CREATIVE THINKING AND INTELLIGENCE: CATEGORIES’ REFERENCE IN THE CONTEXT OF INTEGRATIVE CREATIVE THINKING CONCEPTION

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ABSTRACT

The paper refers to the terminological and theoretical problem of reference of ‘creative thinking’ and ‘intelligence’ categories, which is significant in the integrative creative thinking conception context. Minding the obvious variety of approaches towards creative thinking and intelligence, one must mention their inconsistency evoking difficulties in defining mentioned terms and their reference. In the paper theoretical and methodological methods of conflict resolution of some of those inconsistencies are proposed. Some contemporary approaches towards creative thinking and intelligence are taken into consideration.

Indexing terms/Keywords
Creative thinking, creativity, intelligence, personal creativity, adaptability.

Academic Discipline And Sub-Disciplines
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SUBJECT CLASSIFICATION
Creative thinking theories

TYPE (METHOD/APPROACH)
Literary Analysis
It is a well-known fact that a contemporary psychological creative thinking theory is segmental, disjointed, and presented by multiple approaches and theories, often contradictory to each other. It explains why the integrative conception of creative thinking that is trying to unite non-contradictory points from different creative thinking theories requires many specifications. In this matter many terminological difficulties occur and the reference between terms ‘creative thinking’ and ‘intelligence’ is among them. The last point is the subject this paper is focused on.

The integrative conception of creative thinking makes a basis for treating creative thinking in several ways: 1) as a highest level of thinking; 2) as a form of maximum roll-out of all thinking functions; 3) as a mechanism of integration of different kinds/forms of thinking inside of thinking; 4) as an assemblage of most complicated, accomplished mechanisms of thinking activity [2], [3], [4], [6].

We consider it more productive and historically logical to treat creative thinking not as a kind of thinking but as its highest level. Creative thinking is divergent, hypothetical, productive at the same time because creative thinking is a result of integration of separate kinds of thinking [5].

Treating creative thinking as a highest level of thinking gives a clue to the problem of specific creative thinking mechanisms: while we treat creative thinking as a kind of thinking we have to explain in what points it differs from ‘non-creative’ thinking (we have to find some special cognitive operations, strategies, regulators, etc.), but when we treat creative thinking as a highest level of thinking we don’t have any necessity of that because creative thinking peculiarities are not in its certain qualities but in its integral nature respectively separate kinds/forms of thinking.

The question about the way creative thinking and intelligence refer to each other considers two aspects: the aspect of the way the creative thinking is determined by intelligence and the aspect of structural relationships between them.

The aspect of the way the creative thinking is determined by intelligence is basically a question about whether levels of creative thinking and intelligence correlate to each other. Several approaches to this problem can be found in contemporary psychology. For example J.P. Guilford, J.A. Ponomarev and some others believe that creative thinking and intelligence are free from direct correlation; They also believe that the intelligence can support creative thinking development but doesn’t preprogram it. Being based on high intelligence quotient rates creative thinking is easier to be actualized but at the same time creative thinking mechanisms are independent to intelligence and are not predestinated by it [10], [11], [12], [18].

H.J. Eysenck and D. Wechsler believed that correlation between intelligence and creative thinking is direct and linear: only high intelligence quotient rates can make possible high creative thinking rates. Besides minding the fact that intelligence was considered by those authors a main psychological function and a main instrument of psychological adaptation creative thinking was taken as a secondary process [8], [9], [12], [17], [19].

There are evidences that correlation quotients between creativity and intelligence vary from 0.2 to 0.48 depending on intelligence tests’ subtests [12].

D.B. Bogoyavlenskaya, A. Maslow and others are at the point that both creative thinking and intelligence are determined by aptitude/giftedness. According to them cognitive activity can stimulate both creative approach towards problems and intellectual activity with habitual subjective schemes [1], [12].

In the integrative creative thinking conception context we propose to deal with intelligence as with an assemblage of all cognitive functions, as their eurhythmy, systemacity and to refrain from treating intelligence as a biological precondition of thinking. Intelligence is irreducible to separate manifestations and lay in harmonious functioning of cognitive functions including thinking in general and creative thinking in particular.

This approach towards intelligence (that is developed as an example in investigations of M.A. Kholodnaya) allows taking creative thinking as a part of intelligence-system of a human and it seems fair enough. In fact human needs and surrounding reality assume a great variety of cognitive tasks, part of them is solved through the medium of memory, another part – through the medium of habitual thinking functions and some parts require special psychical functions. In the last mentioned case the creative thinking becomes most important out of all cognitive functions because it serves as the most complicated solving problems mechanism that is essential when other mechanisms are insufficient and/or impotent. We assume that creative thinking is a part of intelligence system and has special functions inside it.

Generally speaking the question whether creative thinking is determined by intelligence or not can be interpreted in different ways depending not only on how we understand intelligence but also on how we treat creative thinking. If we treat creative thinking only as a kind/form of thinking that appears when problems and tasks require irregular solving approaches then we must correlate it with intelligence rates and include it in intelligence. If we treat creative thinking as an alternative form of thinking used not in addition to regular forms but only in cases when regular forms are useless then we are going to have a different conclusion – creative thinking will be correlating with intelligence rates in a form of negative correlation (examples of children who have low rates at school but high rates in creative thinking are very common and described by many investigators (A.N. Look, J.A. Ponomarev, etc.) so that this kind of correspondence of the terms seems quite possible) [14], [15], [18].

Everything said above evokes another problem – the problem of adaptive and subsituational nature of creative thinking. Can creative thinking be taken as an adaptive form of cognitive activity? Is it possible to treat creative thinking as a subsitutational activity – activity that is above hand-to-mouth needs? Is creative thinking supposed to search for better
ways to satisfy human needs or it creates those needs itself to be able to solve and satisfy them later? Both adaptive and subsituational nature of creative thinking is very rarely discussed in scientific investigations.

In the focus of our review M. Vollah’s and N. Koghan’s investigations should be mentioned. They made a research of correlation between different levels of children intelligence, creative abilities and their personal factors. It was proved that personal factors of 11-12-year-old schoolchildren having both high or low intelligence and creative abilities promote their social adaptive abilities, and vice versa – if one of two exponents (either intelligence or creativity) is high and another is low then personal factors work against good adaptability [16].

We suppose that creative thinking can be based upon very different needs, drives and motivations but still creative thinking by its inner nature is not mainly focused on everyday tasks (tasks like ‘how should I cut bread in a creative way’ can hardly be considered creative in an exact meaning of the word). Creative thinking is mostly subsituational because most often everyday tasks like the one mentioned above can be solved by a person without any creativity resources but nevertheless one sometimes uses it. It means that searching for better ways of adaptation has not much to do with creative thinking – the matter is in self consistent problem setting, in intellectual activity and initiative – those D.B. Bogoyavlenskaya is writing about [1].

In this matter it makes sense to consider creative thinking and intelligence collateral at some point but not at the point of adaptation – more at the point of goals.

Most probably in situations when one wants to find a creative way to cut bread we deal in fact with intelligence in its different manifestations (practical for the particular situation mentioned, social, emotional and some others for another situations), but creative thinking doesn’t appears as a response to needs – more like on the contrary to them – subsituationally.

Speaking about creative thinking and intelligence’s correspondence we consider fair to make a special focus on the approach of M.A. Kholodnaya. She takes intelligence as a form or mental experience’s organization which means that intelligence is taken as a system of knowledge and as a system of cognitive mechanisms, cognitive structures, etc. [13]. The structure of intelligence consists of coding, semantic, conceptual mental structures all connected to each other. This approach give us the right to make two conclusions – the first is obvious and is related to the integrative qualities of intelligence and the second one is related to integrative qualities of creative thinking. While intelligence is uniting in its structure different psychical functions and different forms of mental experience the creative thinking being a component of intelligence is playing a part in production of new experience and at the same time in organizing this experience. As a result creative thinking can be taken as the most effective instrument of mental experience’s organization because it creates irregular connections between different components of experience, connects conscious and unconscious parts of experience, and provides flexibility between experience’s components.

So the conclusion is logical: in the creative thinking integrative conception creative thinking and intelligence have flexible correspondence and creative thinking is playing a part of mental experience organizer. It means that creative thinking is both adaptive and subsituational mechanism in the intelligence’s structure.

REFERENCES


Nadezhda I. Chernetskaya is a Russian researcher of creative thinking of schoolchildren. She started her career in science and education in 2001 and by now has more than 60 scientific papers and books published upon different aspects of creativity, creative thinking, giftedness. The main focus of her studies is made upon conception of creativity of schoolchildren as an integrative psychological phenomenon. This conception has many theoretical and applied fields where it can be used.