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Development of a Personal Potential in Collaborative Thinking Activity

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Abstract

People interact and the space “between” people is filled by new senses, meanings and emotions. It transforms and change human’s evaluations, opinions, and has a developing influence on personal potential. We tried to investigate how the new-formations generated in individual psychological system, get to the psychological system of the partner, causing processes of growth of personal potential. To investigate ability of participants to broadcast and accept senses and meanings of another. To understand how value and semantic fields of each of participants of collaborative thinking activity are transformed. To investigate possibilities of development of personal potential. In the experiment participated fifty people, twenty five dyads. The subjects were students from the rural and urban schools in Rostov region, as well as the students of University. To solve the experimental problems Klochko’s method “Diode” was chosen. This method is based on the presentation to the subjects the task and additional information in the form of cards. A partner in collaborative thinking activity by means of senses, meanings, values of his living world emotional transmission promotes change of value and semantic content of the second participant’s conscious, of his psychological situation, actual reality, in which a person acts, and of the living world, in which opportunities of a person’s self-development and self-realization “live. A partner’s influence in collaborative thinking activity is expressed: in development of each participant’s objective conscious, value and semantic conscious, in development of each participant’s self-realization through another person’s influence, which is a sort of “ideal form”; in growth of everyone’s potential of self-realization by means of personalization and personification mechanisms.

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1. Statement of the issue

Collaborative thinking activity, in which two or more persons are involved, is a remarkable model of investigation of processes that occur at human worlds crossing. In 1947 M. Buber wrote about the necessity of research of the space between “I” and “You”, which ontologically exists, and “by means of persons’ meetings … is constituted anew” (Buber, 1989: 94). To our mind the given Buber’s statement means an idea about the existence of combine reality for participants, in which there is a transmission of human and personal peculiarities of each participant. In this reality partners’ personal peculiarities, crossing and mutually intensifying each other, induce the development of psychological processes, the production of psychological and personal new-formations, it may be the development of a human’s personal potential. This process is evidently displayed in collaborative thinking activity conditions, when people interact, personally involved in solving process. In this case the space “between” people is filled by new senses, meanings, emotions, experiences, it transforms and changes human’s estimations, opinions, aspirations and has a developing influence on a person and his potential. At the same time the process of communication in collaborative activity is “the specific condition of a human’s development in society” according to A.N. Leontyev (Leontyev, 1983). Therefore, from psychological regularities point of view, the process of collaborative thinking activity organization can be understood as the condition of a human’s development, which isn’t provided enough psychologically and pedagogically.

In our work we use ideas that allow looking at collaborative thinking activity as the self-organized system from the synergetic knowledge position I.D. Dobronravova (Dobronravova, 1990), I. Prigozhin, I. Stengers (Prigozhin, Stengers, 1986), G. Hakhen (Hakhen, 2001). We tried to hold to methodological basis of the self-organized psychological systems theory, made up by V.E. Klochko (Klochko, 2000), developing it in the course of self-organization investigation, peculiar to combined psychological systems that are to dyads, triads and any other people’s unions, who have joined to reach cognitive aims – thinking tasks solution. Basic ideas of V.E. Klochko’s theory can be summarized to the following theses. First of all a new ontology – psychological systems and psychological situations – is marked out, according to them there is a system determination. Its existence is connected with a human’s system organization that is realized in connected interaction of three levels: the lowest (natural) – an individual, the highest – a person and psychological level – a subject. Each level is different systems of living relations. A human, according to the levels of his system organization, reflects various system qualities: senses and values in objects. Construction of a human’s many-measured world is a human’s obtaining of the existing world measurements. Measurements are meanings, senses, values (characterizing the fifth, the sixth and the seventh dimensions), and as they are psychological qualities of objects that “have been already included in a human’s world”, according to the theory of senses, the development of conscious is the development of these measurements, which accordingly form objective, sensible and value levels of conscious. (Klochko, 2000: 64-86).

In the base of our approach we put the assumption that in combined psychological system, the form of which is the collaborative thinking activity, the whole person is expressed and designed in his system construction. We have marked out the following levels of combined psychological system self-organization. The first level – psychological (processional), reflecting the substantial side of self-organization, connected with the formation and dynamics of common new-formations (estimations, aims, senses, motives, values). The second level – personal (functional), there we have such problems as functional maintenance of collaborative thinking activity, dynamics of psychological system and determination and discovering of functions by means of which self-organization of the system is realized. The third level – individual-psychological, the investigation of the given level allows observing the transformations of value-sensible characteristics of phenomena that are included in actual sector of a person’s living space (psychological situation), which occur under partners’ influence of collaborative thinking activity and besides, it allows discovering each partner’s contribution in its self-organization.

All these levels of combine psychological system organization can be found in processes of activity that is the active reorganization of the surrounding world by individual or collaborative subject. Activity is an integrator that allows “to display”, “to show” new-formations as well as functional structure of their realization and to form and to diagnose those personal qualities which are characteristics for individual and collaborative subject. V.E. Klochko (Klochko, 2000: 64-86) considers that in the course of activity, in the processes of interaction with the world a person establishes the correspondence of the world to himself, selecting for himself only that sector of the world, which corresponds to himself, to his formed and developed systems of living relations. In the condition of
collaborative activity there is the same principle: each partner chooses from the world and other people, as the part of the world, only that thing that corresponds to his different living relations and those, which dominate in the actual moment. The activity in this case is an environment, a process, during which, on the one hand, the correspondence is being established, and on the other hand – the measure of people corresponding to each other and to surrounding world is being developed. The measure of a person’s corresponding, his aims, motives, problems to that active resistance of “material”, which a person meets in kind of a certain problem and those actions, which his partner takes, is established in the course of activity, in the process of aim “approbation” by the action, motive – by the activity, and problem – by the operation.

To our mind it is possible to understand the peculiarities of a person’s and a human’s thinking development in collaborative activity only if all components or elements (participants, problem, activity) are linked in one system of coordinates, that is in psychological system. However, it is necessary to come to a level of a new methodology, deeper than classical, which is based on reflection principle, in order to determine the notion of “combined psychological system” that was introduced by L.S. Vigotskiy (Vigotskiy), but still it hasn’t a certain psychological status. In this connection we can mark the theory of psychological systems (Klochko, 2000: 64-86), which allows seeing the source of a human’s self-organization that is understood as an open system and determines a possibility of the interaction, is its reason. In V.E. Klochko’s opinion it is the correspondence of interacting sides. We understand the correspondence as objectively existed relation between open system (any level of difficulty) and elements of environment, without which its stable existence is impossible. In our work two principles of psychological system theory, more important for our research, are used.

First of all, it is principle of interactions limit (Klochko, 2000: 64-86), it states that the interaction is possible only between corresponding to each other phenomena. On the base of this principle the mechanism of combined psychological systems emergence is getting clear. They emerge in the result of people’s correspondence to each other towards the activity; its successful fulfillment depends not on one person, but on many persons because only a group of people possesses an energetic, material, informative, intellectual, etc, resource that is necessary for effective fulfillment of activity. People correspondence is the foundation for their interaction inside the combined psychological system, which can effectively interact with objective reality only in such kind, making it its subject for transformation (collaborative activity) or perception. Each participant of collaborative thinking activity admits, consciously or unconsciously, in his partner that he is lack.

The principle of caused interaction effect (Klochko, 2000: 64-86) is resulted from the principle of interactions limit and is one of fundamental principles in psychological systems theory. It establishes that if the interaction has happened there is not only the reflection, but the production of a new – as the result of their mutual penetration. In the logics of psychological systems theory the process of psychological new-formation production such as senses, values, orientations, emotional and verbal estimations, motives, aims, etc, is understood as the mechanism of self-organization, and the new-formations are its result and display. Not object is transferred into subject (image), but forming psychological new-formations are, first of all senses and values, emerge due to the transference of subjective into the objective, where their co-existence is going on. It constitutes the mechanism of formation of a human’s many-measured reality – his living space, in which he can act, understanding the sense and values of his own actions, that is to live.

2. Research methods

During the experimental part of the investigation, directed on the evidence of the proposed assumptions, we have faced two types of problems. The problem of the first type – is picking up, using or creation of methods, directed on sounding and researching of peculiarities of collaborative thinking activity. Moreover, understanding collaborative thinking activity within the theory of psychological systems, as self-organized psychological system, center of which are its participants, we realized the necessity of reconstruction and analysis of the common psychological system architectonics. In this connection there are problems of the second type – finding and making up special methods of psychological analysis for reconstruction of the complex architectonics of the common psychological and individual psychological systems, which are the objects of our investigation.

A few methods have been used in the investigation. To solve the experimental problems we have chosen V.E.
Klochko’s methods “Diode” (Klochko, 1997), it was the basis in the structure of the methods we had used. V.E. Klochko’s methods is based on giving examinees the tasks, which have a physical content. The task includes a text part and schemes. While making the task examinees get additional information on cards that are in a fixed order. Objectively, according to the methods conditions, only part of the cards can be used in the process of solving. One part of the cards (№ 5, 7-15) contains necessary information for solving, and another one (№ 1-4, 6) – information that doesn’t play an important role in the objective course of solving. One or both examinees ask to give them additional information, realizing the lack of their own knowledge in the field of the given section of physics. Reading the sendings aloud, the examinees differentiate the cards in three groups: “essential”, “inessential” and “doubtful”, there were 50 people in the experiment, forming 25 dyads. The examinees were pupils from country and city schools of Rostov region, and also the students of Rostov State Pedagogical University. We consider that solving the problem in a lab conditions, a person actualizes and activates himself total, prolonging and projecting himself in this reality, that is in the problem, objecting the levels of his correspondence to the world, those new-formations, which are formed during the activity as its result and as its beginning for self-organization and self-development of participants’ psychological systems and of the common psychological system.

To our mind, everything that was said above means that texts of protocols, fixing the examinees’ speech, re-create not only the layer of verbal thinking and thinking activity as it is, but they reveal those peculiarities of the participants’ world image, living world, which are represented in meanings. The possibility of such conclusion is getting clear, if we take into account the philosophic category transformed form that is developed in M.K. Mamardashvily’s works. It’s rather logical to suppose that a person’s speech in definitions, including meanings, is also one of the transformed forms of a person’s psychological system existence. In other words, all architectonics of psychological system is presented and developed in a “transformed” kind of a person’s speech, it is the bearer and the expresser of all those levels that it replaces and fills up: “… in the transformed form, it is important, first of all, the transformation of any other relations in it, secondly, its character as a qualitatively new phenomenon, in which intermediate links “are skimmed” in a certain functional organ that has its quasi substantiality” (Mamardashvili, 1970: 387). In other words, in the meanings of words, as in transformed form, a person’s activity, his image of the world, his living world and the reality he interacts is replaced and filled up.

According to emphasizing psychological, functional and personal levels in the analysis of the system we have worked out a methods, based on content-analysis, due to which it is possible to find in speech, firstly, the forming new-formations and their dynamics that compose objective-processional aspect of systems investigation; secondly, the display of personal ability to creativity and self-organization through the possibilities to initiate thinking activity in word form (as it was supposed in experimental part); thirdly, to fix those functional changes in the system, which are displayed in taking certain roles by participants. For solving these three problems we have worked out a special method of analysis that supposes the protocol content division into certain “steps” in order to emphasize psychologically connected blocks, or “pieces” of information. To our mind, they can be the moments of collaborative thinking activity, which cover a phase of aim-formation development, an emphasizing of aim sense and senses of separate elements of situation towards the forming aim.

On the other hand, the division of the protocol into steps allows making the analysis of processional changes of collaborative thinking activity, connected with forming of different new-formations, and observing the dynamics of the participants’ personal development, and also their influence on others. To our mind, as this analysis allows partly reconstructing the architectonics of that part of psychological systems and common psychological system, which are concentrated on a certain experimental problem, we think it’s expediently to name our method the method of reconstruction of psychological systems architectonics.

3. Analysis and discussion of results

Analysis of experimental data allows emphasizing the following moments, connected with the participants’ influence on each other and on collaborative thinking activity. First of all, it’s necessary to mark that a partner for a person is like a source of information, due to which there is “entering” of information in his image of the world, there is a widening of the field of meanings. Thus, we can say that the second participant, transmitting new and unknown information to a partner, widens an objective field of his conscious. Revealing the notions, increasing their store, a person helps to develop a partner’s conscious and many-measured world, on the other hand, he develops a
measure of correspondence with a partner, with value-sensible content of his conscious, forming their partly coincidence, which leads to production of common meanings. Thus, both examinees are as an additional source of knowledge to each other, widening the system of meanings.

The second aspect – is the influence of the second participant on the processes of a partner’s sensible conscious development. For transmitting the sense it is necessary to reflect your psychological situation, reflecting the place of sense in the structure of value-sensible content of psychological situation and that reality, which is presented in this content. Cooperative activity is practically realized in collaborative thinking activity, and dialogues in it – is the way to make the second person to solve “sense” problem. That’s why in collaborative thinking activity the solving of experimental task turns into constantly going, parallel process of solving “sense” problems. Exactly, it is a local process, on which participants’ thinking constantly, periodically “enters”. Thus, there is a change of thinking direction: from thinking, as solving the problems, to solving the problems of a partner’s perception, and to solving the sensible problems.

In our experiments we observed the examples of how the examinees, having found some qualities of physical elements that were not objectively appropriate for the process of the problems solving, took them up as meaningful. In this case a partner’s special activity was necessary, directed on the process of such quality senseless. This process is like a process of sense-transference, on the one hand, and sense-conceiving, on the other hand, supposing in both cases solving the sense problem (one’s own or another’s) by both partners and admitting of this sense. For this purpose, understanding the impossibility of the problem solving with the help of an open quality and therefore the discrepancy to objective relations of reality, one of the partners forms antisense of the given object that is the negative sense of the object. In other words, the same qualities of objects can have a different sign of correspondence to a person: positive sign of correspondence is expressed in senses and values (positive qualities from the actual wants and opportunities of development point of view), negative sign of correspondence is displayed in antisenses and antivalues (negative qualities from the actual wants and possibilities of development point of view). To our mind, it is necessary to introduce the notion that reflects the sign of correspondence of system qualities to actual and actualizing needs and possibilities of a person.

As early as in 1926 K. Levin introduced the notion of exacting character, transforming it further in the notion valency. However, we consider that the sign of object quality correspondence to a person is expressed in the notion valency. Valency is expressed in emotions, which are displayed in verbal estimations of a person. That’s why during the dialogue a person transfers not only reflected values and senses, but valency, too, as the sign characteristics of its correspondence to the world. We understand antisense as the discovery by a person of impossibility of the given object quality using in actual activity, and antivalue is impossibility of its using for other activity organization. Valency, to our mind, expresses these alternatives: using or not using, organization or disorganization, - covering them in one notion. We consider that establishment of valency, that is the sign of objects correspondence to a person, of sense or antisense, of value or antivalue, is realized by a person with the help of thinking in the course of activity.

We required all these arguments to show that during problems solving the examinees transfer not only senses of objects, but antisenses, too, – negative qualities of an object that doesn’t correspond to a person, to his actual wants and aims. Thus, in the course of collaborative thinking activity by means of sense-transference there is a revealing of partners’ senses, determining the rise of their common senses. All these facts cause changes of sense conscious, or sense fields of the examinees’ many-measured world. Sense or antisense involving into sense field of one person, change of sense valency – all these are processes that characterize establishment and development of the partners’ correspondence measure to each other through the development of common senses, common psychological situation, included in participants’ common sense fields. Then, we can say that sense-transference and sense-conceiving are also the result of collaborative thinking activity, and they are its mechanism, providing its movement, self-organization and self-development.

We want to underline the next moment, which is connected with the development of value conscious. Two persons, two psychological situations, center of which is a person, having a complex level structure, take part in collaborative thinking activity. A person is able to reflect not only the qualities of objects, corresponding to necessity that is to needs, to actual activity. A person is able to reflect those qualities of objects, in which he is projected, through the revealing opportunities in the object. This moment of a person’s acquiring of correspondence between an object and his possibilities can transform his actual activity, providing conversion “possibility – reality “.
In collaborative thinking activity we can observe not only this conversion, which means a person’s self-realization and self-development, but also a partner’s influence on this process. Person’s values have gained “an individual-personal constituent of the living world”, that’s why each person in a dialogue during solving collaborative thinking activity problems projects the values, with which he identifies himself, in objective reality that is represented by the problem. Hence, if we take down a person’s many-measured world and “press” the time of its existence till the situation of problem solving, in some degree, if we take this abstraction, a person’s world – is he himself, prolonged and represented in this problem.

So in the course of collaborative thinking activity the meeting of different living worlds takes place, in which a person’s potential opportunities coexist as values, as readiness to realize oneself through them. Thus, in collaborative thinking activity there are two processes coming from the opposite direction, coming to each other from the partners: firstly, the process of personalization, that is projecting oneself in another one, or the transference of one’s living world peculiarities to another one and the projection, that is projection oneself in another one; secondly, the process of personification, or the living world production and widening at the expense of assimilation, including new objects in it through perception of another person’s senses and values (culture).

We suppose the processes of sense-transference and sense-conceiving, connected with the production of new-formations, are hidden by the processes mentioned above, and are basic towards them. In fact, sense-transference means transmission of oneself, one’s living world into communication, into collaborative thinking activity, including the transmission of senses as well as values. But the fact of sense-transference supposes the second process, opposite, coming from a partner, connected with readiness to accept a transmitted content of the first participant’s living world and an integration of him into his image of the world, the transformation of perceived senses and values into the aims of activity, the objects of the living world. Moreover, these processes of sense-transference and sense-conceiving are possible if a partner is included in his living world. In one of the protocols we observe the phenomenon, when one of examinees A. – has a contradiction of the task reflected, but in a special way. This contradiction isn’t reflected as cognitive, that is in logics of objective relations, because there was no thinking activity, directed on solving of this cognitive conflict. However, cognitive contradiction is reflected on the level of emotions. In the given example the examinee “feels” emotionally the given contradiction, it goes into conscious, but a certain objective composition isn’t presented, because the transformation of actual activity into thinking is necessary. In our experiment it doesn’t happen, the examinees’ activity is self-organized because of escape of the given contradiction solving. In this case we can observe the process of how the possibility to organize thinking activity, given in the task, doesn’t find the examinees’ correspondence, who, emotionally reflected this possibility, didn’t use it. Speaking figuratively, the examinee didn’t find herself in the possibility, through actualization of which a person’s self-realization takes place during the activity transformation into thinking one.

The second examinee – B. – at the beginning we observe similar processes of the contradiction “escape”, which isn’t verbalized and doesn’t go into conscious. B. avoids the contradiction, accepting the task as none-contradictory: “Well, it’s simply the scheme”. The contradiction, reflected by A., which is emotionally experienced in the course of communication and is passed to a partner, is perceived by B., at first, on the emotional level (“included in a strange way”). However, then it gets into conscious, and transmits the opening opportunity – in the form of incorrectly setting of diode – into the fact of thinking problem setting and of finding one of its solving condition (“Perhaps, it is necessary to put something to another end of diode and it will work, won’t it?”). We can say that there is a phenomenon, when differences in living worlds and needs in self-realization have led to diffusion, on the one hand, and on the other hand, to intensification and change of that was inherent to each examinee separately. The examinee A. was the first who reflected the contradiction, but in the structure of her living world the possibility to develop and to transform activity into thinking one isn’t presented in the given case. However, experiencing the contradiction emotionally, she has transmitted her emotions together with the contradiction in the course of communication. There was a situation when A.’s emotions “pushed” the contradiction into B.’s conscious, on realization of which she switched over.

Thus, in the given experiment, one of the examinees’ values – A., aren’t realized, but cause the development of B.’s self-realization. As we can see from the dialogue, it was displayed in the transformation of B.’s search activity into thinking one, in thinking problem setting and conditions of its realization finding.

At the same time in other experiments values, reflected and transmitted by one of the examinees, are perceived by another participant not only as the opportunity to realize activity, but as emotional, positive wish to act. Values, by
their emotional form of expression, “reason” a partner, actualizing and activating the conversion of his personal possibilities from readiness, potential active sphere, to reality. Thus, we consider it is possible to speak about realization of one person’s act of personification, which changes and develops his living world, in which objects are like opportunities of a person’s development. But another part of this event is the acts of the second participant’s personalization, directed on transmission of his values to a partner.

Thus, collaborative thinking activity is that form of way of life, in which widening and developing of a person’s values take place, but it is the foundation for growth of participants’ self-realization potential. Self-realization potential can be determined as a concentrated form of expression of a person’s possibilities, “projected” into his living world, as a form of their transformation into reality for its reorganization, self-development and self-change. And this moment is the fourth aspect of social determination display in collaborative thinking activity.

The second participant is one of the conditions of a person’s development and of his self-realization potential growth. A partner in collaborative activity by means of senses, meanings, values of his living world emotional transmission promotes change of value-sensible content of the second participant’s conscious, of his psychological situation, actual reality, in which a person acts, and of the living world, in which opportunities of a person’s self-development and self-realization “live”. In other words, social determination in the structure of thinking activity system determination, in fact, is included in all other kinds, covering their including into initiation of a person’s thinking activity.

4. Conclusion

Considering collaborative thinking activity as self-organizing system, we can claim the following.

The way a person chooses, first of all, depends on intersystem fight between levels of each person’s different living relations, the result of which is determined by that specter of values – psychological qualities of objects, which form a person’s reality and living world. But in collaborative activity, in a dyad or in a group, there is an influence from other people; together they form a psychological system, combined by origin, common by new-formations. Moreover, one participant’s influence on a partner is connected with peculiarities of the second participant’s psychological features production in the course of activity, these features allow conceiving him: 1) as the source of knowledge, senses, values for the first participant; 2) as the field or space for a person’s development (first participant), as some “ideal form” or an example for his development, that is a person’s self-change, self-realization and self-actualization. It’s also necessary to mark, that this process is influenced by the second participant’s activity and communication, which are objected and separated from their subject, starting to live in their independent existence. And their objective and objected existence is as the source of possible psychological features, reflected by the participants of collaborative activity.

This influence is a social determination, giving changes into the development processes of a person and his activity, into a partner’s activity and development, therefore into activity of the whole psychological system. Thus, a partner’s influence in collaborative thinking activity is one of possible directions of social determination and expressed: firstly, in development of each participant’s objective conscious through widening the circle of meanings; secondly, in development of each participant’s sensible and value conscious, reality and actuality through finding senses and values – by means of sense-transference and sense-conceiving; thirdly, in development of each participant’s self-realization through another person’s influence, which is, in the given case, a sort of “ideal form”; fourthly, in growth of everyone’s potential of self-realization by means of personalization and personification mechanisms.

Finishing the analysis, we can say that acts of the discovering of objects psychological qualities is the projecting of social qualities into the living world by a person. Discovering the psychological qualities of objects, a person creates the reality, with which he sets interaction. In these processes the formation of a person’s self-realization is presented. That is, personality in a human, realizing in activity, is displayed in readiness of discovering and development of new-formations that are the objective foundations of psychological system and collaborative thinking activity self-organization. The share of social in a person that “had won” in the system of his living relations, being presented and projected in psychological qualities of the living world objects reflected by him, caused the development and forming of new-formations, which provide self-organization of actual activity. At the
same time psychological qualities, acquired by a person, creates the bases for his self-realization and self-development, and also the bases for the growth of self-realization potential in collaborative thinking activity at a partner’s expense, and by means of self-development through a partner’s development.

References