

The State Of Research On The Problem Of Developing Creative Abilities Among Students Of General Education Schools And Its Scientific-Theoretical Foundations

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Abstract: Creative educational activity must be humanistic and based on a system of universal values. It should develop in primary school pupils such abilities and inclinations that reveal in which areas of learning their innate endowments are determined by nature and indicate toward which fields their interests are directed.

Keywords: kindness, purposefulness, activity, independence, humanism, self-awareness, cognitive motivation, thinking, talent, inclination, abilities, diligence, creative activity.

Introduction: The changes and explorations occurring in the modern systems of the world and our country are viewed as a driving force that comes along with an increased emphasis on developing creativity.

According to contemporary views, one of the main tasks of education is to create conditions in the teaching process for forming and developing students' creative thinking. Effectively organizing cognitive activity is the primary task in solving this problem.

The psychology of creativity encompasses psychological research in the fields of scientific discoveries, inventions, the creation of works of art, and the uncovering of a person's creative potential. The term "creator" refers to the activity of a particular individual and the values created by that person, which subsequently become a factor of culture. As a problematic area for psychologists, creativity includes imagination, intuition, thinking, and other factors that stimulate a person's creative activity.

Creativity is a person's ability to make creative decisions—to comprehend, accept, and generate fundamentally new ideas.

In everyday life, creativity manifests itself as ingenuity—the ability to achieve goals by using the environment, objects, and situations in unconventional ways and to find a way out of a situation that seems hopeless.

In a broad sense, it is the precise and skillful solving of a problem with non-specialized means or resources. It also denotes the ability to find bold, nonstandard solutions to problems.

From a psychological perspective—according to Ellis Paul Torrance—creativity involves a heightened sensitivity to problems and to gaps or inconsistencies in knowledge; identifying these problems; generating hypothesis-based solutions; testing and revising the hypotheses; and shaping the outcome of the solution. To assess creativity, divergent-thinking tests, personality questionnaires, and performance analyses are used. To develop creative thinking, one can employ learning situations that are open to combining incomplete or novel elements.

Expert and experimental evaluations of a person's knowledge-creation capacity show that human creative abilities are not very large. Engaging all employees in the continuous improvement of the organization sharply increases the organization's overall creativity.

Criteria of creativity:

Fluency — the number of ideas produced per unit of time;

Originality — the ability to generate unusual ideas that differ from commonly accepted ones;

Flexibility. As Ranko notes, the importance of this

parameter depends on two points: first, it allows us to distinguish individuals who show flexibility in the problem-solving process from those who show rigidity; second, it enables us to differentiate genuinely original problem-solvers from those who only display pseudo-originality;

Receptivity — sensitivity to unusual details, contradictions, and ambiguity; readiness to shift quickly from one idea to another;

Metaphoricity — using the language and methods of some domains to transfer knowledge and ideas to others; thinking in certain areas of knowledge while typically describing them through other fields; operating in entirely unconventional contexts; a tendency toward symbolic, associative thinking; the ability to see the simple within the complex and to simplify complexity.

Satisfaction is the feeling of realizing that a task has been solved; it is the result of the manifestation of creativity. With a negative outcome, the meaning of the emotions and their subsequent development disappear.

Creativity according to Torrance:

Fluency — the ability to generate a large number of ideas;

Flexibility — the ability to apply various strategies in problem solving;

Originality — the ability to produce unusual, nonstandard ideas;

Elaboration — the ability to develop emerging ideas in detail.

The ability to go beyond the boundaries of isolation—not to follow fixed limits and stereotypes—and to remain “open” to diverse incoming information for an extended period during problem solving.

The ability to create a generalized, abstract name based on understanding the essence of a truly important problem. The naming process reflects the capacity to turn ideas and figurative information into verbal form. In addition, there is a criterion such as the ability to easily generate a large number of ideas.

According to hypotheses about the origins of creativity, there are several assumptions about how creative abilities emerged. The first holds that creative abilities gradually appeared over a long period in intelligent humans and arose as a result of cultural and demographic changes in humanity—specifically, population growth and the accumulation of the abilities of the most intelligent individuals.

A second hypothesis—advanced in 2002 by Stanford University anthropologist Richard Layn—maintains

that the emergence of creativity was spasmodic, arising roughly 50,000 years ago as a result of a sudden genetic mutation [].

Thinking is one form of knowledge about the world; creativity is possible not only in knowing, but also in creating. The capabilities of the human brain are poorly understood, and we can only imagine what individual potentials may exist in a person’s creative activity. Therefore, the question arises: what environmental conditions are necessary for a person’s creative abilities to achieve success? Perhaps great creators are ordinary people who make full use of the reserves of their brain.

Likewise, the thinking process—the execution of mental operations—is a creative process that leads to the discovery of innovations. One of the most important concepts in the psychology of thinking is the notion of a problem situation. The reason is that, to resolve such a situation, the subject lacks sufficient information in their personal experience, and this is accompanied by certain psychological reactions—anger, anxiety, surprise, etc. This activates the person’s search activity and directs them to find a solution to the problem situation, to seek the unknown, which can lead to success in creativity through new creations. Such activity may arise in the generation of conjectures and hypotheses. In this case, everyday, routine thinking does not suffice. For example, if you want to transport large objects through a narrow passage, you will propose several hypotheses.

Pedagogical creativity is a new discovery in the field of pedagogical activity. This innovation may be a nontraditional method of solving problems, or it may be the use of old teaching methods under new conditions. In pedagogy, finding an unexpected pedagogical decision and applying it in specific situations is called improvisation.

As a phenomenon, creativity first became a research topic in the 1960s–1980s, and certain aspects of this phenomenon were analyzed. Studies by philosophers (M. S. Kagan, P. F. Kravchuk, and others), psychologists (D. B. Bogoyavlenskaya, L. B. Ermolaeva-Tomina, Yu. N. Kulyutkin, A. M. Matyushkin, Ya. A. Ponomarev, et al.), and educators (L. A. Darinskaya, I. P. Volkov, E. A. Glukhovskaya, A. I. Sannikov, and others) addressed this issue [1].

From a philosophical perspective, the concept of “creativity” denotes a person’s giftedness and capacity for activity, and it is interpreted as the realization of—and striving toward—lofty moral ideals [2].

Psychological and pedagogical literature contains abundant information about creativity, characterizing it as a set of personal–activity qualities, skills, and

abilities; the individual's capacity to carry out creative activity; and the ability to communicate with people and with nature [1].

It is possible to distinguish several main approaches to the problem of creative abilities:

- creativity is an activity that is not situationally stimulated;
- there is no such thing as “creative abilities.” In determining creative behavior, motivations, values, and personality traits play the leading role;
- creative ability is an independent factor that is not related to intelligence;
- a high level of intelligence entails a high level of creative abilities, and vice versa.

In the scholarly literature, there are still no unambiguous answers to the following questions:

- why do some people mainly show adaptive activity while others display proactive (creative) activity? – why is the creative activity of some people more productive than that of others?

J. Guilford considers the existence of divergent thinking as the basis of creativity, understood as a general creative ability. Most contemporary researchers also adhere to this view. Torrance defines creativity as the acute perception of deficiencies, gaps, disharmony, etc., in knowledge [2]. He believes that the creative act consists of perceiving a problem, searching for a solution, generating and expressing hypotheses, testing them, modifying them, and finding a result. Ya. A. Ponomarev regards creativity as a psychological characteristic that gives rise to intellectual activity and sensitivity (i.e., sensitiveness) in one's activity aimed at producing new products [3].

For a creative person, the side, additional outcomes of activity—anything new and unusual—have the greatest significance. S. Mednick maintains that both convergent and divergent components participate in the creative process [1]. According to Mednick, the essence of creativity lies not in the nature of operations, but in the breadth of the associative field and in the ability, at the final stage of cognitive synthesis, to overcome stereotypes.

According to sources, the concept of “creativity” was introduced into general scientific circulation by Aristotle. In modern science, this concept is interpreted somewhat ambiguously. For example, some sources define it as a “degree of possibilities (potential),” characterizing creativity as a set of relations, necessary means, and opportunities [2]. In the Explanatory Dictionary of the Russian Language, creativity is

figuratively described as “the sum of all the qualities and virtues that ought to be present in a person,” while in some pedagogical studies the term “creativity” is used to denote the realization of inner forces and appears as opportunities for participants in the pedagogical process [4].

Based on an analysis of psychological–pedagogical literature, we can conclude that there is no single, holistic definition provided for the concept of “creativity.” Each researcher tends to define creativity from their own point of view.

Our observations show that, in modern science, there are several interdisciplinary approaches to characterizing creativity. They include:

1. Axiological approach to describing creativity. According to this view, creativity is a process directed toward self-awareness in cognition, communication, and activity; it is connected with developing a person's creative traits and consists of a set of acquired and independently formed skills and habits (M. S. Kagan, A. V. Kiryakova, V. A. Kan-Kalik, N. D. Nikandrov, E. A. Glukhovskaya, et al.) [3]. Researcher E. A. Glukhovskaya defines creativity as a “dynamic” process, i.e., integrated personal characteristics (a sum of personal abilities). It is also described as “abilities, knowledge, skills, beliefs, attitudes, orientation, the need for creative self-expression, sharing one's potential, and self-development” [2].

2. Ontological approach, which characterizes creativity as a primary factor—scientific self-presentation and self-awareness that express an individual's identity and contribute to its manifestation [124;100].

3. Activity-based approach to creativity, which treats it as the capacity to carry out activities of a creative nature and to produce effective novelty and uniqueness, associated with subjective and personal qualities such as selfhood (V. L. Andreev, L. V. Meshcheryakova, V. G. Reyndak, et al.). For example, V. G. Reyndak characterizes creativity as “a system of personal abilities that makes it possible to optimally modify techniques in accordance with new conditions and to act as an integrated whole—the nature of a person's natural and social forces ensuring the subject's needs for creative self-awareness and self-development” [2].

The ability-based approach analyzes creativity from the standpoint of a person's intellectual qualities—namely, the creative abilities of the individual—and the creative conditions necessary for the person's creative self-awareness [1].

The integrative approach to creativity takes into

account the context of an individual's integrated personal traits, the realization of inner vital forces that reflect development and its relevance, and the formation of creative capacities and a systemic, dynamic image [1].

Thus, according to Yu. N. Kulyutkin, an individual's creative potential—which determines the effectiveness of their activity in a changing world—is characterized not only by the value–semantic meanings formed within the person, by structures such as the conceptual apparatus of thinking or by the methods (techniques) of problem solving, but also by certain general psychological foundations that define them. The basis of such development—this potential—is the systematic cultivation of the individual, characterized by motivational, intellectual, and psychophysiological components. “Creative inspiration is the product of talent, knowledge, and daily hard work” [2].

It has been established that the most adequate predictors of the manifestation of creative abilities may be obtained not from analyses of various tests, but from biographical information. One of the authors proposes determining the intelligence quotient not through tests, but by facial features [2]. According to this view, decisive indicators include activities enjoyed since childhood, information about freedom of thought, self-confidence, dreams, and a tendency to bring order out of disorder.

Imagination, intuition, and the unconscious components of mental activity are of great importance in the creative process. At the same time, no quality of thinking can transform as powerfully as imagination [3].

By its nature, the motivation for creativity is irrational and insatiable. Moreover, personal cognitive efforts are necessary for creativity. Interestingly, the manifestation of creativity is almost independent of whether test instructions set an explicit “creativity mindset.” Thus, the more creative children are, the less an instruction intended to stimulate creativity affects their level of creative productivity. An instruction that sets a goal for originality activates not creativity but intelligence [1]. When identifying the features of the creative act (work), many researchers—and creators themselves—have emphasized its unconsciousness, spontaneity, lack of control by perception and reason, and altered states of consciousness.

Numerous studies have shown that achievement motivation, competition motivation, and the motivation for social approval constrain a person's self-expression and make it difficult for their creative potential to emerge. Moreover, the following

viewpoint found in the sources should also be noted: the need for creativity arises when it is not acceptable or not possible due to external circumstances—the conscious mind, as it were, stirs the unconscious [2]. If this idea is taken as an axiom, then it can be used to describe a basic law of nature: action equals reaction. It can be hypothesized that the more favorable opportunities the environment creates for the manifestation of creative abilities, the fewer real opportunities there will be for that manifestation.

In particular, creativity itself is an entirely individual and irrational process; the strongest impulse for creative activity is intrinsic motivation. It is known that many discoveries are not made by collectives; they are usually developed later. A. Einstein said: “I found the most general laws governing the universe by irrational means.” New ideas may not be expressible immediately in natural or specialized languages, because the creative foundation in brain activity is the function of supra-conscious grasp (intuition).

These views do not deny that effective communication among people enables a series of coordinated efforts and the creation of values unattainable by any single individual.

It is also a recognized fact that a gifted individual can act in a nearly autonomous manner and open up new directions in science.

According to V. G. Razumovsky, the creative process has several cycles, in each of which discursive (logical, conscious) and intuitive modes of thinking intertwine [1].

V. N. Druzhinin proposes clarifying the distinction between these concepts as follows: “intellect can be equated with the ability to apply knowledge (i.e., the ability to solve problems on the basis of existing knowledge), while creativity can be equated with the ability to transform knowledge” [2].

However, problem solving is not limited to merely reproducing existing knowledge. It entails activating a mechanism for searching for an unknown method of solution—that is, reorganizing (transforming) existing knowledge in some way. According to V. N. Druzhinin, this is precisely the manifestation of creative abilities.

A. M. Matyushkin calls the teacher's activity in organizing the creative process “management.” As the main path of such management, the author highlights teaching students general solution methods (in particular, heuristic methods) developed by a number of researchers.

Analyzing the problem of developing an individual and their creative activity, V. V. Davydov notes that a number of specialists emphasize the need to

distinguish between “social-objective novelty” and “individual-subjective novelty” (and this is not without foundation) [63]. Clearly, the latter is characteristic of school students, who—during cognition and independent research activities while mastering a given field of study—make discoveries (novelties for themselves). This is manifested in independent conclusions, proofs, finding solutions to complex problems, deriving formulas and equations, etc., which helps students realize the possibilities of their creative potential.

To effectively develop the creative potential of the rising generation, it is necessary to create appropriate conditions within educational systems—first and foremost, to provide an information base of knowledge for activity. Their successful assimilation depends on many factors, one of the most important of which is presenting the learning material in a form that best matches the characteristics of students’ perception and processing of information, given their diverse styles of cognitive activity. Another way to put it: ensure students’ active, individual cognitive activity by using a teaching-methodical complex whose didactic materials foster the development of students’ creative potential and help them independently master a given field during the research process.

It should be emphasized that, in order to create conditions for the development of an individual’s creative abilities, learning must be organized so as to ensure the development of systematic, theoretical thinking. The development of such thinking is associated with substantive generalization. The following section is devoted to precisely this problem.

The results of psychological-pedagogical research show that once opportunities for developing creative potential are opened for school students, it shapes the entire nature of the child’s development and forms scientific—i.e., creative and perceptive—capacities. In the development of creativity, the potential personality emerges as a source of self-awareness and self-development: it becomes capable of analyzing arising problems and establishing systematization.

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