

## EFFECTIVE EDUCATION IN THE CONDITIONS OF NOOSPHERE EXISTENCE OF MANKIND WITH OBJECTIVE AND VIRTUAL REALITIES

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**Abstract:** The article presents the theoretical and empirical results of the research of effective education, which is organized in the conditions of noosphere existence of mankind with objective and virtual realities. Effective education is analyzed as a complex formation that simultaneously appears as a socio-cultural institution, as well as system, process, and result. According to teachers and students of pedagogical institutions of higher education, effective sociability, effective activity, effective analysis will contribute to the organization of effective learning in the noosphere of human existence with objective and virtual realities.

**Keywords:** Education, Effective education, Effective education as a process, Effective education as a result, Effective education as a socio-cultural institution, Effective education as a system, Noosphere.

### 1 Introduction

Traditionally, education is seen as an open system that is subject to external influences (economic, social, cultural, etc.) and internal (within the educational system). In the article "A change of human values during the life as an indicator of the formation of a spiritual being" [4] external influences on human development are analyzed in two contexts:

1. Evolution of Universe. According to the theory of self-development of the Universe, the origin of human is a consequence of the evolution of the Universe, which develops, self-preserved and self-organizes according to the laws of the open system [7].
2. Evolution of the Mind. According to the reasoning of the philosopher Gorak (1997), the human individual is called to live by the cosmic evolution of the Mind. From the moment of its appearance, the individual is a condensed potential of the powerful flow, the spiritual organizing principle of the self-development of the Universe. But human becomes capable to realize his purpose in space only in society. The formation of society should be seen as, first of all, the realization of human ability to think and spirituality, "and not life support, because the latter for human is derived from the former" [3].

At the same time, the problem of the influence of the process of evolution of the biosphere, as a result of which the noosphere was formed, on education is not considered.

### 2 Materials and Methods

The analysis of education is carried out with an emphasis on the meaning of the word "effective", using the polysemantics of the phenomenon of "education" as a socio-cultural institution, as a system, as a process, and as a result.

Attention is focused on the leading ideas of Vernadsky's (1977) theory of the noosphere, the organization of an effective learning process in the conditions of the noosphere existence of mankind with objective and virtual realities.

Experimental research concerns the establishment of the qualities of a teacher, on the availability of which the organization of effective learning depends in the conditions of noosphere existence of mankind with objective and virtual realities. Conclusions are formulated that have theoretical and

practical significance for understanding effective education as a socio-cultural institution, as a system, as a process, and as a result in the noosphere.

Publications in specialized editions, monographs in the considered fields, reports, and other secondary sources are employed for this research. The research uses the following methods: theoretical analysis, synthesis, comparison, systematization, generalization, observation, conversation, questionnaires. The experimental research involved 1510 respondents from Ukraine, of whom 1,004 were future teachers and 515 were teachers. The experimental research was conducted for two years. Systematization and classification were used for data analysis.

### 3 Results and Discussion

In dictionary sources, the essence of the phenomenon of "effective" is explained by three contexts:

1. Process (the one which leads to the desired results, consequences, gives the greatest effect or causes the effect) [1].
2. Result (relative effect, effectiveness of the process, operation, project, defined as the ratio of the result to the costs that led to its receipt) [1].
3. Interdependence (the ratio of the useful effect (result) to the cost of obtaining it) [1].

As shown in Figure 1, effective education is a complex formation that simultaneously appears as a socio-cultural institution, and a system, and a process, and a result.

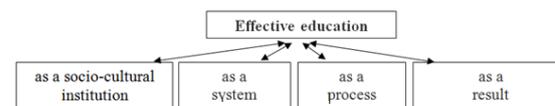


Figure 1 – The phenomenon "effective education" in the context of polysemanticism

The phenomenon of "effective" has become widespread in the European educational experience in the phrases "effective school", "effective teacher", "effective learning".

Also, the phenomenon of "effective" began to be used in the phrases "effective education", "effective educational institution", "effective teacher", "effective learning process" to reflect the functioning of modern education as a continuous process that lasts throughout life.

The analysis of effective education as a socio-cultural institution, first of all, concerns the development of mankind and the full functioning of the noosphere. According to Vernadsky [9], the noosphere is a stage in the development of the biosphere, the noosphere was formed as a result of the "explosion" of scientific thought [8]. This "explosion" was caused by the intensive development of science and the introduction of scientific results in human labor.

Thus, in the conditions of the noosphere existence of mankind, reality has become both an objective reality and a virtual reality. Thanks to the global information space, effective information interaction was formed without taking into account the spatial location of people, provided quick access to global information resources, met the needs for information products and services, and increased the role of information and knowledge in various spheres of life (political, economic, social, cultural, etc.).

In the conditions of constant development of information society and knowledge society in the noosphere, there are new opportunities for further "explosion" of scientific thought of the 21<sup>st</sup> century for rapid spread of scientific results to cultural,

industrial, socio-economic, political, and educational processes of regional, state, and planetary scales. Effective education must take into account the numerous processes that accompany the functioning of the noosphere. Among these processes:

1. Changing the value system. According to Toffler, today the circulation of values is faster than ever in human history. Also, the American philosopher predicts a rapid change in values and their short life compared to the values of the past [6].
2. Change of values during a person's life. At different ages, a person refers to the category of "significant and important" different values [4].
3. Changing the rate of increase in the amount of knowledge in the modern world, which, in turn, is accompanied, on the one hand, by certain limitations in the ability to quickly master them, and, on the other – by the rapid "half-life" of acquired competencies.
4. Change in the context of the noosphere vision of the essence of man and the establishment of its understanding as a noosphere and cosmoplanetary being, for which the decisive actions are self-regulation, self-actualization, self-realization, self-development, self-improvement, etc.

Thus, effective education is a socio-cultural institution (Figure 2), focused on the processes of socialization and inculturation of each person to live in new conditions, with new challenges and active involvement in the further production of economic and social innovations that will shape the noosphere of the mid-21st century (Figure 2).

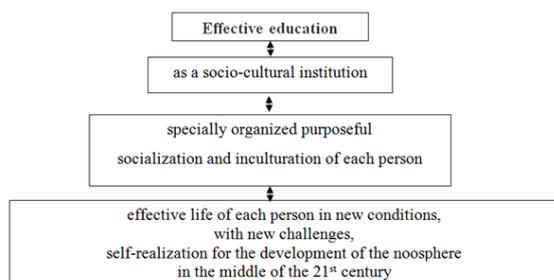


Figure 2 – The essence of the concept of "effective education" as of a socio-cultural institution

The analysis of effective education as a system of educational (state and non-state) institutions of different levels and profiles of activity actualizes issues related to the functioning of the system of continuing education (Figure 3). In this context, effective education is characterized by integrity, continuity, predictability, flexibility, adaptability to changes in social conditions and, at the same time, stability.

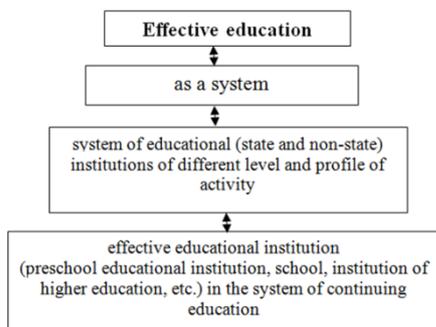


Figure 3 – The essence of the concept of "effective education" as a system of continuing education

Effective education, which functions as a system of continuing education, should be aimed at the future, and, therefore, at preparing everyone for self-realization in the new, only partially predictable socio-economic conditions of life.

In this context, effective education should contribute to the formation of a personality that:

- Realizes the value of learning and self-learning, education and self-education;
- Internally motivated of the processes of self-improvement and self-formation of social living conditions in noosphere conditions;
- Ready to attach its own intellectual potential to the formation of human potential of the region, state, noosphere;
- Sees himself in new role manifestations, namely: 1) I - a significant resource of the production system of the noosphere; 2) I - the object/subject of management; 3) I - a person who has cognitive interests, dominant values, ways of behaving in different situations, a certain attitude to work, focus on lifelong learning, etc.

Thus, effective education as a system of continuing education should serve the formation and development of the human-subject of various aspects of noosphere life, namely: social, economic, cultural, educational, political, etc. Effective education should provide a simultaneous focus on the development of society and on the development of the individual. This is achieved through the processes of constant elevation of level in the following:

- Training (level of existing level of competences);
- Education (the level which determines the actions that are adequate to the constant changes, the growth of emotional and intellectual load on the person, accompanied by end-to-end situations of choice and constant feelings of uncertainty of the future);
- Learning (ability and willingness to learn quickly);
- Development of personal qualities (in particular, the level of responsibility, initiative, creativity, sociability, independence, intelligence, curiosity, decency, self-criticism, etc.);
- Quality performance of educational and professional activities independently or in a team, in accordance with the conscious and accepted mission of the institution, organization, noosphere life.

The functioning and development of effective education as a system of continuing education is ensured by the functioning and development of effective educational institutions. Significant factors that distinguish effective education as a system of continuing education that operates in the noosphere existence of mankind with objective and virtual realities are:

- Permanent formulation of educational proposals based on forecasting the future for the advanced functioning of the system of continuing education;
- The organization of training on the basis of conscious student' acceptance of the intellectual challenge as opportunities and conditions of own development, development of inclinations, abilities and talents;
- The use of objective and virtual realities for the learner to know his own inner world;
- The use of objective and virtual realities to practice actions for self-regulation, self-actualization, self-development, self-improvement, self-realization as a noosphere and cosmoplanetary being and actions to create a job for self;
- Constant monitoring of the progress and difficulties of the student;
- Organization of education with taking into account noosphere challenges, transformation of the labor market, implementation of various directions of technological progress.

Effective education as a process (Figure 4) is a complex formation that combines the processes of learning and self-learning, education and self-education, development and self-development of each person as an individual. The processes provide for the full realization of the internal potential of each participant in the educational process to ensure the succession of

generations, the preservation of cultural norms with a focus on the future state of culture in the noosphere.

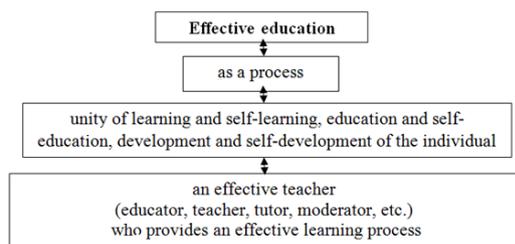


Figure 4 – The essence of the concept of “effective education” as a process

An effective teacher who organizes an effective learning process, appropriately combining objective and virtual reality, provides effective education as a process. The effective process of learning in the conditions of noosphere existence of mankind with objective and virtual realities must be carried out in compliance with four conditions:

- Transition from learning based on memory and knowledge oriented to the past to learning based on thinking and knowledge oriented to the future;
- Transition from an educational route throughout life to an educational route with an individual trajectory of creativity in life;
- Transition from the perception of the student as an object of pedagogical influence to his perception as a subject that transforms the external pedagogical influence in self-influence;
- Transition from the mechanism of interactive transfer of knowledge to the mechanism of their joint generation in the process of creative cognition of the noosphere existence of mankind with objective and virtual realities.

Effective education as a socio-cultural institution, as a system of continuing education, as a process that is the unity of learning with self-learning, education with self-education, should be aimed at achieving a result at each level of education. The overall result contributes to improving society for noosphere progress and economic, social, cultural functioning of man in the new socio-economic conditions (Figure 5).

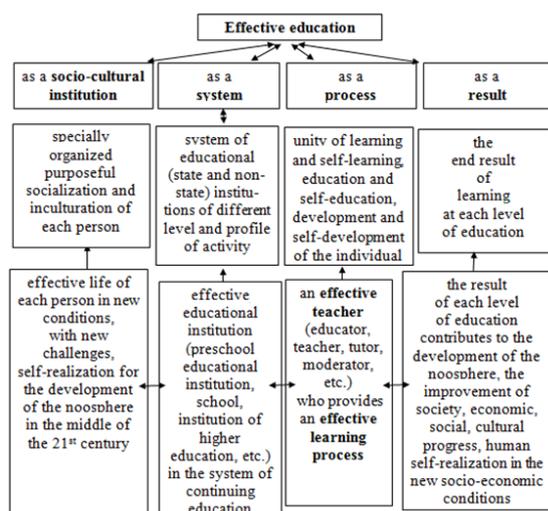


Figure 5 – Functioning of effective education

In the European dimension [2, 5], an effective teacher is distinguished by the possession of competencies and the formation of communicative, organizational, and psychological qualities. In our opinion, competencies in the conditions of noosphere existence of mankind with objective and virtual realities are a dynamic formation that is constantly brought into

line with the challenges that are relevant to a particular person. Taking into account the dynamics of the world, it is expedient to indicate only directions that will determine a person's conformity to noosphere existence.

These are effective learning and self-learning that:

- Provide the greatest effect in the development of man as a noosphere and cosmoplanetary being, which is aware that its actions give rise to a number of “cause and effect”;
- Cause effects, on the one hand, in the acceptance of the dynamics of the noosphere existence of mankind, and, on the other - cause the emergence of internal readiness for permanent development for compliance with new challenges;
- Provide the greatest effect of human self-realization on the basis of competent self-management of own intellectual and emotional-volitional resources, responsible management of necessary resources of the noosphere in order to make a personal contribution to the process of improving the noosphere existence of mankind.

The experimental part of our research was aimed at clarifying the opinion of respondents about the communicative, organizational, and psychological qualities needed by the teacher, who will organize effective learning in the noosphere existence of mankind with objective and virtual realities.

Respondents had to choose from the list of communicative qualities only one quality, which, in their opinion, will most help the teacher to organize effective learning in the conditions the noosphere existence of mankind with objective and virtual realities.

Respondents were offered the following list of communicative qualities (Figure 6):

1. Insight of the teacher (understanding what lies behind the words of the student, identifying what makes him say so, predicting the further development of events and building relationships on this basis during training);
2. Pedagogical tact (adherence to the culture of communication, attitude to students as individuals who have their own opinion, experience);
3. Effective sociability (effective organization of communication in objective and virtual realities and effective communication in objective and virtual realities with the greatest effect from communication or with the emergence of the desired effect during communication).

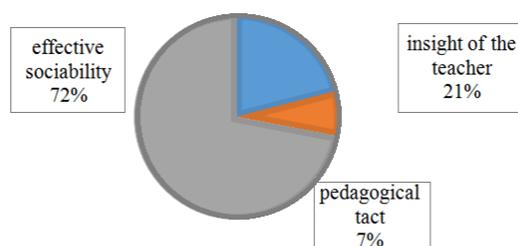


Figure 6 – Respondents' choice of communicative quality that will help the teacher to organize effective learning in the conditions of noosphere existence of mankind with objective and virtual realities

The analysis of the results of the respondents' performance was supplemented by a conversation, during which it was found that, according to 72% of respondents, effective sociability, which aims to obtain the greatest effect from communication or the desired effect during communication, includes insight and pedagogical tact of the teacher. In their absence, the desired effect cannot be obtained.

Respondents were also asked to work with a list of organizational qualities and choose only one quality that, in their opinion, will most help the teacher to organize effective learning in the conditions of noosphere existence of mankind with objective and virtual realities.

Respondents were offered the following list of organizational qualities (Figure 7):

- Leadership (the ability to make responsible decisions in important situations; the ability to use innovative approaches to solve the problem; the ability to make optimal efforts to achieve the goal);
- Effective activity (ability to act on the basis of well-thought-out actions, identified risks, anticipated consequences, moderate focus on the greatest effect of actions or with the emergence of the desired effect during actions performed independently, in group or team);
- Organization (ability to self-organize, ability to plan own activities and the activities of the group, team).

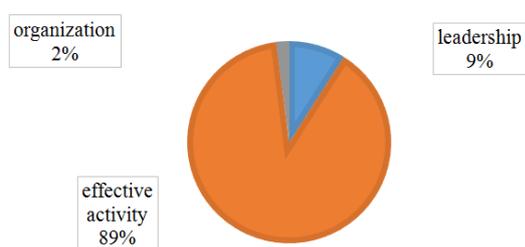


Figure 7 – Respondents' choice of organizational quality, which will help the teacher to organize effective learning in the conditions of noosphere existence of mankind with objective and virtual realities

According to respondents, effective activity includes leadership and organization. Respondents were also asked to work with a list of organizational qualities and choose only one quality that, in their opinion, will most help the teacher to organize effective learning in the conditions of noosphere existence of mankind with objective and virtual realities.

Respondents were offered the following list of psychological qualities (Figure 8):

- Reactivity (the fastest, most correct and optimally appropriate response to changes in situations in the educational process);
- Responsibility (to students, society for the quality of learning, education and personal development);
- Effective analysis (building activities based on planning a sequence of actions to achieve the goal, on process analysis, using own creative research, reflective thinking).

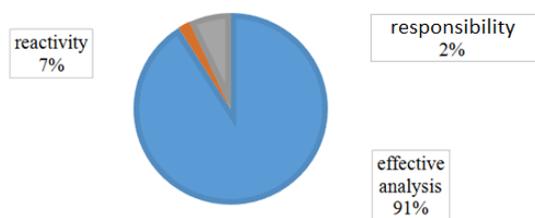


Figure 8 – Respondents' choice of psychological quality that will help the teacher to organize effective learning in the conditions of noosphere existence of mankind with objective and virtual realities

According to the respondents, analyticalness determines the responsibility and reactivity in the actions of the teacher.

## 4 Conclusion

The following conclusions can be formulated based on the conducted research:

1. Effective education simultaneously appears as a socio-cultural institution, and a system, and a process, and a result.
2. Effective education represents a socio-cultural institution focused on the processes of socialization and inculturation of each person for the formation of the noosphere in the middle of the 21st century.
3. Effective education is a system of continuing education, aimed at continuous preparation of each person for self-realization in a rapidly changing world.
4. Effective education is a process is an educational route with an individual trajectory of creativity in life.
5. Effective education is a result is a creative knowledge of the noosphere existence of mankind with objective and virtual realities.
6. According to teachers and students of pedagogical institutions of higher education, in the conditions of noosphere existence of mankind with objective and virtual realities, the organization of effective learning will contribute to the following:

- Effective sociability (effective organization of communication in objective and virtual realities and effective communication in objective and virtual realities with the greatest effect from communication or with the emergence of the desired effect during communication).
- Effective activity (ability to act on the basis of well-thought-out actions, identified risks, anticipated consequences, moderate focus on the greatest effect of actions or with the emergence of the desired effect during actions performed independently, in group or team);
- Effective analysis (building activities based on planning a sequence of actions to achieve the goal, on process analysis, using own creative research, reflective thinking).

In the conditions of the noosphere existence of mankind, reality has become both an objective reality and a virtual reality. Under these conditions, effective education must be organized taking into account the impact of a number of changes. These are: 1) change in the system of values; 2) change of values during a person's life; 3) change in the growth rate of knowledge in the modern world; 4) change in the context of the noosphere vision of human essence and the establishment of its understanding as a noosphere and cosmoplanetary being.

Effective education as a system of lifelong learning must ensure that everyone is constantly prepared for self-realization in a rapidly changing world. Effective education as a process must take into account a number of transitions. These are: 1) the transition to learning based on future-oriented thinking and knowledge; 2) the transition to the organization of the educational route with an individual trajectory of creativity; 3) the transition to the perception of the learner as a subject of pedagogical influence, which transforms the external pedagogical influence into self-influence; 4) the transition to the mechanism of joint generation of knowledge in the process of creative cognition of the noosphere existence of mankind with objective and virtual reality. Effective education as a result should contribute to the development of the noosphere, the improvement of society, economic, social, cultural progress, human self-realization in the new socio-economic conditions.

The limitation of the research is the only country for consideration – Ukraine, where accompanying social factors can influence result. However, the required scope of journal article does not allow expanding the current study for other regions, which will be the subject of our future research.

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