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**DIGITAL EDUCATION: SUBJECT-OBJECT ENVIRONMENT,
ETHICS OF THE INDIVIDUAL AND SOCIETY**

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Abstract

The problem of constructing the virtual environment that having emerged as technological and informational supplement to the sphere of material production today has steadfastly formed a separate informational reality is being researched in this article. It is suggested that we differentiated this socio-technological phenomenon as the one possessing environmental space characteristics like other temporal properties. The first cut in web space is related with structuring probable ways of mounting the virtual reality as the one which is rather independent by itself from a subject's side. The temporal cut lets the subject position itself in virtual space as well as realize reflection in attitude to its own virtual being in this the subject of the research is the environment formed by digital reality, how it affects the ethical position of the subject. The digital educational environment is considered as an indicator that contributes to the positioning of individual ethics in relation to the ethics of society.

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Keywords: Ethics of a personality, ethics of a society, education, informational technologies, subject of constructivism.



1. Introduction

Modern realities which are created by human-being in the XX century and are surrounding us in the XXI century are such ones that all processes that take place in social life are far from being acknowledged by a personality as having a direct or an intermediary attitude to it. The stage of society's historic development conditioned by progress and having got the name of an informational revolution utterly expresses human-being's inability to weigh all the consequences of his own creative, constructive activity towards the deformation of settled social tenor of life, forms of receiving, keeping and using knowledge and the ability to forecast the sequences of the realization of knowledge in practice. Informational technologies which were being imagined as the way of a considerable decrease of a human-being's burden, the shortening of his presence foremost in the system of material production, where the complicity and the cost of the process were not supposed to depend directly on minimum pitiful inadvertences of a worker, have considerably widened for the time being the field of its usage and became executable not only in all economic production spheres, but in most of socially meaningful institutionally formed kinds of activity, as well. The process of complicating, technologizing and automatizing production has set a puzzle of bringing up such a professional that could manage exploiting and servicing high-tech works on a high level, therefore the growth of the number of educational establishments which widely engage informational technologies in the system of teaching disciplines not just in force of the necessity of educational restructure by up-to-date world standards, but also in force of the economy's demand for qualified specialists. On getting an opportunity to cope knowledge through systematizing, cataloging and functional algorithms apt to reproduce certain intellectual acts, the human being fails to facilitate his own existence but rather complicates it under the same circumstances he tried to overcome.

Steadfast involving in the system of remote work is one more circumstance that is concomitant to the forming of a digital society. This became a total rule not only for state organizations and business, but also for the system of education, practically in a moment. Remote work supposes the opportunity of cooperation without a personal contact, with the help of a telephone, web and other ways of communication. Proceeding from this we can conclude that remote work is a way to except physical interaction and shorten risks which appear within contact communication. Of course, one will be able to estimate merits and drawbacks of such system of the transmission of knowledge later. But the fact that informational technologies let the appeared problem be constructively solved is a historical one.

The processes of digitalization, informational and innovative technologies a sure owning of which is being demanded by modern manufacturing are beginning to be copied by a future professional at an average school and in an utter amount – in a modern higher educational establishment. The way of reforming the higher education that is being understood by the majority of reformers and the participants of the process as digitalization possesses a series of qualitative parameters insufficient acknowledgement of which may lead (and leads) to mistakes in promoting innovative methods of teaching and coping knowledge. The first thing that one should remember is the dividing of the digitalization process into two levels: administrating and a studying one (Ecker, 1979; Grassian, 2020; Knighton, 2017; Nelson, 2017; Zhernov & Kochergin, 2020). On the level of administrating with engaging digital technologies the life of an educational establishment switches over to technical means and systems. It's the process of calculating the circulation of documents, systematizing attendance, accounts and qualification stages data concerning

knowledge received by students. For the teachers and professors, it is the simplification of making up the schedule of classes, calculating the time of teaching job and regarding other forms of activity inside a Higher Education Establishment. The teaching process by itself became the second level of the digitalization, foremost the supplement of students with necessary knowledge sources. In other words – the differentiation of web environment into social (prominently – administrative-managing) and educational proper ones is conventionally present here. As well as heir orienting on informational resources this may be used for getting verified information that is necessary by coping the studies. Virtual web space is the source of receiving any – not only educative – knowledge. This is an informational galaxy where there is any kind of information – true and false, reliable for comprehension and complicated, simple and complexly professional and enjoying. Any man should have the knowledge of cognition for proper orientation in this endless amount of information field. That's why the systematization of any information supposes the availability of the informational-educative activity as a part of those operational processes which the object by itself – that is the informational environment – envisages.

Actually, two decades have already passed that the mankind is in the process of transformation from settled mechanisms, structures and relationships created for satisfying the needs of industrial and post-industrial society in a corresponding time and enabling the adaptation of the society to new technogenic realities, a new type of a social tenor. The world community in its modern state ought to except the fact that informational technologies are system-forming for creating already not the second, technical nature, but the third, an informational one, for which specific parameters of being are necessary. New functional opportunities which appear in connection with coping a new virtual reality are supposing with necessity not just changes in economic structures of social life, but also the restructuring basic social institutes. Following the common-world practice, education is as well in the state of reforming. This process is the subject of permanent criticism and attacks in Russia in force of continuity and low effectiveness of reforms. In particular, at present the processes of optimizing of the system of education are mainly oriented on organizational-technologic models copied from the producing sphere. Being interested in getting concrete specialists, the production by itself doesn't give a high value to the efforts of educational establishments, with frequent criticizing of the quality of theoretical and practical knowledge of the graduates, their creative potential. The prevailing of the technological component in educational process above the evaluative-semantic one is switching over to tightening a pragmatic, narrow-functional, technocratic vector of the development of education. Deep axiological reviewing of the mechanisms of reforming that should be held with consideration of all-side relationships of a personality and the society, the national and common-human factors with technological inclination are being demanded for a qualitative result in education reform (Zakirova & Volodina, 2018).

2. Problem Statement

On one side – web is informational-educative environment possessing existent space characteristics by omission becomes one more dimension of modern human-being's reality; on another – the space characteristics of this dimension should be complied by temporal ones for the subject which is contextually present in the informational entity to have the opportunity of a continual interpretation.

Moreover, just with functional, dynamical presence one may mark himself as a real subject of the web space. The structuring of web which is being realized via educative activity is also carrying some risks in itself and needs a logical and elastic safety system – of the very subject, of information, information-bearers, managing systems and so forth realizing itself via web, and this is impossible without studying the characteristics of the informational-educative web space and the particularities of activity inside it.

3. Research Questions

- Primary systematization to the space-temporal and subject-object space of the informational education from web.
- Certifying the ethics of a personality and the ethics of a society
- The methodology of normative ethics.

4. Purpose of the Study

The Aim of the Article consists in giving primary systematization to the space-temporal and subject-object space of the informational education from web and certifying the ethics of a personality and the ethics of a society through the methodology of normative ethics.

5. Research Methods

Methods used in the article are: theoretic analysis of the content of scientific publications correspondent to the declared item, synthesis and generalization.

6. Findings

6.1. Space-Temporal Parameters of the Subject's Cognitive Activity.

Being created and acknowledged relatively to the subject as outer one, entity in scientific literature devoted to the problems of communication in the educational process, as well, may be interpreted as communicative environment. The term “environment” became mostly spread with the meaning of a specific kind of interactions in space connected to the presence of the subject. Social environment relatively to cultural and educational environments represents itself as a macro object. Social environment is being formed by economic fundament of social life. By meaningful social institutes which are being oriented traditionally and innovatively, and also by the (national, elite and mass) culture of a society and different elements of collective conscience. Socio-cultural environment being formed partially by socio-economic, partially by socio-cultural factors is less in amount, it is being directly comprehended by a subject taking part in the educational process. And the educational environment is by itself a specific – complicated, integral – object of a system that gives an opportunity for coping information prepared by a human-being and enables the formation and development of a personality. In the process of the organization of education where the environment is being constructed at the score of a study organization, but also containing a number of auxiliary socially and culturally meaningful functions, the “environmental approach” is being supplemented with the research of the educational process within the

approach of system synergy that structures the educational space on supplementing it with socially conditioned environment, namely – with nature and culture in the light of which a studying person receives the factors of an auxiliary stimulating influence on both the very process of knowledge transmission and other kinds of communication taking place in the educational environment. Approaches to the description of high school space as a mostly traditional way for a society to get professional knowledge are existing. Some authors are supporters of viewing upon the system of higher education from the positions of university culture-genesis education. The cultural environment “...is born and functions where there is a communicative interaction of different meanings” (Gusakovsky et al., 2004, p.74). The accent in such researches is being made on the capability to generate auxiliary cultural orientations of the development of a society that is a specific feature of the university system of getting, systematizing keeping and transmitting knowledge. University environment is being described as the one that gives an opportunity for an adaptation to a new paradigm of the consuming of informational resources “feeding” a human-being in the process of forming his personality. The duality of the subject; teacher – student, which is being supplemented with specially organized study environment is present in the educational environment. Mutual relation between concrete social, communicational and material conditions directed to brushing-up communicative culture and supplying communicative safety of all the subjects of pedagogic process (the studying and the teaching ones) are meant by study environment (Dinther et al., 2011; Perkins, 2015). With summarizing the mentioned above, it can be stated that that the environmental approach lets the educational space of a Higher Education Establishment, oriented to the personality formation of a student as the subject of education and the object of socialization, be studied (Ivanova & Zakharova, 2019). Unlike social environment, social space is being comprehended widely as a totality of educative institutes, educational processes and educational environments. Educational space emerges as a specific construct that can be viewed upon as without taking the subject into consideration and irrespective of it. For the first time the category of educational space as part of social space appears in the works of a French sociologist Pierre Bourdieu. The hierarchy of social and educational “spaces” has an intermediary link, this is the informational space. It aids to distinguish information, knowledge as an element qualitatively differing between education and other social forms. Stay in the educational space is impossible without the acknowledgement of the aim, the subject and the methods used by a human-being for knowledge acquiring.

We can certainly state that the subject of our search is being partially under the influence of our cognitive aims and methods. The same thing is also true of our cognitive aims in attitude to our methods. Our search is more often defined by the priority of an aim or a purpose, as well, since our search of cognition is necessarily a human-being’s action directed to outer aims. It means that this subject is always prime as a final aim. Since knowledge is in the first turn the subject of cognition in informational environment, the space structure of virtual reality may be determined through the informational-educative activity. Native investigators (Lyz’ & Istratova, 2019; Kotlyarova, 2016) mark out the following kinds of cognitive activity: 1) formal informational-educative activity – education proper and getting knowledge in a web-content paradigm. Webinars, special courses, web database, on-line libraries and archives are considered to be information and knowledge sources; 2) informal educational activities, corresponding to various educational programs, presuppose proper choice of a learner for due portal, online course,

webinar, video conference, online quizzes etc.; 3) informal informative and educational activities inherent to everyday life of a human being apt to solve vital and professional problems as well as to accumulate spontaneous experiences through participating in social web-groups, web-forums and chats, information search and exchange, free hyper-text navigation and reading, video performance viewing etc. (Lyz' & Istratova, 2019). Cognitive activity is functionally supplying the continuity and wholeness of education process through human-being's activeness in informational nets and as far as the personality is concerned it lets the cognition process be optimized, enriched and widened, and the set problems be solved, and the planned aims be gained. Further, in order to control his own actions in the process of getting knowledge in an educational system or by self-education utterly, a human being must not leave temporal parameters of informational environment without attention.

Not only space characteristics, but also temporal ones are important for a human-being who interacts with the virtual environment. He must imagine the place and time of attending the information field to himself. The past, the present and the future as elements of the structure of virtual existence an opportunity of acknowledging the presence in web space, implicit chronologic limits of the human-being's and the virtual world's interaction with letting real being and the virtual one be identified. The principle of personality's wholeness and the opportunity of the cognition of oneself at present – 'here and now' – aid to realize the own potential in the selected direction of development with preserving the identity. Passive attendance of informational space is typical for an immature personality, notable for a "clip comprehension" of reality and inability to steadfast, rational object-cognition. The temporal web-space parameters influence constructively upon educational and up-bringing processes, and also the personality's self-education.

Mass spreading of the web net influences socialization processes in modern society greatly. New generations of studying people – scholars, students – spend a considerable part of their time in cyberspace. The reality of social entity is being substituted by virtualization, defining criteria and the level of personality's development, forming an evaluative system which is intermediary between the first one and cyber-communication. The research of a new, virtual identity of a personality, that is being formed in web space, is showing that besides steady usage of informational technologies a human-being faces destructive impacts upon the forming qualities of the personality. Trite thinking, verbal stamps, non-critical usage of behavioral algorithms, ability of bring programmed for stereotypical action – this all considerably decreases and deforms the development of the personality. Virtual surroundings can cause negative factors/ reactions such as essential decrease of the ethic norms within social net communication, as well as mental problems, such as anxiety, fears, weariness, mental concentration and will weakening (Soldatova & Pogorelov, 2018). Due research devoted to the impact of social nets upon the user and upon the very system of acquiring knowledge has been accomplished by foreign and domestic researchers (Gogol et al., 2017; Wilson et al., 2012). The acknowledgement of these challenges is one of the conditions of modern educative system's successful development. In private, more active usage of evaluative approaches to the process of forming a future specialist. Complex measures of psychological-pedagogic character which aid to develop an axiological component in the world outlook of a personality and supplying the realization and success of professional activity, creative self-realization of the future specialist should be included in the study process (Elagina & Mettini, 2015).

As Kolpakova (2019) remarks, forming a personality on the base of individual qualities is variously directed in the modern informational society. On one side, there is understanding of a social need of a creative, personally formed human-being. On the other side, the peril of levelling the personality is existing. The involvement of a human-being in the system of web-relations in which he spends a basic time of work, a necessary time for getting education, knowledge forms the processes of negative influence on the personality's development aspects, puts down the individuality's development, depersonalizes the human-being. He starts feeling himself as a part of something, with getting deprived of comprehending himself as an entire personality, that is to be himself (Elagina & Mettini, 2015). Spare time may also become a part of the process of levelling or substituting and constructing proper artificial personality (Wilson et al., 2012; Zhao et al., 2017). As sociologic explorations show, the basic problem of the youth who prefers such style of net communication has a tight relation to various unsatisfied social demands for a real life, the depersonalization of communication lets any "identity" be 'put on', but leads away from the task of the own personal experience and reality formation (Schekoturov, 2017). Virtual space influences the formation of negative features of an individual, such as game-mania provoking aggressiveness, lack of compromise, breaking ethic principles. One may speak about influencing various aspects of people's life, forming ratings of reputation, creating and supporting conflicts in web space recklessly, sickly dependence on the number of subscribers and so forth. It is necessary to make a specific accent upon psychological safety of a personality in virtual reality which is fraught with threats of psychological health, besides creating risks of getting subject to an attack (Kuznetsova & Skrylnikova, 2017; Orlov, 2019). A will effort that is primarily created as a result of constant outer positively-coloured influence on an individual in the process of educational activity is necessary for resisting destructive impacts of the cyber-space.

An ability to reflect is one of the main processes apt to form a harmonious personality (Duncan, 2020). This quality enables due creating of the entity of a human-being's inner world, further harmonization of his state of mind and will as well as flexible self-control upon them. Personality's self-development and self-education launch creative self-realization process, that is steadfastly present either professional activity sphere or the spectrum of socially meaningful communications as an "I – conception" with heightening their quality and content filling (Elagina & Mettini, 2015). The development and the formation of a student's personality within the system of modern education is connected with proper role and tasks updating as referred to the other participant of the educative dialogue, who is the teacher (Ipek & Ziatdinov, 2017). Under new realities of the digitalization traditional teaching based upon mono-logic way of communication, didactic lecturing style, as considered to be an academic standard of knowledge transmission, cease to reply to new challenges of time. Personally-oriented teaching as well as relevant studying opportunities call for the introduction of a dialogic model of teaching. Dialogue as an actual instrument of getting professional skills may be modelled as dialogue-dispute - either as a dialogue-discussion or another claimed format (Simon, 2017). New formats provide for the development of creative non-standard way of thinking among students, further widening of mental outlook, the ability to ground one's own point of view, object-communication and self-criticism opportunities (Orlov, 2019; Somkin, 2019). Dialogue as the form of modern teaching, education and knowledge is an actual item in exploring the process of cognition, translation and transmission of

knowledge (Jenkins, 2017). It is necessary to remember that dialogue in the educational process has an evaluative component in the shape of ethic norms that regulate the communication

6.2. Constructivism of Dialogic Interaction

In modern ethics constructionist approach is gaining a large place in force of the fact that the substantiation of moral judgments' uncertainties in the informational world may be overcome by constructionist methodology of normative ethics. The adherents of this position are guided by mental constructs and the results of special rational procedures. Explorers have an opportunity to carry out the criticism and the selection of moral judgments for removal of cleavages between people who consider different moral demands obvious. For constructivists those demands which could be acknowledged by every human-being are prospective. These demands mean that: 1) every human-being is capable for practical reasoning; 2) every man acts on the base of practical reasoning; 3) everybody's action is in conditions which are mostly favorable for practical reasoning. One can make a conclusion that constructionist procedures withdraw private demands on the base of common normative discourses (values). They appeal not to the values, but to the very capability for the choice laying upon reasoning. It appears that the one who takes a decision with reasoning, that is weighing all the 'the pros and cons' of his actions and behavior, cannot come to some of the moral limits of that of his own. He acknowledges the force of a number of demands with necessity. Thus, the constructionist model means the subject of moral behavior: any judicious individual cannot do without acknowledging the norm proceeding from the practical usage of reason in the conditions that are mostly favorable for him. One fact should be specified here – that the constructionist procedure is related with general hypothetic agreement. Although the hypothetic agreement of imaginable subjects (the subjects of informational world) do not guarantee the agreement of subjects-in-reality, and that creates serious difficulties in grounding universalities in the informational world. A problem of the search of dialogic interaction models concerning normative and informational ethics is emerging.

If we speak about modeling in its most common comprehension, then these are qualities and attitudes of a real subject which are reflected upon a specially created ideal object. The real object serves in this case a prototype and the reflected one – a model; a kind of similarity, analogy, likeness exists between them. If the modeling serves transiting moral knowledge to the investigation of patterns in informational ethics, then – according to constructionist approaches – the method of similarity may be used for this. A peculiar difficulty in investigating the real object will be to the same extent reflected upon the informational model, as well.

However, another comprehension of the model as an analogy of an idea that is present in theoretical research may light out attitudes between two cognition subjects (of normative ethics and informational ethics) while transiting information from one subject to another. The theoretic picture of the discovered subject (the model of normative ethics action subject) shall be its prototype upon the other one (analogy). The information of ideas transited from the science of ethics into normative ethics, from normative ethics into the science of ethics will more often look like a process "from model to prototype". One shouldn't still put a point here, as these dialogic processes are being based on likelihood, or a likely conclusion. One should think that further development of the problems of informational ethics in the way of constructionist principles will receive a new cognitive status of the moral subject; meanwhile

everything is moving towards this; all the constructionist procedures are trying to overcome the limits which are being inflicted on them as on unreal ones.

6.3. Ethics of a subject and ethics of a society

In modern ethics constructionist approach is gaining a large place in force of the fact that the substantiation of moral judgments' uncertainties in the informational world may be overcome by constructionist methodology of normative ethics. The adherents of this position are guided by mental constructs and the results of special rational procedures. This problem is already being discussed in foreign ethics (Blau & Eshet-Alkalai, 2017; Simonsmeier et al., 2020) for several decades and has led to distinguishing two mutually complying approaches – computer ethics and informational ethics. Just the informational ethics observes the problems of mutual relation of information and the subject that can be the possessor or the consumer of this information. The owner of informational platforms, the information-communicational technique is one more type of the subject. And the last one is the subject that realizes the regulative function of the supplement of communicative process and controls keeping to accepted norms, rules and laws in the informational environment. Every subject may be introduced as a separate individual, group, social institute. Every subject of communication has a right to possess his own set of ethic principles. The research of these ethics which are born by the technology of information exchange is just making up the object of the corresponding type of informational ethics (Himma & Tavani, 2008; Otyutsky, 2016).

Here within the bounds of our article a question may be put: how does the cognitive subject in informational ethics define the aim of his action since fundamental moral principles can't be considered self-obvious?

Ethic imperative is present in every individual, loaded in informational environment. But for the presence in informational environment to be rational and acknowledged, we must introduce the category of personality. Moral orientations which are being chosen by a human-being for himself in his real existence as well as the in the unreal one are characterizing him as a personality that is capable for a planned, acknowledged, responsible action, ethic principles let a human-being critically process all comprehended – educative, common, professional information. Independent defining of untrue, low-grade informational content, independence not only in evaluating the quality of got knowledge, but also a capability to correct, to reform mistakes in sources, as well as the to generate true, high-grade information from the side of the subject by himself, becomes the merit of such approach.

The ethics of a society (informational community is not an exception) correlates with ethic principles of a personality, as namely the society takes part in forming the subject's notions about normative behaviour with a latent proposal to correspond to them. Ethic norms of a society suppose risks which should be recalled during the analytic exploration of informational-educative activity. The systems of modern education are widely using web resources as the source of knowledge and as a platform for creating open-education systems (Yefremenko, 2018).

The defense of a subject from potential and real threats of web space is the task of a society, as it directly correlates with the functioning of important social institutes and the state of the society on the whole. Basic areas that should be supplied with informational safety are science and foremost scientific elaborations, technologies and technologic systems, and also education proper. Informational

technologies as one of the most important segments which supply the functionality of digital economy must be competitive, and this means that their creating, engaging and servicing should be constantly supported on a high scientific level by shortening time between inventing, producing and engaging these technologies to practice. The second important stage where informational safety is necessary is engaging and supplying uninterrupted functioning of informational technologies, controlling their ability to resist the attempts of an outer coercion. And the third stage is the supplying of a proper format for limiting availability and the reliability of guarding meaningful scientific elaborations in the sphere of safety, there elementary checking-up and safety management from the side of state's structures (Topunova et al., 2020).

7. Conclusion

We can explore the activeness of the subject that directly or indirectly, with the help of other instruments (social, economic, judicial and other ones) influences digital technologies and digital processes which supply cognitive activity. The processes of cognition and education in web space need ethic principles of both a personality and the society. A human-being may cardinaly change the vector of the development of digital economy if his public interests and demands lie on the plane of the processes conditioning social orientating of digital technologies.

Thus, the solving of vital problems which are put forward to a human-being (and the society) of the tasks dictated by the global situation depend on the level of the quality of personality's thinking, the realization of its ethic program that lets correctly find its bearings in the information environment.

References

- Blau, I., & Eshet-Alkalai, Yo. (2017). The ethical dissonance in digital and non-digital learning environments: Does technology promotes cheating among middle school students? *Computers in Human Behavior*, 73, 629-637. <https://doi.org/10.1016/j.chb.2017.03.07486>
- Dinther, van M., Dochy, F., & Segers, M. (2011). Factors affecting students' self-efficacy in higher education. *Educational Research Review*, 6(2), 95-108. <https://doi.org/10.1016/j.edurev.2010.10.003>
- Duncan, M. (2020). A new argument for the phenomenal approach to personal persistence. *Philos. Stud.*, 177, 2031-2049. <https://doi.org/10.1007/s11098-019-01297-x>
- Ecker, G. (1979). Administration in Higher Education: Making the Most of Ambiguity. *The Review of Higher Education*. Johns Hopkins University Press, 3(1), 23-31. <http://doi.org/10.1353/rhe.1979.0002>
- Elagina, V. S., & Mettini, E. M. (2015). Aksiologicheskiy podkhod k razvitiyu individual'nosti lichnosti studenta [Axiological approach to the development of individuality of the student's personality (standards CDIO)]. *Modern problems of science and education*, 1(1). <http://science-education.ru/ru/article/view?id=18470> [in Rus.]
- Gogol, K., Brunner, M., Martin, R., Preckel, F., & Goetz, T. (2017). Affect and motivation within and between school subjects: Development and validation of an integrative structural model of academic self-concept, interest, and anxiety. *Contemporary Educational Psychology*, 49, 46-65. <https://doi.org/10.1016/j.cedpsych.2016.11.003>
- Grassian, D. (2020). College and University Administration. An Insider's Guide to University Administration. *Johns Hopkins University Press*, 10-50. <https://doi.org/10.1353/book.71966>
- Gusakovskiy, M. A., Altaitsev, A. M., Gubarevich, D. I., Kirilyuk, L. G., Krasnova, T. I., Krasnov, Yu. Ed., Karpievich, E. F., Sharko, O. I., Polonnikov, A. A., Korbut, A. M., Korol, D. Yu., &

- Verbovetsky, M. F. (2004). *Universitet kak tsentr kul'turoporozhdayushchep obrazovaniya* [University as a center of cultural education. Changing the forms of communication in the educational process (standards CDIO)]. Minsk. <http://elib.bsu.by/handle/123456789/8083> [in Rus.]
- Himma, K. E., & Tavani, H. T. (2008). *The Handbook of Information and Computer Ethics*. John Wiley & Sons, Inc. <https://doi.org/10.1002/9780470281819>
- Ipek, I., & Ziatdinov, R. (2017). New Approaches and Trends in the Philosophy of Educational Technology for Learning and Teaching Environments. *European Journal of Contemporary Education* 2017, 6(3), 390-400. <https://doi.org/10.13187/ejced.2017.3.390>
- Ivanova, G. A., & Zakharova, I. D. (2019). Etika kommunikatsii v obrazovatel'noy srede vuza: opyt modelirovaniya [Ethics of Communication in Educational Environment of a HEE; the Experience of Modeling (standards CDIO)]. *Buryatiya State University Herald. Philosophy*, 3, 67-75. <https://doi.org/10.18101/1994-0866-2019-3-67-75> [in Rus.]
- Jenkins, G. (2017). From formal to non-formal Education, Learning and Knowledge. [Book Review] *Australian Journal of Adult Learning*, 57(2), 302-305. <https://search.proquest.com/openview/bcc8315aa44c8bd7a44bdaef18625ef5/1?pq-origsite=gscholar&cbl=25751>
- Knighton, A. L. (2017). Beyond “Education in Sickness”: A Biopolitical Marcuse and Some Prospects for University Self-Administration. *Theory & Event. Johns Hopkins University Press*, 20(3), 769-787. https://muse.jhu.edu/view_citation?type=article&id=664836
- Kolpakova, N. B. (2019). Lichnost' v sovremennom mire [Personality in modern world (standards CDIO)]. *Bulletin of Prikamsky Social Institute*, 3(84), 106–109. [in Rus.]
- Kotlyarova, I. O. (2016). Informal'noye obrazovaniye v sisteme nepreryvnogo obrazovaniya nauchno-pedagogicheskikh rabotnikov [Informal Education in the System of Uninterrupted Education of Science-Pedagogy Workers (standards CDIO)]. *YuUrGU Herald. “Education. Pedagogic Sciences”*, 8(4), 16-22. <https://doi.org/10.14529/ped160402> [in Rus.]
- Kuznetsova, O. V., & Skrylnikova, N. I. (2017). Komparativnyy analiz napravleniy issledovaniy v oblasti kiberpsikhologii v Rossii i za rubezhom [Comparative analysis of research trends in the area of cyberpsychology in Russia and abroad (standards CDIO)]. *Journal of Modern Foreign Psychology*, 6(4), 66-76. <https://doi.org/10.17759/jmfp.2017060407> [in Rus.]
- Lyz' N. A., & Istratova, O. N. (2019). Rol' informatsionno-obrazovatel'nogo internet-prostranstva v nepreryvnom obrazovanii lichnosti [Role of Informational-Educative Web Space in the System of Uninterrupted Education of a Personality (standards CDIO)]. *YuUrGU Herald. “Education. Pedagogic Sciences”* Series. 2019, 11(1), 33-41. <https://doi.org/10.14529/ped190104> [in Rus.]
- Nelson, A. R. (2017). Measure of Development for Student Conduct Administration. *Journal of College Student Development. Johns Hopkins University Press*, 58(8), 1274-1280. <https://doi.org/10.1353/csd.2017.0100>
- Orlov, M. O. (2019). Konfliktogennyy potentsial sotsial'noy kommunikatsii v tsifrovuyu epokhu [Conflictogenic potential of social communication in the digital era (standards CDIO)]. *Bulletin of St. Petersburg University. Philosophy and conflictology*, 35(3), 485-496. <https://doi.org/10.21638/spbu17.2019.308> [in Rus.]
- Otyutsky, G. P. (2016). Metodologicheskiye problemy informatsionnoy etiki [Methodological problems of information ethics (standards CDIO)]. *Humanitarian scientific research*, 3. <http://human.snauka.ru/2016/03/14511> [in Rus.]
- Perkins, J. Al. (2015). The University in Transition. *Series: Princeton Legacy Library*, 2015, 31-33. https://muse.jhu.edu/chapter1731153/pdf#info_wrap
- Schekoturov, A. V. (2017). Ot flirta do smeny pola onlayn: podrostkovyye praktiki al'ternativnykh samoprezentatsiy v sotsial'noy seti «VKontakte» [From flirting to sex change online: teenage practices of alternative self-presentations on the VKontakte social network (standards CDIO)]. *Monitoring of Public Opinion: Economic and Social Changes*, 6, 327-343. <https://doi.org/10.14515/monitoring.2017.6.17> [in Rus.]
- Simon, J. (2017). Dangerous Liaisons: Reflections on the Politics of Confidentiality in the Cyber-Age University. *The Eighteenth Century. University of Pennsylvania Press*, 58(4), 407-428. <https://doi.org/10.1353/ecy.2017.0034>

- Simonsmeier, B. A., Peiffer, H., Flaig, M., & Schneider, M. (2020). Peer Feedback Improves Students' Academic Self-Concept in Higher Education. *Research in Higher Education*. <https://doi.org/10.1007/s11162-020-09591-y>
- Soldatova, E. L., & Pogorelov, D. N. (2018). Fenomen virtual'noy identichnosti: sovremennoye sostoyaniye problemy [The phenomenon of virtual identity: the contemporary condition of the problem (standards CDIO)]. *The Education and science journal*, 20(5), 105-124. <https://doi.org/10.17853/1994-5639-2018-5-105-124> [in Rus.]
- Somkin, A. A. (2019). Lichnostno oriyentirovanny podkhod v sisteme sovremennogo gumanitarnogo obrazovaniya: ot monologizma k dialogicheskoy modeli obucheniya [Personally oriented approach in the system of education in the humanities: From monologism to dialogical model of teaching (standards CDIO)]. *The Education and science journal*, 21(3), 9-28. <https://doi.org/10.17853/1994-5639-2019-3-9-28> [in Rus.]
- Topunova, I., Koroleva, N., Rybina, M., & Iatsenko, O. (2020). The digital economy and the Digitization of – past, present, and future. *International Journal of Psychosocial Rehabilitation*, 24(08), 7492-7507. <https://doi.org/10.37200/IJPR/V24I8/PR280763>
- Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A Review of Facebook Research in the Social Sciences. *Perspectives on Psychological Science*, 3, 203-220. <https://doi.org/10.1177/1745691612442904>
- Yefremenko, V. V. (2018). Otkrytoye obrazovaniye: osnovnyye napravleniya i tendentsii sovremennogo razvitiya v Rossii i mire [Open Education: Basic Directions and Tendencies of the Development of Today in Russia and the World (standards CDIO)]. In *Informational-Educative and Upbringing Strategies in Modern Psychology and Pedagogics, Collected Articles of the International Practical-Scientific Conference 2018* (pp. 105-109). AETERNA. Retrieved from <https://aeterna-ufa.ru/sbornik/NK-PP-86.pdf> [in Rus.]
- Zakirova, A. F., & Volodina, Y. N. (2018). Issledovaniye tendentsiy i perspektiv modernizatsii obrazovaniya: germenevticheskiy podkhod [Trends and Prospects in Educational Modernisation: A Hermeneutic Approach (standards CDIO)]. *The Education and science journal*, 20(9), 9-34. <https://doi.org/10.17853/1994-5639-2018-9-9-34> [in Rus.]
- Zhao, Sh., Shchekoturov, A. V., & Shchekoturova, S. D. (2017). Personal Profile Settings as Cultural Frames: Facebook versus V Kontakte. *Journal of Creative Communications*, 12(3), 171-184. <https://doi.org/10.1177/0973258617722003>
- Zhernov, Ye. Ye., & Kochergin, D. G. (2020). Tsifrovizatsiya kak faktor transformatsii sovremennogo universiteta [Digitalization as a Factor of the Modern University's Transformation (standards CDIO)]. In *Materials of the International Economic Symposium "Integration of Siberia into the Global Social-Economic Space". Collected Articles Based on the Reports of the International Economic Symposium* (pp. 154-159). TGU Publishing House. <https://doi.org/10.17223/9785946218696/24> [in Rus.]