**Rudakova I.A., Kolesina K.Y.****Principles of modelling of metadesign activity**

Metadesign activity acts as the subject of mastering, the basis of formation of the mechanism of assignment of "culture senses". It generates processes of sense formation and is a subject of the analysis of the pupil. Features of modeling of metadesign activity reveal by means of realization of principles of pupil's active activity, by support on his personal experience and inclusion into meaning activity. The entered concept "reference scheme of action, organizing the internal activity" ("sense orientation") reveals through its functions in activity. Functions of designing, symbolical mediation, mediator, emotional saturation, show specificity of sense orientation of a high level of generalization.

Key words: *metadesign training, metadesign activity, active activity of the subject, symbolical mediation, activity as filling.*

The sense trend of modern didactic concepts assumes that in interaction with the pupil it is necessary for teacher to fall outside the limits of constant control over him and to concentrate not only on his equipment by variety of necessary skills, but also on formation of wide and deep sense orientation in life values [3]. In this connection metadesign activity acts as the subject of mastering, the basis of formation of the general mechanism of assignment of "culture senses" as it generates processes of sense formation and is the subject of analysis of a pupil.

Developing the theory of stage-by-stage formation of intellectual actions, researchers have come to the conclusion about necessity of distinguishing in activity its two components, on function and according to the character of formation of orientation basis of action. The first component: formed activity which is in process of mastering the contents. The second is already generated and acquired as skill activity. On the psychological features they possess different characteristics and functions. In the first case activity yet has no internal regulator, steady basis of actions. It is regulated from the outside by set program, and its function is research. It consists in that the pupil researches the object acting as a subject of activity, and activity for formation of orientation basis of actions (OBA). In the second case activity is already generated and acquired as skill. Now it has an internal regulator – OBA – and carries out the other function: purposeful transformation of object and reception of product with demanded characteristics [11].

In development of activity aspect of metadesign training we shall mainly talk about that sense orientation cannot be set ready. It is the pupil who "builds" it with the purpose of gaining of concrete (sense) skill of developing a product with set char-



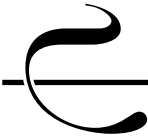
acteristics. As we deal with process of “making” of the pupil there is a necessity of introduction of the “sense orientation *scheme* of activity” concept as expanding and supplementing the concept of “orientation basis of action”. The concept “scheme” is wider, than “basis”. The scheme is a sketch, a general plan of activity and it assumes openness, ability to contain new elements and units, to make new structure and contents, to change during formation. Its intrinsic moments reveal by the concept of “orientation basis of sense (meaning) action”.

One of the first the idea of construction together with the pupil of orientation in a new subject and the organization of self mastering as a method of work, and opening properties of a material with use of interiorization laws (movement from externally material to ideal), was put forward by P.Y. Galperin. At construction of the supreme type of studding, the scientist wrote, it is necessary not only the activity of the pupil. He needs an opportunity to join in construction of orientation in a material new to him. In this case the pupil will clearly understand what, how and what for he does [2].

As it so, the pupil, basing on own activity and experience, becomes the researcher in formation of the sense orientation scheme of actions. From here there is a necessity to create pedagogical conditions for realization of research function of forming activity of the pupil at construction of process of metadesign training. And it in turn generates questions of the following plan: What are the opportunities of the pupil in research of the object (subject of need, contents of training) and in construction of activity for formation of the wide and deep sense orientation scheme of activity?

First we'll answer how the pupil researches object? How he “finds” a significant subject of the need? We shall look after his intentional way from vague to clear concepts. From psychology it is known, that sense formation process includes three important components: intentionality of consciousness – importance of object – positive experience. Our consciousness is intentional in the essence as it is always directed on the object. Each pupil has a need as a property of personality to express the attitude to something. Occurrence of sense is connected with satisfaction of needs of the person. The fact, that sense concerns needs and that its occurrence is connected with satisfaction of needs was marked by A.N. Leontyev, P.Y. Galperin, V.K. Vilyunas, D.A. Leontyev and others. For realization of the need it is important to have a subject on which the consciousness is directed. Ability to actualize this or that intention means ability of the subject to perceive psychologically advanced and interiorized in the form of personal experience situation arisen earlier in his life, to acquire and integrate life experience, to solve appearing tasks.

Intention, intentionality as a property of consciousness of the subject reflects “live” orientation of sense”, shows a vector of its movement, its concreteness and depth. In complex forms of activity, B.S. Bratus marks, the person operates not for achievement of the subject of need by itself, he operates for complete image of new life in which this subject will be included [9]. In situational senses (intentions) there are aspects of prognostic concept of world image. As to senses of studding various senses of studding arise and change with development of life, with development of “maintenance of



the valid vital attitudes" of pupil. The maintenance of these vital attitudes is reflected in personal construct, the world image. This is complete, multilevel system of representations about the world, other people, about self and activity. The special role of the world image as integrated construct of the person consists in its prognosis, it contains the forecast for the nearest and the long-term future that determines motivation of activity and its strategy in an obvious or implicit kind. Realizing the prognostic function, the pupil tries to answer the questions: Why do I study? How can I place myself in this world?, etc. Therefore questions of conscious studding, Podyakov A.N. conclude, are the questions of conscious responsible attitude to construction of the world image: how do I see it and what kind of it do I wish to see in the future [9].

In the same key it is important to say some words about that understanding of the person as the subject of life, active towards himself, knowing the last part of life, living the present and designing the future, is unimaginable without inclusion of the factor of human time. In consciousness of the subject time is reflected in three forms: the past, the present and the future. The psychological past and the future make time prospect: all parts of field, despite of chronological time difference, are subjectively experienced as simultaneous and in an equal form determine behaviour of the person. The special psychological mechanism by means of which subjective regulation is carried out is individual time trasspective, equal to the time synthesis meaning through vision from the present in the past and the future, i.e. ways of viewing of time course of own life in its any direction, an opportunity of correlation of the past, the present and the future; these time components of human life communicate in consciousness of the person [8].

From variety of intentions the sense based, starting, main will be the one by means of which in an initial position will converge the future and its project (the world image). This is "the moment of truth", perhaps still fleeting, situational, but the moment of meeting with being. Ability to predict the future through the past and the present we consider as a way of realization of the main direction of pupil's choice of a significant subject and, as a consequence, generation of sense. It is a key component in formation of the sense orientation scheme of activity. Mamardashvili M.K. summed up the most complicated connection of the world image and time prospect (the future and its project): "Dead knowledge is not important for us, we address to the past and we understand it only in the measure in that we can stop that was thought once as our ability of thinking and that we can think. The problem is not in reading through and then remembering the text, but in managing to state an idea containing in it, as an opportunity of actual present thinking" of people of XX century [7].

The pupil, while being on a way of the meaning object search, is free to choose from the set of own opportunities. In the field of personal opportunities he studies "to choose" rather than carries out procedures of selection.

Having looked after the intentional way of pupil's passage from ignorance to knowledge briefly, the significant object (subject), we have highlighted a principle of training which is actual in pedagogical science: principle of support on personal



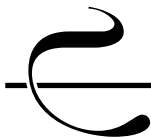
experience of the pupil with the purpose of distinguishing of significant subject of activity. Formation of the sense orientation scheme of activity at the stage of its uncertainty is carried out by the pupil through search of significant subject in space of situational personal senses, his world image (semantic directions) and time prospect (sense forming motive of time). It is that level of activity on which there is a circuit of vital attitudes as the pupil's discretion of sense in that is the subject to mastering. In conditions of artificially created environment the consciousness of the pupil directs towards the contents of training, which he unobjects, "uncrystallizes" if the contents becomes personally significant for him.

What in this case is specificity of teacher's activity? In training there is a main task: to organize process of mastering-development as general mechanism of assignment of senses set "from the outside" through awakening of personal (conscious and unconscious) beginnings in the pupil and to enable him to express the attitude to the contents independently.

If to consider the important didactic value of experience of pupils, that is disorder gathered outside educational process and being one of preconditions of construction of dialogue on semantic basis, there is a necessity of influence on formation of the specified experience of pupils, strengthening or weakening its various aspects. Optimum organized training is not indifferent to spontaneous process of mastering the specified information: it carries out directing, organizing and accumulating functions towards it. The special attention thus is accented on acquiring of the experience which has personal coloring and through which pupils open the sense of reality comprehended by them [1].

Interpreting the sense category from the point of view of the semiotics approach and projecting it on real educational process, I.V. Abakumova marks, that the thinking of pupils concerning the studied contents will be continuum, uncertain, while thinking of the teacher is discursive. In the first case a sign will be the subjective image of the child organically entering into the structure of his thinking, in the second case it will be concept. Differently, after expression of A.Y. Danilyuk, in educational process the teacher and the pupil are in "oppositional semiotics communication" [1].

How the role of the teacher changes on intentional way of self-disclosing of the pupil? In our opinion, J. Piage describing value of the clinical method in psychology has noticed new function of the teacher which during training also becomes the researcher-experimenter. He wrote: "In effect, the good experimenter should unite two usually incompatible qualities. He should know how to observe, i.e. to allow to speak absolutely freely not interrupting his (client's) statement and not rejecting them in one side, and at the same time he should be constantly on the lookout, not to miss anything important. It is a hard task, and a material which as a result turns out, requires the most strict critical analysis [13]. Psychologically it should overcome uncertainty of a method of interrogation by the perfect interpretation. The essence of the method consists in separation of cereals from weed and in inclusion of each answer in an intellectual context because such context can be reflection, elements of confidence, con-



scious effort, interest and even weariness. Not passive contemplation of properties and not active formulation of actions, but spontaneously happening formation by means of not casual but focused on the depersonalized examinee questions, actualizing means of analysis of a problem situation that are available for the pupil which help to understand a problem and to formulate the attitude to it [13].

During realization of forming activity the teacher together with the pupil “rotates” around of specific senses: situational senses, with their small radius of action, with ability of senses to fading; with a fan of senses (from ego-orientation to “spiritual” orientation); with conflict personal senses, etc. Certainly, genre variety of senses arising during training at the stage of its structural uncertainty can be considered as the field of primary “semantic focused scheme of actions” on a way of realization of research function of forming activity. “The sense orientation scheme” of the pupil which he has outlined, on our deep belief, serves as a starting point for the teacher as outlining of the main direction of subsequent activity at the stage of structural definiteness of training process, oriented on logic of knowledge and the attitude of the pupil.

“The sense oriented scheme” does not contradict the stage of preliminary acquaintance with action and conditions of its realization, to the stage of drawing up of the scheme of orientation basis of the action offered by P.Y. Galperin. It is the first stage on which pupils receive necessary explanations about the purpose of action, its object, system of orientation points in metadesign training. The stage is of great importance in formation of sense action. Here, before pupils, the contents of orientation basis of sense action reveals; there is an introduction into a subject of studying; pupils are shown, how and in what order all kinds of the semantic operations entering into semantic action are carried out: orientation, execute, control. Depending on type of orientation basis before the pupil there open either the basic elements composing all the particular phenomena of the given field of knowledge, or the features of any particular phenomenon.

The peculiarity of activity of the teacher at this stage consists in that he exteriorizes the intellectual actions and personal attitudes, opens them before the pupil in the material or materialized form. The pupil forms primary sense orientation basing on own experience and personal preferences. This is beginning of sense action, but right at the beginning of the “way” he already carries out procedure of sense generalization and executes the sketch of sense reality. Realization of choice of significant subject of satisfaction of need assumes the further procedures of sense “cultivation”, increase and expansion of their radius of actions during training.

Distinction between understanding how to do and an opportunity to do should be emphasized especially as in practice of training it is quite often considered, that if the pupil understood, he has learned, the purpose is achieved. Actually mastering of action (activity) happens only through performance of this action by the pupil, instead of by supervision over actions of other people.

Therefore the following extremely important question for modelling activity of metadesign training is to study how the pupil finds a way of satisfaction of need at



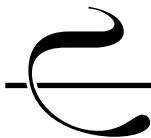
presence of a significant subject, what is the procedure of pupil's understanding of the researched contents. The way is opening of the pupil, the saved up experience of knowledge as understanding is shown in him. This steady individual construct characterizes pupil's individual selectivity to studying of the contents, kind and form, stability of preference, efficiency of knowledge use.

In psychological publications they pay attention on that skill of sense "objecting" and "unobjecting" itself is only the indicator of presence of ability to figurative and symbolical activity at operational level [5]. Symbol acts as the basic way of understanding of life reality, the objective reality. After Kant, the symbol is the indirect sensual image of concept, achieved by means of establishment of analogy with the certain empirical contemplation. The symbol possesses the highest degree of semantic saturation owing to what it is capable to make some not known things comprehensible to our consciousness. Plurality of interpretation is the way of symbol existence. The symbol is not simply much wider, than the sense field of sign. It depends on a situation context; it changes, lights various sides of ideal contents. The symbol function is to represent itself in feeling, in space and time. Spatiality, external representation and affective aspect are symbol's essential characteristics [10].

The symbol is closely connected with image and experience. Analyzing relations between activity of imagination and reality, L.S. Vigotsky has distinguished special emotional connection. Emotion aspires to be embodied in known images. Emotion possesses special ability to choose corresponding impressions. Here there is found out "the law of double expression of feelings" according to which in external products there are defined internal states, and images – imaginations act as internal language for our feelings. It is special mediation process between two various realities, one of which represents cognitive, and the other represents the affective processes. Special relations existing between them are mediation relations. The symbol is a means of emotion control since it fixes some pressure, being consequence of the situation of his uncertain subjectivity [5].

Thus, the formed sense orientation scheme of activity of the pupil is focused on reproduction of the "image of subject", differing from that image which is "set" by logic thinking. Expansion of sense field, sense saturation, plural interpretation of understanding object, "power clot of experience" give to the sense orientation scheme, the organizing activity, specific shade, reproduction of "symbolical image".

The symbolical image (sense image) is also closely connected with action of the pupil. Complex connection of image and action was also specified by Galperin P.Y.: "When the image has appeared, it has already executed the role by that the field of made or possible action has opened to the subject. Further there operate not the image, but the subject; image is necessary not to action, but to the subject. After the occurrence the image carries out a role of a regulator of action and makes this job not only for the beginning of action, but also in course of its realization. This concerns a belonging of image to the subject instead of action, in fact the last also possesses action not to a lesser degree, than image. By the way the subject corrects the image in



the same measure as he does it with action. Here we deal with a ring of Bernstein in which it is impossible to define where is the beginning – the end and what to what belongs”. The citation once again confirm the idea that between real, subject action and image of subject there is a person symbolically mediating reality. By original sketch of images-actions the pupil throws bridges from one “circle of action” to another, from one image to another. One action and one image are as though doubled, extend, condensed [6].

Researches show, that such “meaning” way in construction of orientation basis of actions organizing activity is the internal dialogue of the pupil. The researcher emphasizes that in greater degree on personal characteristics and forms of interaction of the personality with world around there influence interiorized ways of action, instead of their results. The way of internal monologue corresponds with the fifth stage of action formation in internal speech. Rossokhin A.V. proves a hypothesis that internal dialogue represents “a way of subject’s accustoming and processings of emotionally saturated, personally and/or intellectually significant contents of consciousness which can be positively charged” [12]. The researcher specifies that here the personality makes activity of comprehension of the consciousness; this activity of comprehension as function and realized internal dialogue (dialogue about dialogue, metadiologue) as structure we mean when we speak about internal dialogue as intrapersonal construct [12].

During internal dialogue the pupil with maximum attention searches for any certain experience, living which, he will feel the full consent with himself, searches for the unique answer to the question, what is meaning of life for him now. The status of “openness” will last until there is a sense registration of experience which also happens spontaneously, in the united act with experience. Qualitatively new sense which is not reduced from available before senses, needs and values is born. It comes suddenly as inspiration, as in a mathematical task. There is a sudden discretion (D.A. Leontyev) of sense in where nothing has just being. The pupil himself informs true about himself and lets himself into the new world [4].

To catch the “live experience” and to create conditions for its liberation and expansion, disclosing of that is really a movement; in this the new role of the teacher at this of metadesign activity consists. To carry the quality of “live eventness” (M.M. Bakhtin), the teacher should be “empty” (the open attention), deprived of intentions and estimations, any ideas of correct methods of realization, but he should feel sharply the moment and to peer at that it is true. The teacher enters special relations: following for conducted, he opens to him the opportunities for his own movement. Such style of joint movement is called as “revealing support”. Gradually the initiated contacts himself. He is able to listen to himself and to be obedient to internal vibrations. For the teacher it is important to notice this moment and to become the silent participant of dialogue. The dialogue will come to the end, when the pupil opens sense of the internal experience. So he enters the intentional way. He realizes himself through movement of own idea which is born during disclosing, dissolution of the real [4].



Thus, a way of sense orientation scheme of activity formation is the processes of interiorization of pupil's activity. Pupil's formation of orientation scheme of internal activity is under construction of two interconnected directions. It provides reproduction of the "subject image" by figurative and symbolical thinking and organization of activity in the way of "image of subject" as "skill to feel" himself, situation, the others.

We'll formulate the basic conclusions.

1. The basic concepts of metadesign activity are the significant subject, the meaning activity, the meaning action, the meaning experience. Principles on which the methodology of metadesign training is based are active activity of the pupil, support on his personal experience, and also his inclusion into meaning activity.

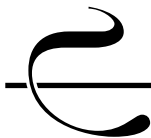
2. In metadesign training it is considered the forming side of activity in which three stages are distinguished: preliminary (significant subject), basic (stage of meaning activity) and final (meaning experience). At the preliminary stage there is a "meeting of the pupil with the project of the future". The main task of this stage is to find significant object by means of detection of various intentions in personal experience and establishment of dominating intention-strategy, "printed" in the world image and time prospect of the pupil. At this stage abstract categories of metadesign activity are distinguished: semantic polysemy and semantic generalization. The basic function of semantic orientation of this stage is prognostic.

3. At the basic stage there is the event itself. The main task of this stage is "inclusion" in meaning activity. Process of "inclusion" is developed in two following phases: perception of the "subject image" by means of figurative and symbolical thinking and activity in way of "subject image". Perception of "subject image" is carried out through symbolical mediation, special reflection of a subject in its figurative and symbolical form. At this stage there is an oppositional pair: sense generalization – sense concreteness.

The symbolical image is developed in actions of the pupil which are considered as meaning as depend directly on the subject; from the system of his orientation basis of actions which structure includes components of significant subject. The subject in operation carries out the function of mediator, concentrating "some pressure" of action on itself. "Mediator" function of sense orientation is shown in the psychological state of "openness": situations of insight, direct "discretion of sense" there where it was not yet.

Efficiency of the orientation basis of actions depends on degree of semantic generalization and way of sense orientation reception. The basic way of independent construction of semantic orientation of the pupil is internal dialogue (polylogue, metadiologue). Owing to property of contextuality, in internal dialogue there are not less than three interlocutors; that gives an opportunity to "listen attentively" to voices of the interlocutors and to interpret continuously the contents of contexts of consciousness. The basic function of sense orientation of this stage is dialogue.

4. At the final stage the trace of semantic action is printed in meaning experience. The height of heat of experience reaches the apogee in a situation of creative activity.



The pupil gets skill of feeling. The emotional tone of experience is estimated by criterion of satisfaction in a choice. If the pupil is glad to the choice, hence, that he did has sense for him. Sense orientation of this stage carries out the function of "emotional saturation".

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