during the development of distance learning courses to improve their efficiency and for its implementation at the time of appearing above mentioned problems.

Key words: distance learning, virtual environment, cyberpsychology

Статья И.Н. Лукашенко, Е.Л. Луценко «Психологические аспекты обучения в виртуальной среде» нацелена на анализ психологических аспектов обучения и функционирования человека в виртуальной среде. Проанализирован ряд исследований, в которых освещаются такие психологические аспекты функционирования человека в виртуальной среде как мотивационный, когнитивный, возрастной, педагогический, социальный, клинический, гендерный, психофизиологический и т.п. Обучение в среде Интернет характеризуется рядом преимуществ по сравнению с традиционным – снижение авторитарности преподавателей, повышение самостоятельности учащихся, их ответственности за свое обучение, расширение границ обучения, экономия времени и др. В то же время Интернет-пространство характеризуется спецификой, которая может составить потенциальные угрозы для успешности обучения в нем – формирование зависимостей, нарушение идентичности, проблемы с защитой информации, ухудшение качества общения, развитие девиаций и специфической психопатологии. Взаимодействие с психологами желательно как на этапе разработки курсов дистанционного обучения в целях повышения их эффективности, так и в ходе его реализации при возникновении вышеупомянутых проблем.

Ключевые слова: дистанционное обучение, виртуальная среда, киберпсихология

Стаття І.М. Лукашенко та О.Л.Луценко «Психологічні аспекти навчання у віртуальному середовищі» націлена на аналіз психологічних аспектів навчання та функціонування людини у віртуальному середовищі. Проаналізовано низку досліджень, в яких висвітлюються такі психологічні аспекти функціонування людини у віртуальному середовищі, як мотиваційний, когнітивний, віковий, педагогічний, соціальний, клінічний, гендерний, психофізіологічний тощо. Навчання у середовищі Интернет характеризується низкою переваг у порівнянні з традиційним – зниження авторитарності викладачів, підвищення самостійності учнів та студентів, їх відповідальності за власне навчання, розширення меж навчання, економія часу тощо. Водночас Интернет-простір характеризується специфікою, яка може скласти потенційні загрози для успішності навчання в ньому – формування залежностей, порушення ідентичності, проблеми із захистом інформації, погіршення якості спілкування, розвиток девіацій та специфічної психопатології. Взаємодія з психологами бажана як на етапі розробки курсів дистанційного навчання з метою підвищення їх ефективності, так і протягом його реалізації під час виникнення вищезгаданих проблем.

Ключові слова: дистанційне навчання, віртуальне середовище, киберпсихологія

Actuality of the problem of the psychological aspects of learning in a virtual environment is dictated by the need to develop the skills of independent learning and creative approach in teaching, formation of critical thinking, a new culture, active self-development in distance learning.

Virtual educational space of the subject reflects interrelationship of all areas of personality: the intellectual, emotional, value-semantic, behavioral, and others.

Psychological aspects of distance learning and information technologies were studied by L.N. Babanin, N.A. Bagdasarova, I.V. Bogdanov, I.N. Vasileva, A.E. Voiskounsky, E.M. Osipova, N.N. Petrova, O.V. Smyslova, E.V. Chmyhova, 2003, S.A. Matalyga, 2015, who have accentuated of importance of psychological factors for successful solution of such problems [2, 3, 5-9]. Review of psychological studies of human activity on the Internet is represented by Voiskounsky A.E. [6].

The psychological consequences of informatization and Internet impact on the person examined Yu.D. Babayeva, A.E. Voiskounsky, O.V. Smyslova [3, 5].

The works of M.I. Starov, M.S. Chvanova, M.V. Vislobokova, 1999, O.K. Tikhomirov, Yu.D. Babayeva,

A.E. Voiskounsky, O. Arestova, 1999, are devoted to psycho-pedagogical problems of communication in distance education [3, 5].

The study of N.V. Chudova and Yu.M. Kuznetsova, 2007, is devoted to the psychology of "Internet dwellers" [10]. Cognitive and personality characteristics of full-time students and distance learners were compared by N.A. Bagdasarova and Yu.V. Balashova, 2011 [2, 3]. Comparative analysis of personality and motivational characteristics of full-time students and distance learners was held by Uddin M.D., 2014 [13]. Features of personality-centered learning through distance technologies in professional education studied by V.V. Kravtsov, 2010 [9].

Psycho-pedagogical means to overcome the cognitive barriers of distance learning studied by N.V. Mapahovskaya, 2003 [11]. Psychological characteristics of people who are prone to Internet addiction and Internet addiction behavior of teenagers studied by A.S. Iskandirova, A.V. Minakov. V.L. Malygin, 2010 [13].

The phenomenon of computer anxiety is described among the factors influencing the decline in the efficiency of the computer technology use and the Internet use by I.A. Vasilyeva, E.I. Pashenco, N.N. Petrova, 2004, E.M. Osipov, 2004, Doronina O.V., Heinssen R. K., Glass C. R., Knight L. A., 1987 [3]. The emotional factor of teaching material perception in distance education explores by A.V. Isaev, 2008 [8].

The psychosemantic study of hackers' motivation was carried out by Voiskounsky A.E., V.F. Petrenko, O.V. Smyslova [5].

A.V. Beliaeva, I.M. Verenikina, B.K. Uzihanova, 2000, studied psychological characteristics of the children inclusion in the telecommunications environment [5]. A.S. Minzov posed the problem of learner identification during control testing [1].

At present, there are almost no studies which comprehensively reveal the psychological conditions of the organization of distance learning and person functioning in the Internet environment. The concept of computer telecommunication educational environment has not yet received enough consideration from psychological point of view. It is unclear what kind of professions can be trained in the telecommunications educational environment and for which - it is impossible, or perhaps in part. Issues of distance education have not proper psychological rationale to date.

The purpose of research is to analyze the psychological aspects of learning and functioning people in a virtual environment.

The effectiveness of the learning process with the use of computer technology is possible only in if it was created the proper conditions for this. One of these conditions is the psychological support of students, which aims to create a favorable psychological climate at distance learning and help students to develop an individual style, based on the effective knowledge assimilation in virtual learning. The main difficulties for teachers are the lack of opportunity to directly observe the students reaction to presenting educational material, misunderstanding after written feedback between students and teachers. Full eye contact is disturbing (during Skype-lectures) or disappears (during correspondence and placing materials on the web), which ensure the coordination of attention resources [4], and quality control of the perception information and skills developing.

There are the following tasks of psychological support for distance learning: the study of the environment (and communicative environment as a set of individual characteristics of the participants), the study of personal characteristics, level of mental properties, the characteristics of interpersonal relations of participants of distance learning; transmission to distance learning participants relevant information on psychological issues; creating the most favorable conditions for the development of the necessary personal qualities of the students and the teachers during the learning process and their full adaptation to training conditions; providing individually-differentiated approach to teaching, based on the psychological characteristics of the students to overcome the often dominant authoritarian style in teaching.

Among the existing approaches it can identified the main directions of psychological studies of human learning in the virtual space: 1) the study of the psychological conditions for successful learning (psychological characteristics, properties required for distance learning); 2) creation of a psychological model of «effective learner» on the base of a study of psychological characteristics of students who have successfully trained in this system; identification of his/her integrative personality characteristics (indicators of mental development, especially the modality of perception, professionally important characteristics, properties of temperament and personal qualities to ensure the successful distance learning); 3) design of distant psychological diagnostics methods; creation the batteries of diagnostics instruments; 4) rationale the methodological tools and forms of training in terms of the psychological characteristics of the interaction structure "the system of distance education and the learner"; 5) psychological analysis of the methodological tools of learning in distance learning system for their psychological adequacy of goals and objectives that would lead to the need to develop new distance learning tools; 6) design of methods and practical psychological tools to solve the problem of students identification at a control assessment in the Internet.

It seems promising these topics and areas of psychological research related to learning in a virtual environment: psychological specifics of the game, cognitive and communicative activity, mediated by the Internet (for example, the loss of information and misunderstandings, reduced motivation to communicate with feedback delay etc.); reasons for the attractiveness of computer work and Internet use for children and adolescents; psychological mechanisms of quick viewing of hypertext structures, the so-called browsing; dynamics of psychological states during the stay in the virtual reality; reasons of many attempts to change the identity of Internet users and create multiple "network identity" [5, 6].

In the second half of the 1990s. in fact, it was appeared a new branch of psychology - "cyberpsychology".

It synthesizes all areas and approaches of psychology to the study of human functioning in a virtual environment.

So, for the developmental psychology becomes important to study the online / role-playing game, new types of giftedness (e.g., in the application of computer technology and the Internet), age-specific application of the Internet and electronic devices, part of computer programs in the formation of “zone of proximal development”: namely, participation its “instead of” the adult in the child’s mental development.

For general psychology, particularly for the psychology of motivation, it can be referred the study of people’s desire to participate in the Wikipedia articles writing, study the formation and modification of “world representation” and “self-concept”, “reality-to-reality transition” under the influence of stay in the virtual space, and to psychology of scientific activity it can be referred the study of the ways how the Internet has changed the specificity of research and scientific communication [14].

In clinical psychology it is arose the problems of Internet addiction, changes in the perception of time spent in the network, the mystification of consciousness for some gamers, maladjustment in the form of autization and “escape from reality” in the virtual world; animism (animation of the computer and information systems), anxiety in the application of computers and the Internet in some people; organization of distant psychodiagnostics, psychotherapy and counseling; incitement to suicide and, on the contrary, prevention of suicidal ideations via Internet [14], study and correction of deviations related to cyberbullying among its perpetrators and victims; description of new forms of mental disorders caused by fantasies about network technologies and trying to implement them [5, 6, 12].

For the cognitive psychology the topics of particular importance are psychological characteristics of WWW information units perception, the specific of attention distribution, operating the “external” memory, problems of understanding in the conditions of rapid information browsing, etc. [4, 5, 6].; the role of the imagination at the involvement in different forms of network activity.

Social psychologists are interested in the processes of Internet mediated communication and group activities on the type of socio-psychological training, especially the appearance and functioning of new social groups - gamblers, gamers, chatters, bloggers, including persons belonging to the so-called “shadow Internet” (computer trolls, pranksters, spammers, hackers, “digital pirates” and others). It is useful to identify the features of social networks of virtual associations, nomination of “leaders” and “outsiders”, processes of altruism and aggression; to study how behaviors, values, style of communication, prevailing affective background and virtual organizational structures transfer to the ordinary reality, etc.

Educational psychology faces the task of group and individual distance learning, development and implementation of training programs, game models for training of psychological qualities, a special kind of children and adolescents giftedness - talent in the field of information technologies; assessment the possibility of knowledge and skills transfer from virtual environment (for example, obtained in games) to real life. The psychological mechanisms of information influence on the psyche (the analogy, assimilation, reversion, ekzutsiya) described by Yu.D. Babayeva and A.E. Voiskounsky [5, 6]. can provide ambivalent and uncertain effect on the results of distance learning.

Organizational psychology and occupational psychology mainly interested in the study of new forms of employment and organizational behavior in the Internet environment, the transformation of professions, the introduction of communicative and organizational principles of online games in the work of professional industrial, commercial and research teams [5, 6].

It can be studied characteristics of visual, auditory, tactile perception and their interaction with the learning in a virtual environment; particularities of brain rhythms of and autonomic nervous system work when performing tasks on the computer and in the Internet as part of psychophysiology.

It may be called among the problems of differential psychology and personality psychology the study of typological personality characteristics with the dominant type of behavior on the Internet, with selection of specific sites and with search certain information via web browsers; the study of new identification forms, ways of one selves representations in the network, combinations of virtual and real identity.

It can be studied gender roles in the application of Internet services: communicative, educational, entertaining, gaming, economic, gambling (stock exchanges, auctions, casino), cybersexual, experience a «change of gender role» in the virtual world, the functioning of gender groups and associations, etc. in the gender psychology.

Frames of communication psychology and psycholinguistics can be enriched by studies of synchronous and asynchronous communication, specificity polylogue (group chat), characteristic of speech and stylistic features of mobile communications – oral, writing and by exchange of images, properties of business or personal foreign language communication in a limited language possession, the flow characteristics of communication, interaction and social perception through emails.

Ethnopsychology connected with the study of national and cultural features of communication, knowledge and entertainment, mediated by the Internet.

Legal psychology may be interested in new forms of fraud and crime, carried out through the Internet, and political psychology received a field of activity due to the active use of Internet technologies in political propaganda, psychological war, etc.

Management psychology development is closely related to the high level of Internet technology use in the management and the transition to the new trends in the mobile management activities - team work out of the office. Leadership of the «invisible» groups, employees on different continents, the specificity of the virtual workshops, etc. are particularly interesting in this area.

It is settings tasks to research the promotion of goods, services, companies and brands by the Internet advertising campaigns in the marketing psychology. It will be promising to study the effectiveness of marketing researches, carried out via special applications which monitor search queries and browsing of network users.

Based on the above described psychological aspects of learning in the Internet and whole human functioning in a virtual environment it can be noted that learning in this space has both tremendous opportunities and serious limitations. The latests are connected with the already fixed risks: Internet and computer addiction, low availability of non-verbal communication, stress due to the loss of information during hardware, software and network failures, psychopathology, anonymity, fraud, unauthorized data access, including "identity theft", "cyber-bullying" [12], the problems with the transfer of knowledge in reality, etc.

Conclusions

In connection with the ideas of individualized training and developing educating the use of psychological learning opportunities in a virtual environment brings both pedagogy and psychology to a new level of understanding of the mediation of thought, creativity, communication and performing learning and training activities.

The use of distance learning helps students acquire the skills of independent work, creates a comfortable environment for creativity, enhances creativity and intellectual potential of the students by self-organization, ability to interact with computers and make their own responsible decisions, creates favorable conditions for taking into account individual characteristics of creative expression in the process of knowledge assimilation for personal development.

At the same time the Internet space is characterized by specificity, which can make potential threats to the successful training in it.

Therefore, cooperation with the psychologists is desirable at the stage of the development of distance learning courses in order to increase their efficiency, and during its implementation in case of the appearing abovementioned problems.

In future it is planned to study the features of self-awareness and job satisfaction of teachers in the process of distance learning compared to conventional teaching.

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