

Philosophical Methodology of Research of the Network Paradigm of Education Management

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Abstract – The article is devoted to the analysis of the features of the philosophical methodology of network paradigm research of education management. In the process of research, the authors come to the conclusion that it is necessary to adapt existing methodologies, such as synergistic, system analysis, activity approach, philosophical and hermeneutical methodology. Their use requires taking into account the sociocultural characteristics of network information society and its educational area. In addition, the methodology should be considered within the framework of the interaction of the socio-cultural content of modern management practices and network analysis in the context of the analysis of social networks (social network analysis, SNA), relational sociology and actor-network theory (ANT), to identify the features of the influence of the latter.

Keywords – network management, educational networks, educational philosophy, methodology

I. INTRODUCTION

In the modern management philosophy, the network approach in a broad sense is usually associated with the study of the diversity of links that unite the participants in the management process. Methodologically, this approach transforms the traditional system analysis scheme (the structure of a new functional and personal-sociocultural components) into more dynamic components of network interaction — the normative field and the communication-semantic universum. In this regard, there is a number of serious problems associated with the use of traditional and modern methodologies in the process of studying the network paradigm of education management. First of all, the authors talk about the features of the analysis of network management within the concept of self-management of educational activities with the use of synergic methodology. The important aspect of the methodology is the use of the activity approach in its network, communicative interpretation. Special analysis is required to study the possibilities of using system methodology in educational networks. And finally, the communicative - hermeneutic aspect of the methodology of researching the network paradigm of education management is important. In addition, in the framework of the network approach, one should pay attention to the current developments of such research directions as the analysis of social networks relational sociology and actor-network theory (ANT).

II. METHODS AND MATERIALS

The analysis of methodological approaches to the study of network management was carried out in the works of N. Davydova, E. Dorozhkin, S. Karakozov, A. Chumakov and other national and international experts [1-5]. In these works, the necessity of adapting methodologies for taking into account the peculiarities of network education in managerial activities is provided. However, the directions of such adaptation remain a little-studied aspect of the problems. The role of sociocultural technologies in the formation of educational network is emphasized by A.M. Tsirulnikov [6].

The key social concept is the concept of the “network society” by M. Castells [7]. The general theoretical and methodological aspects of the network approach are presented in the works of B. Latour [8] and J. Law [4], H. White [9], B. Wellman [10, 11].

The important role in the studied problems is played by the ideas of S. Mutzel [12] and E. Erickson [13, 14], who generalized and analyzed the existing directions within the network approach. In addition, modern studies have found attempts to find complementary methodological foundations that exist in different network approaches [15]. The aim of the paper is to justify the need and directions of adaptation of the methodology for the study of network practices in education management paradigm.

III. RESULTS

The changes in the socio-cultural space always require updating and enrichment of the existing methodology. For example, synergistic methodology can be considered as the most important for the analysis of network processes in the educational system in general and network innovation in education management, in particular. The well-known Russian specialist E. Dorozhkin points out “the new management paradigm considers both individual educational institutions and local network structures as open self-organizing systems that have emergent properties (that are, new, unique properties that elements of this system not existing before). For its management based on the productive use of the potential of the organization itself, knowledge and the correct application of the principles of synergetics are necessary. Today, educational institutions of network interaction are not sufficiently developed [2].

The network paradigm of education management is characterized by the fact that autocratic management is gradually being superseded by adhocratic, characterized by a soft distribution of functions and responsibilities, building up horizontal links between organizational structures, within which educational activities are carried out. In a broad sense, network interaction in the educational field is an activity space created and maintained by activity nodes (centers), channels and communications - activity flows between them. The center can be interpreted as a subject or actor, as well as communication channels, depending on the initial classical or non-classical methodological setting.

In such a direction as social networks analysis (SNA), relationships are represented by links between network nodes, and not by individuals or groups. Relational sociology explores transactions that are inseparable from the context of what is happening and are predominantly dynamic, continuous, and random. In actor-network theory (ANT) transactions are understood to produce an action through the alignment of a series of transfers or transfers between heterogeneous elements.

In the work [15] it is argued that researchers of ANT could benefit from the use of certain SNA methods (such as imaging and quantitative measures), while the SNA researchers would benefit from the development of new theoretical and empirical ideas on how to combine heterogeneous and homogeneous networks, for example, introduce inanimate actors into networks that also contain people. Thus, the authors demonstrate an attempt to rid various network approaches of their inherent insufficiency and create a more universal network methodology that could be used for various subjects, objects, actors, actants, transactions, activities, etc.

This is necessary because participation in the educational network interaction is based on a number of agreements between subjects of educational activities and provides for the implementation of joint actions, sharing resources and competencies of many independent institutional participants to jointly achieve the goals of each of the participants. Therefore, as S. Karakozov points out, "the main content of the concept of a network is the synchronization of processes for obtaining planned results, outcomes, states. Moreover, such synchronization, which increases the speed and coherence of the whole, is called a network. It also presents the main content of networks." [3]

The acquisition of the educational activities of educational network requires, on the one hand, paradigmatic changes in its management, and on the other hand, the application of an adequate methodology for the study of these changes. In the most general form, these changes should be interpreted within the framework of the formation of the network paradigm of education management, which adapts management activities to the needs and character of the management object, and also allows them being consistent with the activities of the management subject, including the streamlining of the formation of educational networks stochastic character.

Understanding the process of formation of educational networks as self-organizing in its essence and synergistic according to the principles of implementation requires substantial correction of another methodological approach that

is commonly used in the analysis of managerial paradigms - the systems approach. The educational field, of course, is a complexly organized object of study, which requires the use of system methods.

From a managerial point of view, the use of these methods leads to the constitution of principles of system-oriented management. System-oriented management is based on the integration of all components of the educational sphere into certain integrity, the network, which is its object. In the modern system study of the educational sphere and educational management, the analyzed object is considered as a certain set of elements, the interrelation of which determines the properties of this set as a whole. The main focus is on the identification of the diversity of relationships and relationships that take place both inside the object under study and in its relationship with the external environment. And this is precisely what makes it possible to consider system management in modern conditions as a network management in essence [7]. Significant importance in the proposed approach is given replacing the hard Laplace determinism with the Boltzmann probability distribution, i.e. identifying the probabilistic nature of the behaviour of the objects under study. The important feature of the systems approach in education, which is considered as a network phenomenon, is that not only the object, but also the research process itself acts as a complex system, as a network, the task of which, in particular, is to combine into a single whole different object models. The essence of systemically oriented network management of education as a system-network phenomenon is that the object of management is viewed as an indefinite and variable set of interactions of interacting educational subjects, with a wide range of actors that significantly affect the outcome. With this approach, the control system, depending on the nature of the situations, can change each of its characteristics.

Thus, the main condition for the application of system methodology in the process of the study of the network paradigm of education management is the interpretation of the educational system as an integral educational network, and, accordingly, the system education management - as a system-network management. Under these conditions, the system methodology can be interpreted within the synergistic approach, the concept of self-management and probabilistic understanding of both educational activities and educational management.

Considering that the educational network is understood primarily as the interaction of network educational subjects, studies of the network paradigm of education management require the use of an updated methodology. However, at the same time, the activity approach requires a certain correction due to fundamental changes in the position of the subject of activity in the conditions of the formation of network constructs of the social and educational space.

The fact is that at the beginning of the 21st century, the prerequisites for the emergence of an information-networked technological structure have raised, which fundamentally changes the very nature of activity in the educational system. As the well-known researchers N. Davydov and V. Fedorov point out, "an important characteristic of education in modern

conditions is the transition from a receptive-reflective approach to a constructive activity in the educational process in particular and in pedagogical science in general" [1].

In our time, a new type of science in education is being formed - the scientific nature of a design-program type. Its core consists of such activities as design and programming, main characteristic of developing and creating new network educational practices, i.e. those that did not exist before. Accordingly, the activity of the subjects of educational networks is increasingly formed on the basis of the actual construction of such projects and programs that organize activities for the construction of the missing elements of educational practice. This focuses on the complex self-organization of design, which is not reduced to a standard synthesis of knowledge. The source of this knowledge is not contained in existing classic studies, but mainly in real understanding and designing of what is possible and appropriate in a specific socio-cultural situation. Thus, one of the directions of the network approach, relational sociology, quite legitimately introduces cultural and activity aspects into the field of analysis of social networks. It provides an insight into the importance of understanding how context and content interact with the structure of relationships and affect social outcomes. It is worth noting that within the network approach, the activity itself is understood differently.

Thus, the supporters of the analysis of SNA state that activity is not in a relationship, but in actors. Individuals act to change social conditions. Relational sociology convinces that the activity is not in the actors - it is rooted in the system of social relations. The intersection of connections creates structural possibilities of activity. And ANT comes from the idea that activity is a sequence of actions of intermediaries. Moreover, it is impossible to determine in advance which objects can be included in the action. The question of the possibility of finding points of convergence in these approaches is still waiting for its researchers.

Based on the above mentioned aspects, the authors believe that the educational activities of network entities in the current conditions should be interpreted primarily as an activity aimed at designing and constructing popular educational practices and scientific management of them. With this approach, it is necessary not only to describe what has already appeared in reality, but also to create, on the basis of theoretical prediction, something that did not exist before the design work [7]. The most relevant area of development for designing and constructing new types of braiding practices is the practical implementation of the principles of networking. It is network interaction as an important information exchange mechanism that allows realizing synergistic effects in educational activities, makes it possible to use the advantages of the network to improve the efficiency of educational institutions, optimize costs, and improve the quality of educational programs and academic mobility.

Within the framework of the project-activity approach, the network paradigm of managing educational activities acquires such functional components of managing the development of an educational network, such as self-organization, self-management, self-regulation, system goal-setting in the

interests of an object, and the like. They define the human history of the essence of informal, flexible management, where the potentials of personal development of all subjects are equally in demand of educational activities.

No less promising is the methodology for studying the network paradigm of education management, which has been called the system-activity approach. The essence of the system-activity approach is to use the activities (interaction) as a means of formation and development of all subjects and educational systems in general. Considering education as the leading social activity of a society, we define education management as a result orientation in the form of a system-forming factor for the activities of all educational subjects. Thus, in the system-activity approach, the result of activity is singled out as a purposeful system, which is set through its management. Subjects of educational systems choose those activities that satisfy their needs in an individual trajectory, in self-development and self-realization, and with the help of this activity transform both themselves and the educational and social systems.

Thus, the system-activity approach is directly based on the idea of educational interaction and network nature. The system-activity approach to the study of the network paradigm of education management is the most meaningful in terms of identifying and analyzing its pedagogical essence. A distinctive feature of the educational network in this case is a special type of interaction of multi-level educational subsystems, based on the same position of different subjects in the educational system relative to each other and on the variety of horizontal (not hierarchical, but polyarchical) connections. Since the network interaction is aimed at solving problems related to professional and educational activities, then, in essence, such interaction will be pedagogical.

Consequently, the system-activity approach most fully describes today the possibilities of organizing the network interaction of multi-level educational systems (institutions) in terms of its content-pedagogical fullness. This makes it possible to reveal pedagogical-organizational and managerial - pedagogical conditions and mechanisms for the implementation of pedagogical activity that are adequate to the modern priorities of national education, which is being modernized in the context of the formation of educational networks and the transition to a network paradigm for managing this process.

The formation of modern educational networks is based on the development of electronic communication technologies, which to a large extent determine both the need and the content of educational activities of a network nature. As the well-known researcher A. Chumakov points out, "improving the management of information and educational complexes in the field of education requires conceptualization and a combination of spontaneous processes of development of the ICT infrastructure and, especially, the processes of development of the information educational environment with systems and components of educational organizations" [16]. One of the aspects of the formation of educational networks in the conditions of the formation of a virtual media education space is the promotion of the communications and hermeneutic character to the leading places in scientific research.

Hermeneutic methodology is necessary to study the network paradigm of education management primarily as a basis for analyzing effective communication within educational networks at a practical level and theoretically as a mechanism for understanding the essence of the studied management paradigm in the context of socio-cultural and value changes of a postmodern nature. The theory of information about society exists inextricably with the concept of social networks. A well-known specialist N. Petrov, in this connection, writes about "the need to apply the hermeneutic approach related to the scale and horizon of what is happening.

Modern post-socialist relations are directly connected with the liberal ideology on which the non-classical management strategy is built. In a networked society, it becomes obvious that it is not universal. It is necessary to rethink not only the ratio of different theoretical approaches, but also to radically reconsider the applicability of management strategies." [5]

It is understood that the network paradigm of management, which today is increasingly being constituted as the most adequate in the conditions of the formation of a network information society, is one of the directions for further transformation of various forms of post-non-classical management theories [17]. With a significant variety of existing models, they are united in the principle opposition of the traditional and non-classical approaches. However postmodernist shifts make us see management in a different perspective. In sociocultural postmodern contexts, accents in interpretation of reality change and these changes are the basis for understanding the process of formation of new managerial paradigms and strategies. The lack of holistic horizon makes management strategies XX century only "transient", i.e. requiring specific hermeneutics. At the same time, it must be borne in mind that in philosophical hermeneutics, approaches that are not applicable are evaluated in terms of gnoseological relations. Another type is acquired not only by the ratio of various theoretical approaches, but also by the ratio of knowledge and its application. Traditional ideas about the applicability of management strategies in the words of network forms of social life organization require a significant addition in the form of the hermeneutic methodology of the existential understanding of managerial paradigms.

The system of social relations, the network form of life organization can be represented as a process of social communications, as a necessary element of social interaction, management of social relations, including in the field of education. The hermeneutic paradigm of education management is based on the fact that the ability to understand is the fundamental ability of a person. Understanding provides interaction with other people through mutual communication. As a result, understanding becomes a form of social action. Social action is always an interaction that is based on people's expectations of each other. The internal coherence of social systems represented in the form of a network is the result of a long social interaction. Changes occurring in educational networks are the result of the action of the conditions and characteristics of the flow of network processes. The system becomes increasingly integrated only as a result of an increase in the frequency of direct social interaction. The changes in networks are the result of not direct, but indirect interactions. It

is worth paying attention, the possibility of interaction turns out to be important only for SNA, which considers that communication between people can not be analyzed separately from the wider social system, the social network, into which the subjects of the network are included. For relational sociology and actor-network theory, the possibility of the influence of global social structures, such as networks, on interactions taking place at the micro level, at the local level, at the level of individual network actors, turns out to be unprincipled.

Within the framework of the integral methodological approach to the study of the network paradigm of education management, it is necessary to be aware of the applicability of the principles of management in education, that are the result of a synthesis of objective management laws and characteristic features of real management practice. Among which an important place is occupied by the principle of management optimization, which presupposes such a combination of horizontal and vertical relations, centralization and decentralization, self-organization and management, which would ensure the harmonious development of educational and management systems. This becomes especially relevant in the conditions of the formation of the innovation-oriented stage of modern society. Indeed, social practice shows that in modern society, innovations are becoming the most important, universal factor of managed social development as a whole. Innovation activity is characterized by increased uncertainty, low predictability of results and, therefore, problematic and probabilistic returns. This becomes especially relevant in connection with the emergence of a new informational civilization, the emergence and development of new technologies. Global networks introduce new competitors, new ideas, and a new audience to the traditionally stable educational space. As a result, innovative institutions must balance and, on the one hand, uphold the unique value of their own educational space, and on the other hand, be demanded by a global audience, a global network.

The task of both theorists and practitioners at the present stage of civilization development is to search for means to reduce the degree of uncertainty and increase the predictability of social processes, including in the field of education management.

IV. CONCLUSION

Thus, the analysis of a number of traditional methodologies - systems analysis, activity approach, philosophical hermeneutics, and others - shows the need for their adaptation to the needs of the study of the network paradigm of education management. The main principle of such an adaptation is the need to take into account the system-forming characteristics for educational networks, all modes of interaction of educational elements, both actors and flows arising in the process of combining resources for joint problem solving. The authors talk about the formation of a methodology that takes into account unsystematic and multidirectional information flows, the degree of their influence on the personality of managers and trainers, trainees and educators, as well as the ability to structure knowledge into a system necessary for full education. Therefore, adapted methodologies provide an opportunity to further explore and develop the network management paradigm

as a multi-level and multi-vector alternative to the directive-administrative management of education. And network analysis in the framework of social network, relational sociology, and actor-network theory can indicate new ways, new practices in the development of the network paradigm of management and its research.

The formation of a new paradigm is considered as one of the important tasks of the philosophy of education. Introduction to the consideration of integration processes as a socio-ontological basis of transformations in education, the integration of science and education, education and culture in the framework of the development of a new type of educational environment based on scientific and educational networks, the formation of a new image of education as the basis of social networking paradigm and its links to community development strategies. The interrelation of the formation of the post-non-classical educational space with the paradigms of educational activity implemented in it determines the replacement of the technocratic-behavioral paradigm of humanistic educational activities.

The disclosure of the features of the new educational paradigm on the basis of network logic, new information technology (M. Castells) is associated with the disclosure of the features of the information technology paradigm with the increasing conversion of technology into a single highly integrated system. Integration processes in education on a new basis lead to the formation of its network paradigm with signs of pronounced social interaction, humanistic orientation of the information educational environment. The network acts as a way of informational and sociocultural existence, as a polystructural system functioning at different levels of social interaction of organizations and institutions, unites various centers, different regions and territories into a single network environment, implements social and civilizational interaction when national research and educational networks enter the global educational space and opens up the civilizational multidimensionality of the modern world.

It is necessary to note that the management of education in terms of its reform is an innovative process, and therefore is characterized by incomplete information, and, therefore, recourse to a new and adapted methodology is a natural phenomenon due to the essence of both the educational system, presented as a network, and other social processes.

The analysis of network interactions using this toolkit makes it possible to understand the essence of the processes that occur within the educational network and find the means of influencing these processes, including in the field of education management. The consequence of this approach will be an increase in the efficiency of educational network management,

coupled with a large number of conditions, circumstances and challenges facing education in modern conditions.

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