

Synergetic mechanisms of students' new worldview formation

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Abstract. The authors consider the synergetic approach in psychopedagogics. Synergetics is regarded nowadays as one of the fundamental aspects of the students' new worldview formation. Teachers' professional awareness to work in the framework of new tendencies is one more urgent task. Creative and prognostic thinking will help teachers to work with students as self-organizing systems. The proper new original technique and style elaboration will greatly contribute to educational process. Such Synergetic mechanisms as openness, nonlinearity; feedback are the leading ones in creating modern terms of teaching and upbringing students, defining them as a super-complexes and unique systems. Synergetics can be of great assistance in creating modern terms of teaching and upbringing students. The synergetic approach is a scientific domain of evolving structurally organized systems, to which the system of professional training of specialists can be referred. This approach creates new possibilities to student's self-determination in the framework of multidimensionality, complexity, and alternativeness of cognizable processes. It is of great importance to recognize the significant role of randomness in students' self-development. It is necessary to emphasize that systems including several complex system components that make up an integral synergetic system are actually realized in the conditions of diversity, randomness, spontaneity and unpredictability. The problem is that a future specialist should have the skills and professional mobility to react quickly to the constantly emerging changes in practical and scientific activity. Thus, interdisciplinary integration is one of the most important areas for improving the preparation of students in a modern higher educational institution.

1 Introduction

Through the prism of a synergetic approach, a variety of aspects of human life is studied. Thus, for example, from the synergetic point of view, the social nature and role of documents is considered [1]. Attempts to describe certain areas of scientific knowledge in the paradigm of synergetics are noted [2–4]. As an open complex system, self-organizing in conditions of change, the educational process is studied [5–8], as a super-complex, a self-developing system the process of teaching foreign languages is considered [9–10].

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In the modern dynamically developing world teaching of a personality capable of a multipurpose, global vision, analysis of compound problems of the society, ready to solve different questions is of great demand. The changes of the world nowadays prove that the present system of teaching needs a completely new approach that stipulates the further strategy of its development.

Today, the comprehension of primacy is observed in society. Synergetic approach to humanization of teaching is the essential part of growth in all the spheres. It helps to solve global environmental and spiritual problems using synergetic methods. It is practically the only way out to the development of society and nature overcoming the threat of an environmental crisis. In these conditions, modern society determines the right preference of personal development, his cultural awareness, which is the necessary condition for the constant development of civilization.

The synergetic approach in psycho-pedagogics is nowadays regarded as one of the fundamental sides of the students' new thinking formation. The teacher's predictive thinking in the analysis of the student's personality in the process of studying assists considering the student a unique system. This system entails professional knowledge, longing for more success in learning, acknowledgement of new tendencies in the world. Universal background will help to a more adequate understanding of the students' role in the organized psycho-pedagogical class.

In the framework of social values, the issues of modernization of education are filled with new creative content. In such conditions, it is of great demand that the level of teachers professional training will correspond to the conditions of the renovated high school. A good knowledge of the subject and mastery of the teaching methods is important, of course, but it is not everything that is necessary at present. Teachers as well as students must become self-developing systems, able to design new modern approaches for individual teaching. Students' choice of subjects and even teachers is on the forefront. Interaction between them will be of great necessity [11].

2 Method

Having accepted the synergetic paradigm in teaching lecturers must keep in mind that new methodology is of great necessity. In modern Russian scientific pedagogical research (M.V. Boguslavsky, A.N. Dakhin, M.P. Karpenko, I.A. Kolesnikova, V.N. Pomogaybin, etc.) the problem of transition to a new high school with its new methodology is increasingly important. It will be a reasonable response to the requirements of a modern developed society, its major problems and technologies. Of great demand nowadays is making baseline terms for students to be taught at the personal learning trajectory and the corresponding complexity level. The student now is considered a self-valuable individuality with its own developing life logic and trends. He is in the centre of modern pedagogical process, and can be regarded as the unique holistic personality.

Of course, the idea of individual approach to education is not new. It was widely used even in ancient times, and throughout the history of education. Middle Ages put forward "collective learning" alternative, which spread widely. In Russia, individual education has become a traditional form. It was rooted deeply in Russian people's mentality.

The very picture of getting knowledge will change greatly. From the very beginning in making choice of scientific trajectories, it can be the chart of the things, which are not known to the students. Then taking into consideration the realistic estimation of their professional level they will conscientiously begin getting knowledge.

New teaching synergetic paradigm will be of great use as it means self-organization and self-development. This approach may be called the Theory of self-developing systems, where a student is considered the system.

Such methods as projecting, mentality cards, different sketches, designs and real-life episodes are the chief methods used by teachers who are engaged in this process.

Synergetic approach is seen as one of the fundamental aspects of the students' new worldview formation. The synergetic paradigm tries to overcome linear thinking, which is now dominating. This kind of thinking, according to some outstanding Russian and foreign scientists, is becoming fundamentally insufficient and even dangerous [12]. It can break in a nonlinear complex reality. New synergetic paradigm has pluralistic tendencies. It can be interpreted as human-dimensional one.

Synergetics is of great value for psycho-pedagogy as it regards the advent of new paradigm. Synergetics embraces the space of interpersonal dialogue, which helps to build constant development of psycho-pedagogical systems. Synergetic cognition is focused on the communicative-activity process.

Multicultural language environment is one of the most important tendencies in the framework of new tendencies. It will help mutual understanding and communication between people. In this respect, Synergetics conceptually is an open system. It forms an interdisciplinary teacher - student dialogue. Synergetic thinking activates the pedagogical process developments and its results. The scientific literature analysis of the problem show that the synergetic approach considers education as a complex system and formulates certain terms for the development of this system. These terms are the following:

- Openness
- Complexity
- Nonlinearity
- Feedback
- Instability

3 Research

An important source of constructing the content of academic disciplines is the specific science behind the given subject. This situation determines the scientific validity of the content of the subject, which follows from the principle of the scientific nature of the learning process. In this regard, the most important tasks of didactics and methodology include the determination of a specific trajectory in which the content of general education as a whole should develop. This way of the content development can be its research trend.

Actualization of synergetic ideas in the educational process creates such prerequisites as humanization of education in general. Necessary requirement for the enlightenment modernization is the integration into scientific educational space and self-organization of students with the acquisition of cultural values. A synergistic analysis of the ecological problem means that an ecocentric approach to nature and people's desire to save the planet can resist the elimination of the environmental. This new ecological thinking will assist to the survival of humanity as a whole. The level of the worldview formation and ecological problems should integrate into the overall systematic work scientifically organized that is the basis of the academic discipline.

Elaborated scientific programs forming personal scientific worldview accompany the process of self-organization. Synergetic ideas are more successful when they are integrated with the natural science and humanitarian subjects.

Synergetic ideas in teaching are considered as a profound scientific problem. Solving the main theoretical tasks of self-organization by designing, diagnostics and forecasting of the teaching process development are of great importance. The use of synergetics in the educational process monitoring can solve many existing problems. It should be kept in mind that synergetic ideas are installed into modern education with the aim of its

modernization. Didactic aspects should be elaborated to adapt synergetic ideas in the content of education.

The authors consider, that this approach can be called General theory of self-developing systems. It can become the basis for the whole world picture. The definition of these parameters, connected with the simplification of complex objects, can be seen in Figure 1. It is given as the Model of Psycho-Pedagogical Process Development from the Synergetic Paradigm point of view. It is clearly seen, that Attractors help to open close systems.

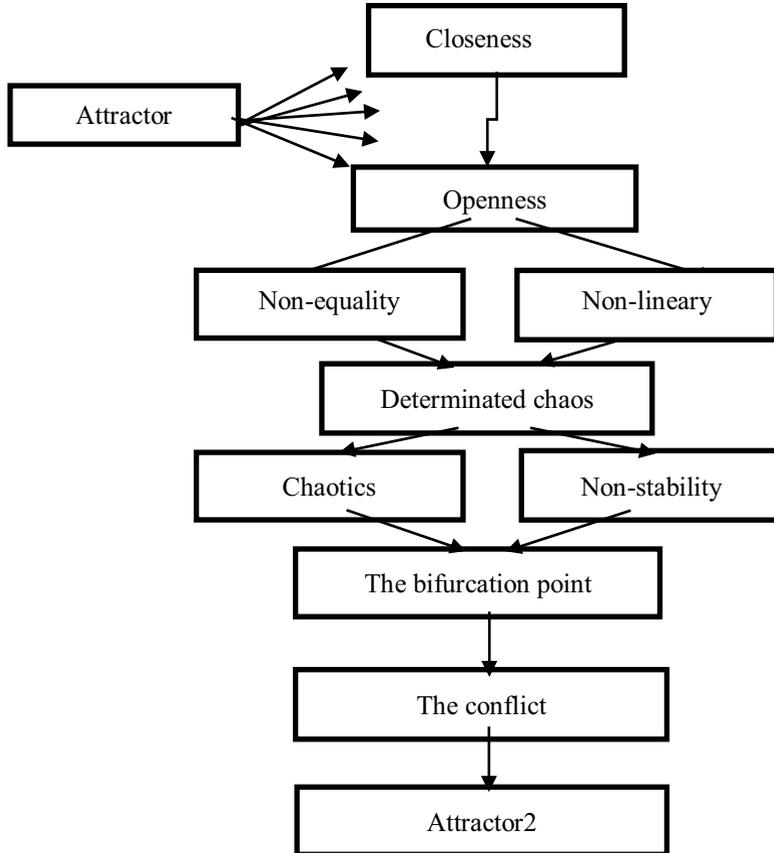


Fig. 1. The Model of the System Development (Synergetic Paradigm)

As well as other complexly organized systems, pedagogical system has several specific properties:

- uniqueness;
- originality;
- subjectivity;
- polyvariety [12].

The ideas of the modern world from the synergistic paradigm point of view admit the following concepts:

- knowledge is not omnipotent;
- the possibilities of scientific forecasts remain;
- the restructuring of a person to please anyone leads to ineffective results;
- personality - deterministic thinking led to global crises (environmental, social, etc.);
- the nonlinear paradigm reveals its necessity in hopeless situations.

It's not a secret, that human relations are non-linear. When numerous cases of deviant behavior occur old existing principles can't work effectively, only synergetic approach will help to solve the problem. Deliberate selection in making decisions is often complicated: the whole manifests itself as something more than the sum of its parts.

The system of education is non – linear. Students and teachers have nonlinear relationships. But due to limited opportunities, this process does not always support the dynamics of individual development. Over organization of the pedagogical process can lead to stagnation, and the predominance of spontaneity – to disintegration. Teachers should avoid it and create modern form of knowledge acquisition for the students to achieve better results in the learning process. Goal-oriented and value-oriented development of the educational system is now being formed. Personal growth is considered a non-linear process, so teaching and training should also become non-linear. Effective interaction with students is of great demand [11]. Teachers should make original individual programs, learning trajectories and styles, new methods, based on synergetic approach. They should be on the front line of the upbringing process. Of all the necessary qualities, the most essential are the system thinking and cognition, the ability to work in team [5].

Complex analytical work should be done to make the whole teaching productive enough. There always exist some elements of chance and spontaneity. The organization acts are the overcoming of spontaneous principles which are largely determined by chance, and spontaneity itself turns out to be its consequence and result [13, 14].

Psycho-pedagogical system can represent the result of a random combination of certain characteristics. Many classes include chains of coincidence of circumstances, and therefore they cannot act as a reason for the next educational situation [4]. This situation does not cancel the interdependence of educational cases in the purposeful organization of educational situations. It's obligatory to take into account the formation of students behavior that corresponds to generally accepted rules and attitudes. The analysis of synergistic aspect makes it possible to extrapolate the spontaneity / organization relationship to personality behavior which in a certain situation depends on many variables (mood, desires, and partners' response). The above affirmation envisages the availability of the teacher's modeling of normative and value-oriented situations:

1. Actions may well be interdependent, since they carry knowledge about the rules of behavior and express normative values.
2. The close situations and actions may well be interdependent, since they carry knowledge about the rules of behavior and express normative values.
3. Instilling individual student's responsibility for the result of their actions applies only to distant sequential events.

In the context of the above reasoning, it becomes clear that there is concern about the blurring of ideas about behavioral rules and norms, as well as moral criteria. We can expect concentration and consciousness. Teachers try to help their formation at the sufficient level. It can mobilize the will, and in the aggregated circumstances, they dominate over accidents. Thus, the student is able to control his own behavior and influence the situation.

It is of great importance to form teacher's professional readiness for educational work in modern higher education and the formation of predictive thinking. In this respect, predictive thinking has a number of characteristics that must be formed:

- searching for a number of ways of developing the educational situation and its alternatives;
- orientation not only to what is desired and possible, but also achievable;
- understanding the possibilities of forecasting a situation or action;
- need for the development of such knowledge.

The synergistic paradigm means dialogous trend. The essential part of this work is modelling environment in which the processes of generating knowledge by students

themselves, their active and productive creativity, become possible. Open teacher - student dialogue can give better results than boring lectures. This dialogue should include some adventure. "Learning becomes interactive, and the student and the teacher learn mutually, that is, they become cooperating employees, a team." [15].

Scientific research activity is connected with the transition from the reproductive way of teaching to the creative one. Students' work should become creative and self-organized, oriented into solving different problems by their own. In the process of this work teachers monitor students' personal development, discovery of subjectively new scientific knowledge. The most important element in this process is motivation. Team work is also necessary. The research competence should be formed as the result of this work.

The authors consider that in the present situation, the system of research skills formation should include:

- general view on the problem formation;
- development of synergetic reflexia;
- systematization of language knowledge;
- discussion of possible themes choice;
- training of practical skills;
- practical work in learning scientific style.

Modern scientists use many different approaches in their work. They choose different methodological basis for it. All these approaches can be combined in synergetic one, as it is interdisciplinary and intercultural.

4 Conclusions

So, what are the synergistic mechanisms of students' new worldview formation? Let's formulate some basic lines:

- self-education;
- the mastery of self-educational methods;
- transfer to new modified structures of knowledge and behavior;
- dialogical thinking and reconstruction of the way of life;
- nonlinear and alternative thinking changes;
- organized spontaneity-

Therefore, we can conclude that at present original methodology and style, new approach to education are badly needed. Synergetics can be of great assistance in creating modern terms of teaching and upbringing students, defining them as a super-complexes and unique systems.

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