International Journal of Pedagogics

VOLUME Vol.05 Issue06 2025
PAGE NO. 229-232
DOI 10.37547/ijp/Volume05Issue06-62

# Content and Essence of The Concept of Systems Analysis

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**Received:** 22 April 2025; **Accepted:** 18 May 2025; **Published:** 20 June 2025

**Abstract:** This article covers the content, object, subject, purpose, and tasks of the concepts of system and systemic analysis, and presents the content and essence of the concept of systemic analysis in studying the role and importance of the system in the development of society today.

**Keywords:** Object of systematic analysis, purpose of analysis, functional-structural analysis, morphological analysis, genetic analysis, similarity analysis, efficiency analysis.

**Introduction:** The industrial development of society, the expansion of production sectors, the increase in social demands and needs of the population, the emergence of new forms of various economic, financial, environmental and other problems, and especially new changes in people's worldviews, have created the need to organize effective, efficient and consistent governance, which require a response to the challenges of today's world based on systemic approaches. It turned out that a systemic approach is the image of a modern person, his daily needs, and the criteria for effective activity. In other words, if thinking does not change, social life will not change either. Because we put into practice our views on the introduction of certain methods through a systemic approach to the essence of things and phenomena, the content of the problems associated with them.

**Literature review**

Theoretically, the object of systematic analysis is the process of preparation and decision-making. In practice, it is a set of various and specific problems that arise in the processes of system organization and functional activity.

Systems analysis covers the study of real objects of society and nature in various forms, from the universe to the personal level, related to improvement (optimization, modernization) as an object of research. Systematic analysis represents the utilitarian problems of various hierarchical levels in the improvement of existing economic, technical, military, informational, technological, technical, organizational systems.

The subject of systematic analysis was primarily defined as the means of studying the external world, its natural and social objects and processes, based on a systematic approach. In this case, the study of systems and the solution of complex problems follow the principles of a systems approach. The subject of systems analysis is the classification of objects, (characteristics) tools, methods, and solutions to problems and actions of a system object. Also, the subject of the system classification includes the composition, structure, function, interaction with external elements, stages and development processes of the system.

The subject of systematic analysis: firstly, the concepts and principles of setting and solving practical problems; secondly, it consists of methods of integration of research methods and results of special science fields into target technologies aimed at solving the problem. Thirdly, methods, methods and models of complex research of various structural objects are considered [1].

The subject of systematic analysis is a set of relations aimed at forming and revealing the laws and objective regularities of the studied science. The subject of the systematic analysis is directed to the development of a specific recommendation. During the study of the general laws of construction of complex systems, the functionality of ecological, economic, technical, pedagogical and other various systems is focused on solving specific design tasks.

Thus, the object of systems analysis is systems. The subject is a set of tools for studying objects related to the environment [2].

Summarizing the above, we can conclude that, just as the development of human society obeys the laws of dialectics, the development of humanity is inextricably linked with the development of the system, that is, it expresses systemicity in itself. Also, systemicity can be considered as the general trend of the development of human society and its results as an effort to create a human society.

The essence of systematic analysis is the ability to solve complex decisions of a systematic nature based on the theory, principles and methods of systematic analysis. Based on this, the goal of systematic analysis is to achieve a result by effectively using various options and available resources. One of the main places in the process of systematic analysis is the determination of the goal, which is part of the organization of important methodological approaches. In particular, they are:

- the decision-making process begins with a clear and clear understanding of the content of the final goal;

- it is necessary to identify and analyze alternative ways to achieve the goal;

- the goals of a separate stage must not contradict the general goal [3].

**METHODOLOGY**

In its place, goal formation, structuring, and analysis, systematic analysis cannot be seen as the main and primary task of achieving goals without methods and techniques. Goal setting, as a way to solve a problem, is schematically represented as Z>F>S>P: Z-subjective goal, P-objective goal. The ambiguity and alternation of the goal (Z) lead to the existence of many paths, which leads to a multitude of results. Goal setting is a very important process based on the methodology of systematic analysis. Knowledge, experience, and analysis are of great importance in this process. The rules for forming the system's purpose are reflected in the following factors:

Rule 1. A goal is seen as the result of a functional system, re-providing needs that have gone as satisfaction in its place. Defining a goal like this defines the way to solve the goal. Instead, defining the goal eases the solution path.

Rule 2. The goal arises from the unity of internal and external needs. If the goal of the system does not agree with the needs, then an additional system is required. The problem should be solved in harmony within the system, taking into account the unity of internal needs. If a system relies on its own resources for its solution, it will lead to a closed system and the "Entropy" process will prevail, which in turn will lead to degradation, that is, a downward spiral. Naturally, if the goal of the system is to satisfy its own needs and not take its own goals into account, sooner or later its resources will run out and degradation will be expected.

Rule 3. The goal should not be replaced by the methods and means of achieving it; it should be considered in light of the available and proposed resources and needs.

Rule 4. For example, if the goal is “it is necessary to develop an information system,” then the term “information system” should be derived from the rule that “development” is a possible alternative function or one of the methods of achieving success (alternatives: acquisition, improvement, etc.). The true goal is to provide this or that consumer with the necessary, useful information, data resource. Replacing goals with means or methods of achieving them leads to the creation of a system that does not allow achieving the desired effect and requires large expenses.

Rule 5. The goal should be to increase the efficiency of the system by increasing efficiency or reducing costs (resources).

Rule 6. The implementation of these rules allows to ensure the advanced development of the system.

Rule 7. The global nature of goals is balanced by the time frame for achieving them and the uncertainty of their formulation.

Rule 8. Goals that are relevant to the time frame of achievement are long-term and short-term, current, operational and strategic. Long-term goals are formulated more vaguely, while short-term ones are formulated more precisely. Global goals require more extensive methods and means, as well as resources. Global goals are clarified in the process of their formulation and revision.

Rule 9. The goal should always be evaluated on one or another scale [4].

**RESULTS**

First, the main purpose of systematic analysis is to solve complex management problems. Emphasis is placed on learning object management for successful problem solving. That is, it covers not only the system, but also its purpose, management purpose, fitness for purpose and proper orientation. Systematic analysis methods and procedures focus on goal clarification, ask for alternative solutions to problems, compare performance criteria, and make recommendations.

Secondly, the main task of systematic analysis is to expand the problematic situation in front of the subject of systematic research, to study, to determine the causes, to develop alternative options and to eliminate

the problem. In the initial stages of systematic research, the object is formalized by studying it. At this stage, systematic analysis is fundamentally different from the methodology of other disciplines. In the field of education, if the sciences determine the content of the system, the systematic analysis serves to ensure the possibilities of implementing its effectiveness.

Third, the main task of systems analysis is decision-making. In the design and management of complex systems under conditions of varying degrees of uncertainty, the selection of alternative solutions leads to the minimization of problems. Conditions of uncertainty that are not subject to precise assessment may arise from random external and internal influencing factors in the abstract state of the goal. There is another type of uncertainty that affects the problem situation with its consequences after decisions are made. The fact is that various types of behavior are characteristic of complex systems. That is, after a decision is made, the behavior of the system can lead to unexpected changes. Therefore, the issues of evaluating alternative options and the possibility of conflicting solutions are also studied in systems analysis. This, in turn, serves to justify the appropriateness of the decision made. For this, a decision-making model is developed in the system analysis. Methods are used to determine the quality, norm, and choice of the decision made. At this stage, when developing and making decisions, it is necessary to take into account the interaction of the system with its subsystems, the compatibility of goals, and the separation of primary and secondary goals.

Fourth, another task of systems analysis is the study of goal-setting processes. The study of goals, their development, and the means of working with goals (program, plan, form-content, structure, relationships, etc.) are among the most complex processes. In this sense, systems analysis is sometimes called goal-oriented systems methodology. In systems analysis tasks, goal-setting is one of the most important actions in decision-making, since the goal is the object that determines the task of systems research.

Fifth, systems analysis deals with the tasks of organizing a hierarchical system, optimal structure, optimal functional mode, and optimal interconnection of subsystems and elements. In identifying such problems, cooperation between systems researchers and industry specialists yields positive results.

Sixth, a separate task of systemic analysis is the issue of the complex interaction of the research object with the external environment. The solution of these issues is to limit the influence of the research system and the external environment. In particular, it is necessary to identify the factors that determine the scope of interaction, take into account real resources, and compare and contrast with systems of the same level. This task is to create an alternative design of the interaction of the system with the external environment. That is, to form alternative options for the development of the system in time and space [5].

Every person, regardless of the nature of his activity, knows without a doubt that it is necessary to constantly and step by step solve the problems facing man. Problems are small and large, relatively easy and difficult, and dissimilar when they require the use of scientific and theoretical information in gathering knowledge. In life, there are such people who solve their problems easily, and some of them face difficulties and failures in solving such problems. His natural pursuit of success makes his actions stand out from the rest. In the future, it is necessary to summarize and summarize the positive and negative aspects of the problem-solving experience in order not to repeat the wrong actions, but instead to use effective methods. There are always professionals who try to meet the demand of society, and as a result, learning to solve problems begins.

In solving each problem, it is necessary to use deep professional knowledge, that is, to use the knowledge necessary for this problem for each set of necessary professions. Everyone has problems, but the difference between a teacher's problem and a builder's problem, a doctor's problem from an engineer's problem, an artist's problem from a soldier's problem, and similar differences creates a unique imagination. The problem features come first. Therefore, the goal and task of the system begins with collecting and summarizing the experience of solving individual problems for each specialist. In each specialty, such knowledge appears that, as a result, they are seen as general sciences.

In particular, “Fundamentals of Systematic Analysis in Pedagogy” is becoming one of these new disciplines. First in the military, then in economists, “operations research”, “general human pathology” and “diagnostics” in doctors, “technical systems” and “engineering practice methods” in engineers, “political science”, “futurology”, “conflictology (disagreement)” in social scientists, “systems approach”, “targeted program management” in administrators, and so on.

Of course, solving some specific problems requires special, sometimes very deep professional knowledge. But if we focus not on the structure of the problem, but on the technology of working with it, on the repetition of actions and precautions, then the chances of success increase. Thus, there is an idea of providing a universal algorithm of actions for solving problems that is

suitable for all professions. If we focus on the fact that we all live in the same world, obey common laws, and only interact with them from different sides, this idea will not seem strange. Therefore, we need to change ourselves, not nature.

## CONCLUSION

Considering the role of analytical activity in ensuring social development, it is not difficult to understand how high its level of social significance is. After all, by means of an analytical resource (it can be a dissertation, monograph, scientific article, review, report, reference, review, etc.), representatives of the field explain the essence of strategic issues and prepare a resource with different views for making social, economic, cultural and political decisions based on a systematic analysis. Within the framework of pedagogical activity, this can also be in the form of a lecture, thesis, report, or recommendation. Because there are a number of tasks of systematic analysis, it serves to gain a clear understanding of them and ensure the meaningfulness of analytical activity.

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