

# Intellectual Talent Of Higher Education Seekers: Theoretical Principles

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## Summary

In order to achieve this goal, we consider the following issues: a retrospective analysis of the concepts of "giftedness", "intellectually gifted personality"; the experience of working with gifted youth abroad is analyzed; features of work with gifted student youth are revealed; educational and methodological support and practical work with gifted students are analyzed; an empirical study was conducted to determine the attitude of gifted youth to organizational forms of work with them; developed a scientific circle as a form of work with intellectually gifted student youth. A set of methods is used, in particular: theoretical methods: comparison, analysis, synthesis and generalization; empirical methods: analysis of documentation and results of pedagogical activity, observation.

### Keywords:

*information technology, technologies, education system, innovative educational technologies.*

## 1. Introduction

Relevance of research. The modern development of world civilization is characterized by the rapid introduction of new information technologies and globalization processes. Under such conditions, the greatest success is achieved by those countries that have highly qualified personnel in high-tech industries. The progress of almost all areas of human activity depends on people who have a non-standard perception of the world around them, are extremely active, energetic, able to work,

and can achieve high results in their chosen field of activity.

Thus, the problem of giftedness, creativity, intelligence comes to the fore in public policy, determining the search, education and upbringing of gifted children and youth, stimulating creative work, protection of talents.

This problem is solved differently in different countries, but as a rule, the process of attracting gifted specialists to the activity takes place in two ways: either the state creates conditions for the development of abilities, support of giftedness; or talented specialists already trained in other states are invited to cooperate. For a long time, the first way prevailed in Ukraine. However, in recent decades, hundreds, thousands of extremely gifted people with unique abilities have remained unrealized and left our country without finding application to their talents.

However, the experience and success of the world's most developed countries in science, production, development of new technologies, culture and education indicate the need to radically restructure the education system to create conditions for a gifted child to freely express their characteristics, develop according to their inclinations as a unique personality. However, in our country until recent years, the identification and development of gifted youth was carried out spontaneously, relying only on regional opportunities and on their own initiative of individual teachers, scientists and artists.

The purpose of the study: To analyze the experience of universities with gifted youth and suggest effective forms of work with them.

## 2. Theoretical Consideration

Today, giftedness is seen as a holistic intellectual and personal characteristic. But, despite the extensive practical and theoretical experience of studying the problem, many questions remain unanswered, who to consider gifted, which affects the development of gifted personality, what criteria to diagnose and differentiate giftedness. If we trace the history of civilization, we can not fail to notice one interesting fact: geniuses and prominent personalities appeared in groups at the same time. Such a surge, for example, occurred in the golden age of Pericles. This statesman was served by such world-renowned geniuses as the sculptor Phidias, the creator of the immortal tragedies Sophocles, the prominent philosophers Socrates, Plato, Anaxagoras, Zeno and Protagoras. Almost all of them were citizens of Athens and were formed in this environment. We have no information from geneticists about the hereditary preferences of the people of Athens. It seems that the reason is in the environment that stimulates a particular activity, creativity, talent. All these people belonged to the same social class with strong traditions, which were supported by social continuity. In communication with each other, in mutual influence on each other, and also, thanks to the fact that their creativity was necessary not only to a narrow circle of experts, but also to the general public, all of them were able to realize the natural inclinations.

In Italy in the fourteenth century. merchants and artisans the day before abolished serfdom and formed a powerful stratum of the urban population, which was already able to perceive painting, architecture, music (people spent several hours a week in churches - the Catholic Church except 52 Sundays has more than fifty religious holidays). In the church, the city people at first just looked, not perceiving anything around, and only then began to listen, perceive music and masterpieces of art. In the fourteenth century in Florence from eight to ten thousand people attended primary school, at least a thousand went to high school and from five hundred to six hundred young men annually attended higher education. So logically came the Renaissance [6].

The Renaissance was an era of mass fascination with culture, knowledge, art, widespread demand for painting and painters, not only from patrons. In a large number of workshops, gifted students, discussing, competing, arguing, learning, created a unique atmosphere in which the creative process began, so it was necessary to reveal a particularly gifted and purposeful genius like Michelangelo and Leonardo da Vinci.

The earliest philosophical reflections on giftedness concerned the nature of this phenomenon. For a long time, philosophers and scientists have been concerned about the question: Where does a person get a unique gift and why does not everyone show it? There were no other

explanations than "divine enlightenment." At the same time, the concept of "giftedness" was not used until the nineteenth century. The term "genius" has become widespread. In ancient culture, "genius" was perceived as a mythological figure that combines an immortal deity and a mortal man. It is this perception of the combination of the divine spirit with man and was the basis of the concept of genius in European philosophy and in everyday consciousness until the end of the nineteenth century. From ancient times, genius has been associated with its manifestations mainly in art. Statesmen, military leaders, and even scientists could not be called geniuses, although attempts to question this view have been made.

The views of the representatives of ancient philosophy can be divided into two poles. The first (Plato, Poseidon, Seneca, Plotinus) deny the existence of freedom. They assert the conditionality of human development, the existence of destiny, the determinism of human manifestations. For them, talent is a gift of higher powers, the personification of the deity in man. For Plato, for example, the source of creativity is an obsession that arises from higher forces and is not subject to any human influence - neither to inspire nor to abandon it is impossible. It is also impossible to develop talent. Moreover, Plato believed that development could turn creativity into a craft [8].

Representatives of the second camp (Heraclitus, Epicurus, Aristotle) emphasize the activity of the human will, which is manifested in the ability to manage their talents. Heraclitus believed that all people have the ability to true knowledge, but this ability is used by a minority. Man, in the words of Aristotle, decides for himself what to direct their activities. By directing it to the attainment of moral perfection, man discovers the truth and becomes a sage. In the age of classicism there is a more active discussion of the divine and earthly nature of the origin of artistic talents.

In the study of the problems of giftedness of the era of modern philosophy, a special place is occupied by the figure of John Locke, who put forward a number of fundamental theoretical positions. The main ones are the following: general knowledge and truth are built on experience; the human mind is first a "blank slate" ("tabularasa"); there is nothing in the mind that was not before in the senses [9].

Many scholars emphasize the contradictory views of Enlightenment theorists. On the one hand, F. Hutcheson, G. Leibniz, R. Descartes considered giftedness a phenomenon caused by nature. On the other hand, K. Helvetius and D. Diderot argued that nature distributes its gifts equally. Hence the need for general education and upbringing. Thus, the main idea of the Enlightenment is the assertion that everyone is capable of achieving any level of genius, he only needs perseverance and the favorable influence of the environment.

An important stage in the study of any problem is a clear definition of the categorical apparatus of the study. The basic concepts of our study include the following: "talent", "talent", "genius" and a number of subordinate concepts, including: "abilities", "inclinations" [1].

Note that today there is no universal, recognized and accepted by all researchers definition of the concept of "talent". The most famous and most common in Western science is the definition proposed by W. Stern, who understood giftedness as a general ability of the individual to consciously focus their thinking on new requirements, as a general ability of the psyche to adapt to new tasks and living conditions. And although this approach was criticized in the early twentieth century, the definition proposed by W. Stern remains one of the leading in the modern interpretation of the problem of giftedness.

In philosophical treatises of the past, in works of art and everyday life in the early stages of the problem of studying the abilities and talents of man often use not the term "talent" and the concept - "genius" (from the Latin - genius - spirit). In ancient Roman mythology, a genius was a good spirit who shapes a person's character and protects him throughout life [2].

There are many definitions of "genius". Studying this question, W. Efroimson noted that genius is defined as "the ability during the maturation of the idea to completely ignore everything that does not relate to the problem under study", and as "the ability to concentrate, going into a trance", and as a natural intellectual force very high level, exceptional ability to create, which requires imagination, original thinking, invention or discovery.

Philosophical thought understands by genius (from the Latin *genialis* - inherent in the genius, fruitful) the highest manifestation of the creative forces of man, whose activities have global historical significance. The term "genius" is used both to denote a person's ability to achieve outstanding results in a particular field, and to assess the results of creativity [7].

Interpretations of the nature of genius have always been ambiguous. The ancient Greek thinker Plato considered outstanding abilities to be a gift of God's Eros; Aristotle explained the genius of man by a natural gift. In Platonism and Neoplatonism, genius is seen as a "divine inspiration." The eminent German philosopher I. Kant also tended to believe that genius is provided by nature, because genius creates its understanding of freedom, while creating fundamentally new values.

In the XIX-XX centuries. genius becomes the subject of psychological, socio-psychological, sociological research, which revealed a scientific inability to identify general psychological or pathopsychological features of genius, the illegality of considering genius as a special type of personality.

Researchers in the field of brain physiology claim that the brains of geniuses undergo very rapid chemical

processes that stimulate the development of the logic of thinking. Both talent and genius are helped by a peculiar functional structure of a brain. All brain cells are closely connected, and the faster the connections between them, the more talented the person.

In psychological science, genius is understood as "a person's personal characteristics, the highest degree of development of his talent, talent"; "The highest degree of development of abilities, which is manifested in creative activity, the results of which have historical significance in the life of society, the development of literature, science and art" [7].

Thus, human genius is manifested in creative activity, the results of which have socio-group and universal significance.

A qualitative leap in the activity of an individual, which raises his work to the level of genius, occurs due to the enormous effort of all physical and neuropsychological efforts in combination with the objective needs and patterns of historical practice of a certain class, people. That is, a general trend in the study of the phenomenon of genius is the idea that the essence of genius can not be understood if we ignore the products of his work, as well as the era in which he lived and worked.

It has long been believed that by creating opportunities for a child's full development, it is possible to bring up a genius personality. However, the comprehensive development of the individual does not mean his genius. Almost all the geniuses of the Renaissance, despite their diverse talents, entered history only through some one of their activities.

For example, Leonardo da Vinci is a genius scientist and inventor known for his deep work in anatomy, botany, mathematics, cartography, geology, aeronautics, optics, mechanics, etc., but humanity remembers him primarily as an artist. J. Goethe was a statesman and worked in mathematics, but we know him as a writer, whose outstanding works are admired today.

Perhaps the flowering of genius, talent, talents occurs only if a person is engaged in exactly the type of activity that is assigned to him by fate. Probably, it is then that the balance with oneself is established, which promotes the development and assertion of personality.

Genius is the maximum manifestation of creative talent. Of course, not everyone has this gift, although Fourier dreamed of a society in which such a unique phenomenon as genius would become a mass phenomenon.

American psychologist R. Elbert identified four signs of genius, including:

- huge productivity;
- development of a core problem;
- longevity of social recognition;
- the presence of supporters and followers, often after death.

Simonton D. (USA) identified seven factors that contribute to the manifestation of genius. Among them a special place is occupied by the "spirit of the times", the social climate, the presence of the need for talent. From a psychological point of view, the creative process of genius is not fundamentally different from the creative process of other gifted people [7].

The difference between a genius and a talented person lies in the greater social significance of the genius, who creates a new era in his field of activity. There is a formula for distinguishing between a genius and a talented person: "A genius does what he has to do, talent does what he can do." This formula emphasizes the subordination of the genius to the task posed to him by his inner essence, his passion for his work, the inevitability of exertion of all forces to achieve the goal, to solve the problem. According to W. Ephroimson, if geniuses did not have this fanatical desire, they (for all their abilities), born prodigies, so they would remain [6].

Thus, genius, as the highest level of creative manifestations of man, is reflected in creativity, which is of great importance for society. A genius for a long time does a lot of work that significantly affects other people for many years. The genius is characterized by an extremely high level of development of all natural capabilities to perform a certain type of activity, the huge social importance of the results of creativity, which involves the simultaneous use of all human potential.

The widespread use of the term "giftedness" in the scientific literature is associated with the period of establishment of pedagogy, and then psychology as independent sciences. The root of the word "giftedness" is "gift", so in Ukrainian, Russian and English (giften) languages, this concept has an unambiguous interpretation - a gift. This seems to emphasize that a person possesses something that is not deserved, not earned, but what is given to him from birth. Recognizing the possibility of the existence of such a gift, we recognize the existence of individual differences between people, which are due not only to the influence of the environment and upbringing, but also to other, perhaps as yet unknown factors. Naturally, one of the most important questions that has troubled scientists for centuries has been the problem of the origin of this gift. Most modern domestic researchers are inclined to believe that the basis of talent is ability - a set of individual psychological characteristics that are a condition for successful, high-quality performance of certain activities and cause differences in the dynamics of mastering the necessary knowledge, skills and abilities. The stages of development of abilities are giftedness, talent and genius. And if genius is the destiny of the few, then everyone can and should master the ability to certain activities and the ability to be creative.

Giftedness is a natural inclination to a certain type of activity: inclinations developed by appropriate education, a

high level of development of human abilities; thanks to which it achieves significant success in certain areas of activity. There are technical talent, artistic, artistic, etc. [3]. Giftedness develops in the process of education, training, work. The development of people's talents depends on the conditions of material life of society, its culture, the prevailing social relations.

Despite the considerable experience of gifted children, there is no single approach in world science, firstly, to the definition of the concept of "giftedness", and secondly, to the development of a common concept of giftedness. Today there are more definitions of the concept of "talent". For a long time, the main indicator of talent was recognized mostly intelligence. Fundamental research by L. Terman (1959), aimed at proving the stability of intelligence, led to the fact that for many years in the role of working definition of giftedness, its equivalent was the level of intelligence, determined and evaluated by appropriate tests.

Recently, a formula proposed by the US Board of Education has been used to determine giftedness and talent, which also takes into account the academic achievements of the individual. According to their definition (Marland, 1977), "giftedness is a quality of human personality that can be detected by professionally trained people and is determined by three interrelated parameters: advanced development of cognition, psychological development and physical data."

According to this approach, gifted and talented children can be called those who, "according to experienced professionals, due to outstanding abilities demonstrate high performance in one or more areas: intellectual; academic achievements; creative or productive thinking; communication and leadership; artistic activity; motor activity ". This formula recognizes that the individual may be marked by functional or potential opportunities in a number of areas: intellectual, artistic, psychomotor, in the field of communication. This narrow psychological definition of giftedness has been criticized by some American scholars because it does not take into account one of the most important characteristics of giftedness, which significantly affects the effectiveness of the activity - motivation.

### 3. Comparison and Results

The results of the analysis showed that the concept of giftedness outlines a significant range of different meanings, namely:

- systemic quality of the psyche, which develops throughout life, determines the ability of a person to achieve exceptionally high results in one or more activities compared to other people;
- hereditary preconditions of the level of mental development that characterizes each person;

- ability to achieve outstanding achievements in any socially significant field of human activity, not only in the academic field;
- degree of talent expression;
- one of the main subjective determinants of human activity, which provides a high level of this activity;
- achievements and the possibility of achievements (ie the need to take into account both those abilities that have already manifested and those that may manifest).

Our content analysis of the concept of "giftedness" gives grounds to identify the leading features that characterize its essence, namely:

- 1) the presence of outstanding general (special) abilities, the development of which exceeds the average level; qualitatively unique combination of them, which ensures the success of one or more activities (the joint action of abilities is a certain structure, allows to compensate for the lack of a particular ability through the predominant development of others);
- 2) the presence of prerequisites for the development of creative abilities (creativity), which determines the ability of the individual to creative search, to generate new, original ideas, finding non-traditional ways to solve problem situations and problems;
- 3) significant mental potential or high intellectual level; holistic individual characteristics of cognitive abilities and abilities to learn;
- 4) a set of inclinations, natural data that characterize the degree of manifestation and originality of innate preconditions of abilities.
- 5) the presence of external and personal prerequisites for outstanding achievements in the activity; positive emotional attitude to the activity, which gives it a developmental character;
- 6) development of persistence, motivation aimed at solving certain tasks;
- 7) the presence of value meanings of individual consciousness.

Thus, on the basis of the conducted categorical analysis it is possible to draw conclusions that, giftedness is a set of hereditary, social and personal preconditions thanks to which the person can achieve considerable successes in a certain field of activity.

Leading place among teaching methods belongs to problem-based and research approaches, the use of which in combination with others promotes the creative development of gifted students, the growth of their intellectual potential. Great opportunities for the application of the research method are provided by teaching within an integrated course using the project method. In the English school at the senior stage the method of independent development of projects is widely applied at which pupils, using only consultations of the teacher, define a subject of research, make the plan of its

realization, select necessary sources and carry out researches. Teachers of higher educational institutions, employees of libraries, museums and others provide great help in this work.

The problem of giftedness is given much attention in higher education institutions of developed countries. Thus, in German universities it is traditional to encourage gifted students and young scientists, which begins with a thorough selection competition, which is held among entrants nominated by the school, winners of various competitions, students of primary and secondary, art and music schools, as well as other candidates. (say, doctoral students can nominate their own candidacy). Scholars are encouraged not only financially. They are assisted by personal consultants, language courses are organized for them, in the summer they have the opportunity to do internships at companies, go abroad. Charitable public organizations also provide material assistance to gifted students intensively, although not to such an extent.

Gifted students in Israel, which are estimated by education officials to account for 23% of all students, are enrolled in more complex programs in specialized schools or attend additional classes while attending a regular school. To enter the university you must pass a general psychometric exam. It consists of tests to check the amount of vocabulary, the ability to think logically, the level of knowledge of mathematics and English. The psychometric test is conducted within a strict timeframe by an independent Israeli testing and evaluation center. Each question is provided with several answer options, from which you must choose the correct one. The results are evaluated on a scale of 200 to 800 points and are valid for seven years. Preference is given to special classes for gifted children that operate in the structure of the secondary school. Such classes do not separate these children from other students, in addition, give them the opportunity to learn with the same or even more gifted students. The second important area is the operation of various optional programs and courses, creative competitions and Olympiads.

Thus, summarizing the experience of working with gifted youth in developed countries, we can identify three main approaches that are widely used:

The first approach is that gifted children are taught and brought up in a regular classroom, but according to individual programs that contain elements of "enrichment" and "acceleration".

the second approach is to create special classes for gifted children in the structure of a regular school.

the third approach is the organization of special schools for this contingent of students.

All three approaches provide an opportunity for students to spend part of their study time on independent work in the library, which should be provided with everything necessary for this.

Not only educational institutions take part in work with gifted youth. This function is also assigned to parents, an extensive network of various counseling agencies and services, public educational bodies, and public organizations play an important role.

#### 4. Conclusions

Today there is no universal, recognized and accepted by all researchers definition of the concept of "giftedness". The most famous and most common in Western science is the definition proposed by W. Stern, who understood giftedness as a general ability of the individual to consciously focus their thinking on new requirements, as a general ability of the psyche to adapt to new tasks and living conditions. And although this approach was criticized in the early twentieth century, the definition proposed by W. Stern remains one of the leading in the modern interpretation of the problem of giftedness.

"Intellectual talent" is a high level of development of intellectual abilities, which allows a person to quickly master the concepts, easy to remember and store information, have time in many areas of knowledge. Intellectual abilities develop in the learning process. Yes, an intellectually gifted person is characterized by a strong memory, lively thinking, curiosity, solves various problems well, expresses his thoughts in a coherent way, may have the ability to apply knowledge in practice. These young people, as a rule, have very significant, deep knowledge, often know how to get it on their own - by processing additional information.

Analysis of the scientific achievements of domestic and foreign scientists allowed us to substantiate a number of provisions that form the theoretical basis for further research.

. After analyzing the experience of working with gifted youth abroad, we came to the conclusion that the problem of giftedness is given much attention in universities of developed countries such as the United States, Israel, Japan, France, Germany and Western Europe.

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