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**ORIENTATION OF STUDENT-TEACHERS ON SELF-  
DEVELOPMENT OF POLY-PARADIGM THINKING**

Elena A. Evsetsova (a), Alexander F. Ponomarev (b)\*, Svetlana G. Dobrotvorskaya (c)

\*Corresponding author

(a) Bashkir State University, Department of Pedagogics and Psychology, Birsk, Russia, elena-evsecova @yandex.ru

(b) Bashkir State University, Department of Physics and Land Management, Birsk, Russia, ponomaf@list.ru

(c) Kazan Federal University, Department of Pedagogics, Institute of Psychology and Education, Kazan, Russia, sveta\_dobro@mail.ru

***Abstract***

The article discusses the features of the student-teachers' orientation to self-development of poly-paradigm thinking. Poly-paradigm thinking with its multidimensionality as an attribute is creative thinking above all else. The result of the problem of the student-teachers' orientation to self-development of poly-paradigm thinking research shows that multidimensional thinking is possessed by creative personality. In this article nature of poly-paradigm thinking from the point of view of its development and self-development is revealed and effective strategies for student-teachers' studying are possessed. These strategies are in tune with the ideas of developing education, heuristic and problem-based learning, Gestalt-education, and future-oriented thinking. The problem of orientation to poly-paradigm thinking is discussed in the context of philosophical investigations of synergetics, holism, evolutionism, and Gestalt psychology. Synergetic models and methods are applied for understanding of student-teachers' personal cognitive and creative activity. Poly-paradigm thinking skills may be applied during solving of simple, complicated, and supercomplex pedagogical tasks and problems which constitute teachers' daily work.

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**Keywords:** Student-teachers, pedagogical tasks, educational space, poly-paradigm thinking.



## 1. Introduction

It is important and urgent for the modern teacher to understand that continuous transformations and innovations in the sphere of pedagogical education radically change the whole system of education as a dynamic, multidimensional process and result, the most important part of which is the teacher himself. The increasing complexity of modern pedagogical challenges, especially in the context of poly-paradigm education space, implies the orientation of the student-teachers to self-development of poly-paradigm thinking. Innovative educational practice experiences teacher-master and student-trainee with poly-paradigm, a multiplicity of alternative pedagogical solutions.

## 2. Problem Statement

The study of philosophical, psychological, and pedagogical literature allows to state the absence of special researches devoted to the problem of orientation of student-teachers on self-development of poly-paradigm thinking. During process of education transformation, research teacher, practice teacher and student-teacher have to face with an educational practice multiplicity, alternative ways of evolution and involution of pedagogical knowledge which are determined by the post-neo-classical paradigm of science and the systemic crisis of paradigm thinking.

Systemic crisis of poly-paradigm thinking is prepared by global civilization in the first part of the last century by means of poly-paradigm worldview dismantling, involving by the collapse of traditional and classical thinking in culture, art, and ethics.

As it already known, modern philosophy of science entered the zone of paradigms overlapping, and in this area indistinguishable coexist the elements of the simple (one-dimensional binary) thinking characteristic of classicism, complex (binary-ternary) thinking of non-conventional level and highly complex (multidimensional) thinking, adequate to the realities of post-non-classical epoch.

In the view of this situation Klochko (2012) describes results of methodology cognition of complex self-developing systems research problem. In research, Klochko (2012) focuses on the development of supercomplex (multidimensional) thinking of the cognizing subject, starting from the postulates of R. Barnett: the world we live in has long ceased to be complicated, it is supercomplex; supercomplexity is a type of complexity in which even the boundaries of understanding of the world are problematic; scientists in this situation should become practicing epistemologists; the study is a product of supercomplexity.

Therefore, multidimensional thinking is also synonymous with super-complicated thinking of the cognizing subject.

Exploring the phenomenon of multidimensional thinking subject's multidimensional thinking, Bogataya (2013) introduces the idea of the concepts of 'multidimensional thinking subject', 'multidimensional man', 'multidimensional mental acts', 'multidimensional vision problems', 'research perspective' and offers a characterization of the concept of 'multidimensional thinking'. Multidimensional thinking is a thinking in which a multidimensional thinking subject simultaneously actualizes and connects different local semantic spaces. Further Bogataya (2013) says there must be special mental techniques that allow the corresponding mates to carry out. And comes as a result of the study to the following conclusion, when the multidimensional thinking subject actualizes a space of meaning, it operates on semantic

fragment, this fragment contains detailed information about the whole. The development of multidimensional thinking is more effective in situations of multidimensionality.

### **3. Research Questions**

It is important to orient students on self-development of poly-paradigm thinking with its multidimensionality as an attribute, on overcoming the inertia of the paradigm of consciousness, on choosing from the poly-paradigm pedagogical reality of alternative pedagogical solutions (Evsetsova, 2010). Taking into account the above, it is necessary to systematically orient student-teachers to solve multidimensional problems, situations and complex professional problems in the conditions of university pedagogical education transformation.

### **4. Purpose of the Study**

In order to realize the purpose of the research, to study the peculiarities of the orientation of student-teachers to the poly-paradigm thinking self-development, it is necessary to use teaching methods that are aimed at the formation and assimilation of the activity itself, i.e. poly-paradigm thinking. Knowledge, abilities cannot arise out of cognitive activity, it causes the use of teaching methods that develop poly-paradigm thinking. It should be noted that regardless of the form of training, it is possible to apply problem-heuristic, heuristic, interactive and situational-problem methods in order to develop poly-paradigm thinking. The choice of teaching methods plays an important role in increasing the efficiency of development and self-development of poly-paradigm student-teachers thinking. Based on the above methods, it can be concluded that their integrated application allows you to develop poly-paradigm thinking effectively.

### **5. Research Methods**

Some academicians are convinced that in pedagogical researches, the methodology of multidimensional approach is productive; it confirms the fact that modern scientific and pedagogical knowledge is constantly expanding and deepening on the basis of poly-paradigm (Andreev & Andreeva, 2015). In the pedagogical science there is also a condition of poly-paradigm and methodological redefinition of the boundaries of the problem-subject field of research. In this regard, it is important for teachers to understand the logic of further development of pedagogical science, taking into account modern pedagogical innovations, rethinking the priority of pedagogical problems, ways of transformation of national pedagogical education.

Therefore, the main tools of poly-paradigm thinking, in our opinion, are pedagogical paradigms, or new pedagogical theories-paradigms that have recently appeared, due to the change of scientific paradigms in educational activities. Despite the widespread use of the concepts of 'paradigm', 'poly-paradigm approach', there is no generally accepted definitions of these concepts neither in pedagogical science, not in educational practice. In the modern dictionary of philosophy, the following definition of the concept of 'paradigm' is given. Paradigm means a set of theoretical, methodological and other attitudes adopted by the scientific community at each stage of the development of science, which is guided as a model (model, standard) in solving scientific problems. Bondarevskaya analyses the use of the term 'paradigm' in

pedagogical and research practice and reveals three different positions of its understanding and boundaries of its distribution (Bondarevskaya & Kulnevich, 2007). Pedagogical sense of the term ‘paradigm’ has gained through their research. The paradigm in pedagogy is a well-established, familiar point of view, a certain standard, a model in solving educational and research problems (Bondarevskaya & Kulnevich, 1999). The concept of the notion ‘pedagogical paradigm’ as the characteristics of typological peculiarities in the area of professional development was introduced by Kolesnikova (2001).

Modern theory-paradigms are developed almost in the same time. A few years ago it was about social anthropology and humanistic paradigms, the present nomenclature includes cultural, student-centered, anthropological, synergistic, competent, axiological, existential, heuristic, acmeological and other types of paradigms. Inevitably, at first they compete with each other, but after a while, integration and mutual enrichment are based on the principle of poly-paradigm. Researchers Shiyanov and Romanova (2005) note the fact that pedagogical paradigm is usually selected to the level of teachers professional preparation.

Next, we would like to draw attention to another feature. Style of poly-paradigm thinking is determined by the poly-paradigm approach which concept is determined by the methodology of multidimensional approach, through the concept of multidimensionality, multiplicity, poly-paradigm, synergy and requires a poly-paradigm thinking or poly-paradigm style of thinking. Implementation of the poly-paradigm approach in innovative educational practice has become the basis for creating a model of poly-paradigm pedagogics.

Style of poly-paradigm thinking is a multidimensional system, which includes the methodological approach and specific features of the cognitive process, multidimensional mental acts of a multidimensional thinking subject. The analysis of works of various researchers on this problem concludes that poly-paradigm thinking with multidimensionality as an attribute is a mindset, first and foremost, creative. The nature of poly-paradigmatic thinking is revealed from the point of view of its development and self-development. These approaches are consonant with the ideas of developmental learning, heuristic and problematic, as well as interactive learning.

## **6. Findings**

In the context of our research it is established that poly-paradigm thinking with multidimensionality as an attribute — is creative thinking above all else. In our opinion, the main instruments of poly-paradigm thinking are pedagogical paradigms, or new pedagogical theories-paradigms. The results of student-teachers orientation on the self-development problem research of poly-paradigm thinking show that multidimensional thinking is mastered more effectively by multidimensional creative subjects. Style of poly-paradigm thinking is determined by the poly-paradigm approach the concept of which is determined by the methodology of multidimensional approach through the concept of multidimensionality, multiplicity, poly-paradigm, synergy and requires a poly-paradigm thinking or poly-paradigm style of thinking. The nature of poly-paradigm thinking is revealed from the point of view of its development and self-development. These approaches are in tune with the ideas of developmental education, heuristic and problematic, interactive learning.

## 7. Conclusion

Further, we would like to note that in the conditions of university pedagogical education's transformation, the problem of organization of multidimensional poly-paradigm educational space, included variable socio-educational practices, orienting on students' poly-paradigm pedagogical thinking self-development has not been solved yet. Moreover, one of the direction of pedagogical education transformation, as a practice-oriented preparation, is a formation of teachers-practitioners with high intellectual potential, developed research competencies (Valeeva, 2015). We would also like to focus on teachers-practitioners, creating within the framework of the paradigm approach, looking at the world through the 'glasses', and everything that does not fit into their minds, for example, new ideas, hypotheses, all initially rejected and all new perceived as dissent. In educational practice, a teacher, who does not go beyond the paradigm thinking without changing of connection of chance and necessity and thinking in direction of nonlinear thinking (multiplicity), complicates during solving the following complex case: which type of education is necessary for education of the person resisting to the personality destroying tendencies of the technogenic civilization which have embarked on the way of 'spiritual navigation'.

Although the inertia of the paradigm consciousness is a kind of immunity of the teacher to the parade of pedagogical paradigms. It protects paradigm thinking from the diversity of non-professional opinions, from the perception of alternative positions and oppositions. Still, it should be noted that pedagogical thinking remains linear, narrowly professional, and passively reflective. Self-development of poly-paradigm thinking is always complicated by stereotypes. It is a sort of thinking attractors, but not effective. How to learn to recognize them is also a super complex problem. It is known that a good plan-algorithm, selection of keywords, an attractive image of a super-complex problem can significantly stimulate the creative process of solving a super-complex problem, a situation of multidimensionality. Synergetics offers the asymptotic of the creative process — goals, plans, settings, which are usually simple and beautiful (Knyazeva & Kurdyumov, 2006). This is a huge simplification of the processes of the curtailment of the original variety, radical reduction to the simple. From the point of view of synergetics, intuition is a key feature of creative processes in solving super-complex problems and other types problems. The mechanism of intuition can be represented as a mechanism of self-organization of visual and mental images and ideas. It is necessary to learn how to control creative intuition.

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