Discussion

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The creative field

The article summarizes 35-years experience of use of a method "Creative field". The author distinguishes two sides of the issue relating to its application by other researchers: lack of understanding the new paradigm of disclosing the creative nature and the principles of its investigation and identification. The two-layer model of task accomplishment is described, confirming S.L.Rubinstejn's idea of thinking as knowledge-absorbing, not simply problem-solving.

The author gives us the principles, which observance is necessary for implementation of the method. The similarities and differences between the author's point of view and other domestic scientists' opinions on the nature of creativity and the "Creative field" method are analyzed in detail.

Keywords: *creativity, intellectual activity, problem solving, problem situation.*

This article celebrates an anniversary in a certain sense. By the time the current issue of this Journal comes out, "Creative field" will be 35. It is a rather considerable age for the method. Research on research experts consider that a new idea is disseminated in the course of 15 years.

Simple arithmetic confirms the presence of complexities in the method application to wide practice. The author sees the enormous importance of both sides of the issue, occurring in the application of the method by other researchers.

First of all, here we confront with a lack of understanding the new paradigm of disclosing the creative nature as well as the principles of its investigation and identification. These difficulties are connected with the new "ideology" of creativity, not with a lack of mental faculties or professionalism of my colleagues, that is confirmed by the fact that among those "not- understanding" you can meet gurus in the psychology field (in particular, creativity psychology). Therefore, analysis of their "mistakes" has general character.

At the same time, analysis of erroneous interpretation is important not only theoretically, it has special actuality today when used primarily in practice. Psychodiagnostical strategies are formed on the grounds of the situations interpreted, similar to "Creative field" method.

In the collection "Psychodiagnostics and school" Tallinn, 1980, I gener-

alized the complexities in understanding principles of the “Creative field” method, which were revealed in the first decade.

A disclosure that principles of “the Creative field” were identified with creativity tests was absolutely unexpected at that time. I hope that our criticism on J. Gillford theory in 1977 (“Science and Life”, 1977, № 2), no longer made this blending urgent. [5]

At the same time, the knots of the matter regarding “know-how” continue to cause questions. We shall dwell on it more elaborately.

We want to remind you, that our approach to creativity study went through a process of refusing traditional methods of research, and correspondingly to the experiment model; and lead to forming a new model (Bogoyavlenskaya, 1969).

Unlike the problem-situation model, in which the idea moves as though it is in the same plane (solution of the set problem), the new model must be volumetrical, so that the other plane (sphere, space) becomes apparent for the purpose of tracing a train of thought beyond the bonds of the initial issue decision.

The system of duplicate issues that contains a number of general regularities can act as this model. Such a system of issues provides a formation of the two-layer model of activity.

The first, the superficial layer - sets activity on solving specific tasks, and the second - the deep layer disguised by the “external” layer and non-obvious to the subject –is an activity for revealing the latent regularities, which are included in the whole system of issues but do not have to be revealed in order to be solved.

The requirement to solve a problem represents the thought process incentive until a subject finds and fulfils a reliable and optimum solution algorithm. The further analysis of a material, which is not dictated by the “utilitarian” need to execute the requirement (to solve a problem), we figuratively name “the second layer”.

As the transition to this layer is carried out, after the required solution of a problem has been arrived at, on the subject’s own initiative, then, and only from this point of view, can man speak about the absence of external stimulus during this activity.

However cognitive search can be stimulated not only by external re-

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[5] In tests for creativity production, any number of answers may be stimulated directly by the requirement of an enchiridion, which provides any quantity of answers the subject is capable of.
The authentication of external requirements when there are absent or uncertain requirement in tests for creativity; requirements of “absence of a ceiling” with an openness of many other tests; and duration of research with no time restrictions of separate experiment - is wrong.

quirements, but also by the feeling of dissatisfaction with results of one's own work. It is shown in a situation when a subject does not have a reliable enough algorithm for the set activity performance.

We want to remind readers, that our approach demands the creation of conditions for studying the activity, but which is carried out not as the answer to stimulus. Realization of this requirement (principle) is possible exactly owing to the fact that that, the second layer is not set explicitly in an experimental situation, but contains it implicitly.

Through implicit reality presentation it is easy to distinguish first and second layers concepts. In the first layer - the set activity - explicit presence of a problem situation and its requirements set implicit presentation of the unknown. As for the second layer, it is set implicitly only by the abstract opportunity of a general correlation with reality.

However, none of its structural components is explicit for the subject of activity. It comes to life and reveals itself only as a result of the person's overt activity, the true mechanism and original result that removes a mysterious halo from the phenomena which were represented earlier as spontaneous and non-determined.

The use of the "creative field" method allows one to diagnose the aspiration to proper cognitive activity. The regularities, situated inside of the task system are especially simple; if specifically given the task to discover them, it will be done without significant efforts.

However, these regularities are "hidden" only in the sense that their discovering is not required for the successful solution of given problems and the probationer is not made to detect them; whether he will operate in the second layer - a field of the latent regularities - or not, depends exclusively on him.

Moreover, the richer is this "activity layer" and the wider is the system of regularities—the more précised their hierarchy is, and the deeper the diagnostic and prognostic force lies in the basis of the concrete experimental method.

Since the probationer's abilities can be revealed only in a situation of overcoming and going outside the limits of initial situation's requirements, then there can be a restriction ("ceiling"), but it must be overcame and pushed aside. The structure of the experimental material should provide a system of such false, visible "ceilings" and be wider and unlimited.

"Absence of a ceiling" in an experimental material, certainly has a characteristic pertainence not just for an individual task, but also for the system as a whole, which contains an opportunity for unlimited movement within it. At the same time, such movement, overcoming false restrictions as a kind of upstairs movement, can be scaled, allowing for the comparison of work results.

The potential presence of the second layer during any activity once again confirms S.L.Rubinshtejn's idea of thinking as knowledge-absorbing, not simply problem-solving.

However, his explication in experimental research is possible only on the notion of the listed principles implemented as a unity. These principles form the method that we have conditionally named "the Creative field" (Bogoyavlenskaya, 1969, 1970, 1983).

The greatest difficulties appear in the understanding of the absence of internal evaluative stimulus to activity. Cognitive search can be stimulated not only by external requirements, but by a feeling of dissatisfaction with the results of one's own work as well.

It is become apparent in a situation when a subject is not in possession of a reliable enough algorithm for accomplishment of a set activity. However, such cogitative activity cannot be considered to be a criterion of intellectual activity, which we comprehend as a continuation of thinking beyond the requirements of the set situation.

Intellectual activity can be unambiguously considered to be the cause of transition to the second layer of creative field only on the condition that a reliable and optimum algorithm is available to the subject.

Disregarding this requirement sometimes results in the mistaken comprehension that any system of similar problems represents itself the first layer of "a creative field". This is the case when this method can be implemented on various materials, but only by observing the execution of all three principles.

Since my early studies, I had to confront the seemingly inconceivable fact: incomprehension of this method's principles by fine professionals, people with the highest intelligence.

Every time when a principle that seemed to be understood "was applied" to its own object (its own – in terms of being thoroughly worked through and possessing its own logic and structure with its components and their connections), this principle started to live up to the logic of this object and only superficial forms were kept safe in it, but the maintenance began to weaken.

The most paradoxical example was with V.N.Pushkin, whose laboratory I had worked in since the moment of my entrance to postgraduate study in the Institute. The idea of "the Creative field" was grasped, but then its essence disappeared mystically – the fact that surprised even my post-graduate students.

Pushkin in person describes the psychological meaning of the performed experiment in the following way: The "subject is given a collection of

problems of game “5”, which by surface appearance look various, but in actual fact all of them represent different modifications of the same problem. The subject is not warned about this commonness. During the experiment it is discovered whether the subject will be able to reveal the community of given problems, and in the case of a positive solution, it is decided at which problem such a process of generalization occurs.

Thus, there are at least two opportunities in this consecution of problems. One of them is connected with the solution of each presented problem. The experimenter formulates this opportunity. The second one – is an opportunity to disclose the commonality of all given problems and represents the possibility that is contained in the given collection of problems only potentially, but is latent and hidden from the person solving a problem.

If the subject realizes a generality of all problems, he would perform additional activity, which was not required from him by the experiment direction. In this case, the process of generalization can be considered to be an indicator of the person’s intellectual activity.

It is easy to see an essential distinction in functions of purposes of these two kinds of activity. Representatives of the group that solved all experimental problems taken separately, examine only the situation of a previously set purpose. Representatives of the group that disclosed a generality of problems, besides the purpose set from without, have their own gnostic cognitive purpose, which defines their activity.

Therefore, here is the case of the phenomenon, which we have named generalized goal-setting. The technique of the experiment consisted in the following: junior school children were offered to solve 16 problems of the game “5”. In the first problem children were given the simple four-way problem: to transform a situation by moving counters to the empty cell (left bottom cell of an initial and final situation).

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With the example of this training problem, a subject became acquainted with rules of the game “5”. After solving this training test run, he accomplished the basic collection of equivalent problems.

In seemingly superficial resemblance of our experimental situations, the following moment is not taken into consideration: that shifting counters over a free chessboard is not a psychological *method* of problem solving. As a matter of fact, it is just one of the given model terms (game 5).

In fact, “the psychological basis of this experimental problem-solving is the establishment of relations between elements of the initial situation (counters) and elements of the final situation. In spite of the superficial dissimilarity

of these ten experimental problems, the correlation of counters in each problem is the same. In this case, the subject solves a kind of the same problem, which can be expressed in alphabetic coding by a generalized formula.

The whole process of generalization in the given experiment consisted in going from many situations with numerated counters to this unified generalized formula" (6, page 80 - 81).

However, it is also a *method, a principle* of the problem solving. Therefore, it is worth specifying the two practicable opportunities, which from our point of view the subject is offered in the given experimental situation.

One lies in cut-and-try method of problem-solving. By having a formal attitude towards participating in the experiment (and depending on the level of mental faculties), one can limit himself with it. But it takes more time and consequently, it is much more advantageous to find a solution method, i.e. "to find the common thing in all given problems".

The truth is that, the method can be discovered in the first problem as well, in certain criteria of character inherent in the subject.[6] Discovering the solution method, which is essential for accomplishing activities successfully and reliably, can scarcely be considered to be "an additional activity ".

At the same time, if methods of solving new problems will be superficial and not "latent, hidden from the solver", then we will not be able to investigate productive thinking, for which Pushkin developed the described technique.

In that way, we cannot assert that, the previously described "generalization process can be considered as an index of intellectual activity". In our opinion, Pushkin's interpretation is caused by an unintentional neglect of the role of evaluative stimulus.

It would be incorrect to assume, that any generalization in solving the similar problems is already a transition to the second layer of the creative field; in fact, a transition to the second layer is performed only in cases when it is not induced by outward or inward evaluative stimulus. Otherwise, thought process remains within the limits of the first layer - set activity.

V.A.Petrovsky led a much more thorough analysis of a situation that seems to be similar. Petrovsky's technique, perhaps more than any other's is outwardly similar to "creative field".

That is why, our definition of the creativity phenomenon as "intellectual activity" and Petrovsky's term "over-situative activity", are perceived as synonyms by almost all (see Druzhinin / Psychological Journal.2000).

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[6] At conducting analogous experiments with wire puzzles A.N. Leontiev noticed, that poor students left the room as soon as they managed to unhitch details accidentally. However, excellent students, having achieved a result, did not leave, but tried to understand the solution.

The term “over-situative activity” introduced 7 years later has removed certain deficiencies of the term “intellectual activity”. It is noticeably more fitting, as it is free from any modality. At the same time, phenomena and situations revealing them are not identical. There is no second layer in a technique of “the disinterested risk”.

There is a choice, but it can be stimulated by the fact that, in conditions of problems, the risk-zone is explicit. Thus, the same internal evaluative stimulus, depending on a level of subject’s claims, etc. (described very precisely by V. Petrovsky), does not allow him to operate formally, but forces a subject to test his abilities.

Actually, V.D. Shadrikov has objections concerning the same principle (absence of internal evaluative stimulus) too.

We agree with the offered approach as a whole and with the definition of the intellectual initiative, but at the same time, we accept with great watchfulness a statement, that this initiative is not connected with practical needs and work evaluation.

But given that, the statement of the author, that intellectual initiative is not connected with a negative estimation, is still not clear because it means, that it is connected with a positive estimation. What is this distinction of a positive and negative estimation based on?

And further, if regulator processes are included in the structure of intellectual activity, they cannot be acting without estimation, whether positive or negative. Estimation underlies regulator mechanisms (7, page 63). In our case, we are confronted with the same phenomenon.

Nowadays, V.D. Shadrikov is more productively developing a wide spectrum of theories, including a theory of activity. From this viewpoint, and taking into consideration our previously listed positions, “watchfulness” is a very considerate wording,

At the same time, those regularities, which are typical in the course of activity, are “removed”, when the matter concerns productive activity that is not situationally stimulated. Thus, we know that quite a number of theories about mechanisms of activity stimulation are developed now for an increase in its efficiency.

However the definition of a creativity phenomenon excludes in itself any kind of stimulation, since, if there is stimulation, then there is no phenomenon of unstimulated activity. Practical needs stimulate activity until compensating for a deficiency in them, though the creative level of the active performance is no longer defined by a person’s orientation to a practical solution for the problem, but by his absorption in activity until the problem is solved.

I repeat that, the practical problem stimulates activity, and a measure of

involvement in the activity, without any introspection to result, thus defining an opportunity of the activity development, i.e. creativity.

It is not clear to Shadrikov, why intellectual initiative is not connected to the negative estimation. The matter is that, if the subject estimates activity negatively (works too long, makes mistakes, is not sure of correctness of method, or even works in a cut-and-try method), then it stimulates him to search, to analyze the whole experimental situation for carrying out successfully the activity he is offered.

It is natural that, this search is distinct in nature from the process, when the subject, having a reliable work method, becomes perfectly proficient in the activity (positively evaluating his own work), and continues to analyze the whole experimental situation but on his own initiative, with only cognitive needs as his determinant.

Now, about a question of obligatory connection between regulator processes and their estimation. The statement itself is absolutely fair.

Regulator processes alongside with intellectual faculties decide the success in becoming proficient in an activity. The level of their development is important, as without mastering the activity, further development is impossible.

Moreover, at the same time, regulator processes are only one group of components of the system possessing non-additive properties that is not inherent to its components. If we define intellectual initiative as a level of action, which does not have a character that offers itself to be *the answer*, then the principle of confirmation does not operate here.

Expressing an opinion, that intellectual initiative as an ability for self-development of activity is not explainable only with reference to features of intelligence, but rather in terms of virtues of the complete person which reflect an interaction between cognitive and affective spheres in their unity, I certainly had no intention of reverting to Aristotle's paradigm, that which V.N. Druzhinin formally reproached me with. But there is a text, and there is a context.

In saying that intellectual initiative is a virtue of a person, I was trying to change the direction of the outlook on the problem: to emphasize that creative ability is the property of a more extensive system, than intelligence.

In A.N. Leontiev's language, the "functional body" of this ability is the whole person. And as in this case, noting that it (itself, not its components) does not have its own cerebral localization of functions, I emphasize my point of view, that creative ability, in the traditional sense of the term, simply does not exist.

In principle, repeating our classification, Druzhinin theoretically misrepresents the idea by including A. Tannenbaum, A. Oloh and A. Maslou to be espousing the given method ("As such, creative ability does not exist").

However, then Vladimir Nikolaevich distinguishes me from Tannenbaum (who assumes that the creativity opportunity is defined by chance and luck as well), and recognizes the position of Bogoyavlenskaya, apart (5, page 102).

Generally, I often meet the statements of my position in texts of Vladimir Nikolaevich, owing to the deservedly wide popularity and correspondingly greatly distributed edition of his books.

Therefore, I want to define more exactly a number of formulations. My position, Druzhinin defines by wording it in the following way: “Creativity, from the point of view of D.B. Bogoyavlenskaya, is situationally-unstimulated activity, shown in an attempt to exceed the bounds of the set problem” (ibidem).

There are three inaccuracies at once, in this sentence.

Firstly, I discuss situationally-unstimulated productive activity, that in my opinion is “activity” - as “the beginning’s initiative from within”, quoting Bernstein. It is reasonable that, in defining activity as a horme, A.N. Leontiev’s replacement of terms “Fruitful activity” with “Activity” seems to be rightful, with the exception of the fact, that the author devotes the whole section of his monograph to the analysis of the category “Activity” (see 2,4).

Secondly, an *aspiration* for exceeding the bounds of the set problem is at variance with my comprehension of creativity and its realization in the method of “Creative field”. If there is any aspiration, then on the contrary, it is an *aspiration for finding* a solution to a set problem. There cannot be any aspiration for exceeding the bounds of it (in our case, it is a transition to the second layer), as the individual does not know about its existence till he discovers it himself.

As a rule, having found a problem’s solution, the thinking comes abruptly to an end, as it changes the subject. Hadamard, when he had found the problem’s solution, admitted: “I have passed a few steps away from the great discovery”. As a matter of fact, the whole theory is devoted to disclosure of this phenomenon – exceeding the bounds … and this method allows the observance of it directly (1,2).

Thirdly, I have put ellipses in the previous sentence, as the creativity phenomenon that I am investigating lies not in *exceeding the bounds of the set problem,* as Druzhinin states it, but in exceeding the bounds of the *requirements* of the initial problematic situation.

To an unsophisticated reader both formulations, in the main, are seemingly analogous: either exceeding the bounds of the problem or problematic situation – is the same thing. At the same time, in this method, exceeding the bounds of a set situation’s *requirements* is fundamentally new.

The matter is that, the solution to any problematic situation can be considered to be an attempt to exceed the bounds of it, as finding the desired quantity

and new conditions change the problematic situation itself.

For us exceeding the bounds of requirements is of fundamental importance, for until the conditions are executed (the problem is solved), all cogitative activity of the person is stimulated. To my understanding, the initial stage of problematic-situation solving (the performance of its requirements) is the “watershed” that distinguishes productive thinking from creative process.

The second level of problems is connected with the procedure.

The “Creative field” method in its traditional form takes a solid stand amidst research and psychodiagnostics techniques. Its validity has received solid enough experimental acknowledgement for these 34 years.

About 8 thousand subjects took part in these experiments: approximately 6 thousand pupils from 38 schools in different regions of the country, from grades 1 to 11 and children from nursery schools, as well as over 2 thousand adults from a wide spectrum of professions.

At the same time, the structure of procedures of the given techniques, providing high validity and prognostication, has its downside, namely, the complexity and labouriousness of the procedure.

The “Creative field” method reveals subject’s capacity for activity development beyond the bonds of the initial requirements. Moreover, at the beginning, it makes possible the evaluation of the mental faculties of the subject, according to both teachable standard parameters (generalization of the means of action, its character, thrift and independence), and the level of perfection of operational and regulator devices (completeness of the analysis of problem conditions, the partial analysis of problem conditions, and whether the planning (the search strategy) is chaotic, directed, or optimum).

Consequently, the total procedure of fundamentally diverse experiments consists of five series at the minimum, each having durations of 20 to 40 minutes on the average.

It answers particularly to one of the principles of the method: duration and recurrence of an experiment, as only through recurrence of testing can it contain the influences of external factors and, above all, provide a possibility of becoming proficient in activity offered during the experiment.

Only on the assumption that the probationer will maximize efficiency in arriving at a foolproof algorithm, can one judge about the presence or absence of the ability to develop activity in externally unstimulated way, and that is what reflects our conceptual disclosing of the “creative ability” notion.

Further, assuming that labouriousness of diagnostic procedure is valid, we have to admit that it hampers the application of a method to wide practice, making this procedure uncompetitive, in comparison with other tests of doubtful validity, that can be easily incarnated, even by amateurs.

Yet ... impavide progrediamur (We shall advance unhesitatingly).

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