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**SYSTEM APPROACH IN DESIGNING PERSONALITY SELF-DEVELOPMENT ENVIRONMENT**

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**Abstract**

The research is devoted to the analysis of the provisions of the system approach as a methodological basis for designing a personality-oriented educational environment. Based on the study of system methodology features in designing an educational process, the possibilities of implementing the system approach in designing an environment for a specialist's personality self-development are determined. The article provides a pedagogical analysis of the processes, specific to the system approach: standardization of analysis and modeling procedures with a view to rationalizing the interaction of system elements, technologization of forecasting the performance of the system as a whole and of its separate elements; algorithmization of interaction processes between elements within the system and between the system and the external environment; programming of internal processes and results of the functioning, transformation of the system, and its development. Designing an environment for personality self-development in continuing education is revealed in the system approach by including the content of the cultural context of a society in the interaction space; ensuring the agency of management entities' activities; ensuring the agency of the subjects of educational process organization (teachers); ensuring the agency of students' activities. The advantages of the system approach in designing educational and professional environments, the limitations of the system methodology in designing a personality-oriented environment of continuing education are stated.

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## 1. Introduction

Currently, education organizers and the teaching community are in search of effective pedagogical technologies that enable the productivity of an organization of the educational process through the optimal ratio of relevant factors of a designed environment. The main educational environment quality indicator is the organizational and activity-based construction of educational space, the structuring of education content and the processes of mastering the environmental context by students. These factors make it possible to achieve the requirements of educational standards which are expressed in a set of competencies as the ability to apply existing knowledge, skills, professional personality qualities in practical activity variously in different combinations, depending on the environmental context and the evolving situation of activity. One of the trends in modern human resources technologies is to create conditions for continuing education. It provides personality self-development situations, the continuity of the accumulation of personality experience in evolving activities (Belyakova & Zaharova, 2020; Verbitskiy & Rybakina, 2016). At the same time, one of the main methodological approaches to the design of an educational environment is the system approach which has, along with its merits, a number of limitations when designing a personality-centered space as an environment for personality self-development in continuing education.

## 2. Problem Statement

The system approach as a methodological basis for the functioning of an education system and systems of professional activity demonstrates “systemic impacts” defined as “... the emergence of new properties arising from the interaction of elements within the whole” as an important characteristic, along with integrity and stable structure (Petrov & Kudashova, 2017, p. 126).

The educational process as a system is based on a strict logical hierarchical structure of the process, planned by the teacher, of mastering scientific concepts, patterns of a specific area of knowledge, the implementation of cause-and-effect relationships, specific to a particular branch of scientific knowledge, in teaching. This is dictated by the logic and structure corresponding to an academic discipline of scientific knowledge, as well as by the resulting logic of standardization, regulation, and technologization of the process and the results of mastering the content of an academic discipline.

The system approach orients the design subject towards building a theoretical model through disclosing the integrity of the design object, taking into account the properties and mechanisms of interaction between structural elements of the system, and obliges to consider all processes in the interrelationship of its main components and factors. Pedagogical systems are characterized by such qualities as integrity, dynamism, adaptability, predictability (Kamaleeva, 2015), which, however, do not always demonstrate stability.

Considering the above, it is appropriate to analyze the characteristics of the system approach in order to determine the advantages and limits of the applicability of the system methodology in situational and environmental design of the environment of a specialist's personality self-development in continuing education.

### **3. Research Questions**

- 3.1. What are the advantages of the system approach in designing social systems?
- 3.2. What are the limits of the applicability of the provisions of the system approach to the concept of situational and environmental design of the environment of personality self-development?

### **4. Purpose of the Study**

The research is aimed at analyzing the characteristics and capabilities of the system approach methodology in designing a personality-centered environment as a space for the development of personality functions, the development of a personality position of the increment of personal experience.

### **5. Research Methods**

The research is based on the methodological positions of the system approach (Kraevsky & Berezhnova, 2008) which ensures the optimal functioning of the elements of the system of organizing the space of personality self-development in the educational space; the agency approach in organizing educational process, in terms of the increment of personality experience (Shchukina, 2018) which is the basis for considering the authorship of one's personality in changing the environment and oneself in the environment; a situational-environmental approach in reflecting the nature of meaning-making and eventfulness of the interaction between subjects in the environment (Bermous, 2015; Khodyakova & Mitin, 2017); the synergetic approach as a modern theory of self-organization, nonlinearity, disequilibrium (Salamatov, 2013), expressing the ideas of self-organization and self-development of social systems.

### **6. Findings**

The designing of educational environments based on the system approach requires the establishment of a hierarchy of relationships and subordination between elements of the system; the determination and consolidation of the functional purpose of system components; the extraction of systemically important factors, mechanisms for maintaining the system and transferring it to a new quality state; a strict separation of system interaction spheres in the environment, the nature of connections and relationships of elements within the system; the development of objective criteria for assessing the performance of the system. The interaction of the system with the external environment allows not only to demonstrate the capabilities (potential) of the system in the environment but also to create prerequisites for its transformation under the influence of significant environmental factors. At the same time, the system retains the initiating nature of the influence on the content of relationships between elements of the system and on the process of the interaction between the system with the external environment (Zeer et al., 2016).

The advantages of using the system approach in designing social processes include the technologization of analysis and modeling procedures with a view to streamlining the interaction of

system elements, forecasting the performance of the system as a whole and its separate elements, algorithmization of processes of the interaction between elements within the system and between the system and the external environment, programming of internal processes and the performance, transformation of the system and its development (Lazarev, 2015).

In general, the use of the system approach in the implementation of social projects allows you to organize activities rhythmically, with obtaining intermediate results of system performance, with sufficiently accurate planning of productivity and with the possibility of correcting individual significant factors of internal and external environments over the course of processes, the implementation of actions and operations (Bermous & Kirik, 2019).

At the same time, the system approach in designing an educational environment as a pedagogical system has a number of limitations that relate to the regulation of all aspects of system functioning. The use of the system approach borders on relation replication, the technocracism of interaction, stereotypes, opinions, judgments, decisions since it programs not only procedural issues and the final (desired) result, but also a system of assessments, ways of solving problematic issues, and algorithmizes the activities of interaction subjects. There is a movement towards unification, standardization, bureaucratization, limiting the degree of teachers' freedom, which significantly narrows the field of possible creative search for teachers (Zagvyazinsky, 2015). The relationships between interaction subjects in the implementation of the system approach, although they may be desirable and predicted, are always probabilistic in nature (Adolf et al., 2018).

The main factors of the productivity of the functioning of the designed system (educational process) are the coherence of goals of interaction subjects' activities, the fullness with personal meaning, the establishment of a relationship of trust with other subjects of interactions, the acceptance of an externally-given goal of the functioning as a personally significant goal (Serikov, 2017). In the era of the promotion of the values of tolerance and the ideas of humanism, the professional specialist becomes the central link of relations within the environment, demonstrating the subject-centeredness of the environmental context (Leskova, 2018).

The main barrier to the application of the system approach as the main means of standardization in education and the method of programming the result is the presence of significant differences in the understanding of externally-given education goals, formulated in educational standards, by interaction subjects, differences in the determinants of the value-meaning field of teachers (organizers of the educational process) and the personality position of the student on the context of the environment. It is difficult to assess emotional experiences of the subjects, the laboriousness of the processes in terms of personality energy consumption, the degree of personality self-realization in the implementation of any activity, the level of choice autonomy in the system approach, due to the impossibility of formalizing the features and evaluation criteria (Khodyakova & Mitin, 2017).

The contradictions arising in the process of applying the system approach in the design of educational systems can also include the adoption of the subordination of the educational process to priority social goals, while the system-forming elements of the educational environment are the content of education, the process of upbringing, and pedagogical support for the self-development of the student's personality. The most important components of education content are the gaining of the experience of

free choice as an act of personality self-determination in the system of values of a particular person, the experience of an attitude towards oneself, which is resulted from living through personally significant situations, and the nature of the relationships between teachers and managers, between teachers and students (Bermous & Kirik, 2019).

When organizing educational process with a focus on the external side of the design process (order, diligence, and discipline), and not on the content of the interaction between the subjects (empathy, participation, co-creation), the system approach structures the space of interaction, formalizes relationships, suppressing the students' initiative while constantly demonstrating the dominant role of the teacher and the prevalence of external incentives through the imposition of sanctions. The indicated interaction model cannot be productive, since the activity of subjects (especially students) is determined by the established order (order given from the outside), which limits the space of creativity and self-expression and does not contribute to the establishment of long-term productive connections between subjects in the environment, closes the environment, limiting its integration with other systems.

The system approach can be used in the design of educational systems to ensure the fundamentality, functionality, and maintainability of the designed content of education, systematicity, logical consistency, procedural continuity of the organization of educational interaction between the subjects of the educational process and system elements. The system approach proves its effectiveness in organizing formalized structures (separate subsystems) of the organization of educational interaction, the functioning of these structures requires strict hierarchy and functional fixity of parameters, their stabilization throughout the entire period of the system's functioning.

The indicated boundaries of the application of the system approach in designing the environment for personality self-development in continuing education can be expanded by the correct use of the tools of the system approach: when creating projects, to include the rigidity of connections between system elements, taking into account the variability of relations and the influence of disordered environmental factors; to recognize the poly-subject nature of educational goals and the probabilistic nature of their achievement; to accept the objectivity of the content of the environment context and individual characteristics of perception, self-awareness and thinking of interaction subjects; to understand the dependence of the development of the normatively fixed content of education on the system of values, personality activity of interaction subjects, self-determination experience, reflexive experience; to consider the conditions for system transition from external management to the implementation of self-government mechanisms.

## **7. Conclusion**

The ideas of humanistic pedagogy, the order of the individual for education determine the strategies for designing the educational process as a space of personality-oriented interaction of the subjects. The system approach as a methodological platform, which has proven its effectiveness in the design of social systems, having the potential to establish system-forming connections, can significantly enrich the relations between the subjects when integrated with the situational-environmental approach. The combination of the system approach and the situational-environmental approach as a methodological basis of the educational process will allow not only to build hierarchical relations and to algorithmize

processes and phenomena in the environment, but at the same time to ensure interaction eventfulness and, as a consequence, an increase in personality experience.

## References

- Adolf, V. A., Azhiev, A. V., & Gadaborsheva, Z. I. (2018). Algorithm of supporting future social workers in pedagogical and psychological aspects. *Espacios*, 39(35), 7.
- Belyakova, E. G., & Zaharova, I. G. (2020). Professional'noe samoopredelenie i professional'naya identichnost' studentov-pedagogov v usloviyah individualizacii obrazovaniya [Professional self-determination and professional identity of student teachers in the context of individualization of education]. *Obrazovanie i nauka* [The Education and science journal], 22(1), 84-112. <https://doi.org/10.17853/1994-5639-2020-1-84-112>
- Bermous, A. G. (2015). *Gumanitarnye smysly obrazovaniya: iz 20 – v 21 vek* [Humanitarian meanings of education: from 20 to 21 century]. Rostov-on-Don: Southern Federal University.
- Bermous, A. G., & Kirik, V. A. (2019). Razrabotka lokal'nyh obrazovatel'nyh standartov kak strategiya modernizacii pedagogicheskogo obrazovaniya [Development of local educational standards as a strategy for the modernization of teacher education]. *Obrazovanie i samorazvitie* [Education and Self Development], 14(3), 150-160.
- Kamaleeva, A. R. (2015). Sistemnyj podhod v pedagogike [System approach in pedagogics]. *Nauchno-pedagogicheskoe obozrenie* [Pedagogical Review], 3(9), 13-23.
- Khodyakova, N. V., & Mitin, A. I. (2017). Uchet psihologicheskikh mekhanizmov razvitiya lichnosti v proektirovanii obrazovatel'noj sredy [Addressing psychological mechanisms of personality development in educational environment design]. *Psihologicheskaya Nauka i Obrazovanie* [Psychological Science and Education], 22(4), 101-109.
- Kraevsky, V. V., & Berezhnova, E. V. (2008). *Metodologiya pedagogiki: novyj etap* [Methodology of pedagogic: new stage]. Editorial center "Academy".
- Lazarev, V. S. (2015). Proektnaya deyatel'nost' uchashchihsya kak forma razvivayushchego obucheniya [Project activities of students as a form of developmental teaching]. *Psihologicheskaya nauka i obrazovanie* [Psychological Science & Education], 20(3), 25-34.
- Leskova, I. A. (2018). Sub"ektocentrirovannoe sodержanie vysshego obrazovaniya kak faktor effektivnosti professional'noj podgotovki specialista [Subject-centred content of higher education as a factor in the effectiveness of professional training of a specialist]. *Obrazovanie i nauka* [The Education and science journal], 20(7), 9-31.
- Petrov, A. V. & Kudashova, E. I. (2017). Kompleksnyj sistemnyj podhod v sisteme sovremennogo obrazovaniyah [Complex system approach in the system of modern education]. In A. V. Petrov (Ed.), *Current problems and prospects of the theory and practice of modern education* (pp. 125-129). Gorno-Altai State University.
- Salamatov, A.A. (2013). Metodologicheskie podhody v pedagogicheskikh issledovaniyah: sinergeticheskij podhod [Methodological approaches to the pedagogical research: synergetic approach]. *Professional'nyj proekt: idei, tekhnologii, rezul'taty* [Professional project: ideas, technologies, results], 2(11), 37-45.
- Serikov, V. V. (2017). The teacher and pedagogical science: How to overcome the barrier? *Espacios*, 38(40), 36.
- Shchukina, M. A. (2018). Evristichnost' sub"ektnogo podhoda v psihologicheskikh issledovaniyah samorazvitiya lichnosti [Heuristics of the subject approach in the psychological consciousness of personality self-development]. *Psihologicheskij zhurnal* [Psychological journal], 39(2), 48-57.
- Verbitskiy, A. A., & Rybakina, N. A. (2016). O sisteme, processe i rezul'tate nepreryvnogo obrazovaniya [Invariable result of lifelong education]. *Vyshee obrazovanie v Rossii* [Higher Education in Russia], 6(202), 47-54.
- Zagvyazinsky, V. I. (2015). O svyazi metodologii i tekhnologii v pedagogicheskom issledovanii [Concerning correlation between methodology and technology in pedagogical research]. *Obrazovanie i nauka* [The Education and science journal], 5(124), 4-14.
- Zeer, E. F., Lebedeva, E. V., & Zinnatova M. V. (2016). Metodologicheskie osnovaniya realizacii processnogo i proektnogo podhodov v professional'nom obrazovanii [Methodological bases of the implementation of the process and project approaches in vocational education]. *Obrazovanie i nauka* [The Education and science journal], 7, 40-56.