

## Development of the teachers' pedagogical reflection

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**Abstract.** The need for changes in modern education requires formation of teachers' reflexive position in pedagogical activity. The article considers reflection as a pedagogical phenomenon, describes technological conditions and stages of the teachers' pedagogical reflection development. The levels of teachers' pedagogical reflection are characterized, as well as the corresponding types of teachers and pedagogical reflection component structure. The empirical study consisted of ascertaining and formative experiment. Experimental (150 people) and a control group of respondents (170 people) were formed from the teachers of secondary schools in the Republic of Tatarstan, Russia. Pedagogical monitoring was performed using the authors' procedures determining the level of pedagogical reflection, questioning, interviewing, as well as A.V. Karpov's procedures for determining the reflexivity. Formative experiment suggested in the implementation of the developed technological conditions. The results of the experimental work confirmed the effectiveness of the development of pedagogical reflection using the reflective learning and technological conditions of its implementation.

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### Introduction

Modern school needs the teacher, who owns his own style as a kind of fusion activity of subject content, forms and methods of teaching. This style is based on a scientific theory and its use of his own professional activity while resolving the pedagogical problem, revealing thus subjective-creative author position. Availability of such position is a vivid characteristic of the modern teacher's pedagogical culture, his maturity and professional excellence. The main condition for its development is teacher's reflection. Its main features are the teacher's ability to choose the value foundations of his own behavior, to seek the meaning of events, analyze his activities, and make unconventional decisions. Unfortunately, a high level of reflection is not true of all teachers, highlighting the need for reflexive abilities diagnosis and its development.

In pedagogical activities reflection is connected with the teacher's intention to the analysis, introspection, synthesis, understanding his experience, and evaluating it in the context of social significance. In Russian pedagogical researches reflection is considered as: the basis and the result of the professional and personal self-development (Andreev, 2008 [1]; Krajewski, 2001 [2]; Slastenin, 2002 [3]), the teacher's ability to extend beyond his "I" (Vygotsky, 1996 [4]); the form of self-consciousness and self-regulation, and communication activities (Kulyutkin, 2002 [5]; Semenov, 2007 [6]; Stepanov, 1985 [7]), the function, the ability, and the principle of self-

determination, self-development, personal development goal (Markova, 1996) [8].

Similar directions of theoretical research can be found in Western psychology and pedagogy: influence of teacher's reflexivity on his personal development (Holton, 1989 [9]; Kagan, 1990 [10]; Reiser, 1994 [11]; the conditions of teachers' reflective skills development (Gore, 1997) [12]; the value of group learning models in students' reflexivity development (Glatthorn, 1996) [13], attempts to justify the reflective model of education (Posner, 1985) [14].

The essence of the teacher's reflexive pedagogical orientation assumes attitude toward himself not only as a cognizable object, but also as a subject of pedagogical action. It not only integrates the characteristics inherent in reflection as a function of personality, but also shows them in a constructive process of pedagogical interaction. In this sense, the teacher is not just showing his reflective function but pedagogical reflection as a value-system-professional-personal phenomenon. Its point is not to assert the only correct sense of professional creativity, but to develop the teacher's ability to constant reflection, finding the meaning of this activity, and reasonable doubt of the once found pedagogical decisions truth.

Taking this into account pedagogical reflection is expressed primarily not in subject knowledge, but in the form of personal worldview positions, values that have become an integral essence of self-concept. From this perspective the development of pedagogical reflection means the

formation of student-paced, personal-creative, self-analytical and evaluative reflective activity culture that takes on meaning and emotional "load" as a form of pedagogical reflection. Thus, teachers' pedagogical reflection is the personal-valuable, semantic "core" of his methodological, intellectual, and creative professional-pedagogical culture.

### Methods

The empirical study consisted of ascertaining and formative experiment. Experimental (150 people) and a control group of respondents (170 people) were formed from the teachers of secondary schools in the Republic of Tatarstan, Russia. Pedagogical monitoring was performed using the authors' procedures determining the level of pedagogical reflection, questioning, interviewing, as well as A.V. Karpov's procedures for determining the reflexivity [15]. During the experimental work we used methods of mathematical statistics: correlation analysis, ranking, t-Student criterion, the method of expert evaluation.

Technological conditions and the development of teachers' pedagogical reflection.

Development of teacher's pedagogical reflection is carried throughout his career. The teachers' reflection is of particular importance in determining his skills level, as well as in strengthening his humanistic position, in mastering the techniques of non-standard solutions search, and implementation of systematic reflective output in the educational process. Analysis of pedagogical reflection manifestations in the teacher's professional work showed the tendency of reflection growth as mastering his teaching experience. However, in practice, the development of pedagogical reflection occurs spontaneously, it is narrowly pragmatic and virtually confined to teacher's individual reflexive skills. This is because of teacher's inability to systematically apply knowledge in his professional activity, constructively and critically comprehend and overestimate it as well as to make a dialectical relationship between self-esteem and evaluation of the results of practical activity in order to improve the pedagogical work.

Development of pedagogical reflection is not the arbitrarily highlighted result of corresponding learning situation, but a certain time period reflecting the essential characteristics and logic of pedagogical reflection. This is a multidimensional, multi-level process, a kind of technological and pedagogical system based on communicative interaction of all learning activities participants, and on the diagnosis of the development process results (Biktagirova, 2009) [16].

The development of teachers' pedagogical reflection requires:

- Structuring the content and organization of this process with focus on the gradual deepening and expansion of student-valuable, semantic field of vocational and educational activities as well as on designing teacher's self-knowledge and creative strategies to meet his individual self-development level;
- Ensuring the integration of the principles of cultural conformity, problem, system, variability, additional educational, fiction, creative design, and research activities;
- Purposeful development of the intellectual abilities underlying reflective mental activity;
- Diagnosing the level of pedagogical reflection and the dynamics of its development and self-development.

Studying and organizing the development of pedagogical reflection, we characterized the levels of development of pedagogical reflection (spontaneously-empirical, reproductive, system activity, creative), as well as corresponding types of teachers (reproductive, constructive, creative (research)). The component structure of pedagogical reflection includes: theoretical and methodological, motivational, value-semantic, emotional, sensual, procedural and activity, research. We identified didactic features and empirical characteristics of the teachers' pedagogical reflection development forming the basis for the design of reflective learning in interconnected phases: diagnostic, training, criterion-modeling, strategic, activating a reflection of teachers' self-movement, and the ability to self-knowledge, self-development, self-organization and restructuring the criteria of own activities. This is achieved by lectures, discussions, dialogue-lectures, workshops, through participation in role-playing games, conducting the teachers' training micro-studies, individual and group counseling, studying the existing self-reflective experience and reflective activity in simulating different kinds of social interaction. Design and development of reflection has four technological steps implemented in the learning process: self-determination in the learning process, educational action, reflection and reconstruction activities, reflection of the educational process, the development of structural components of pedagogical reflection using operations of assessment, signification, comprehension, reflection system (Biktagirova & Valeeva, 2013) [17].

When included in the process of active reflective learning the teachers' need in the system of theoretical and methodological knowledge increases. They rethink and critically evaluate their own

practice and colleagues' activities, predict their own difficulties, variably approach to the design of self-development model. This is evidenced by the dynamics of the teachers' thinking characteristics at the training courses. The experimental results confirmed the data dynamics of the pedagogical reflection development in the learning process. The "input" and "output" diagnosis showed positive signs of this process (Table 1.).

**Table 1. Dynamics of the main components of teachers' pedagogical reflection development**

Structural components of teachers' pedagogical reflection	Level of development before the experiment	Level of development after the experiment
Theoretical and methodological	1,7	2,55
Motivational	1,6	2,7
Value-semantic	1,7	2,5
Emotional and sensual	1,7	2,6
<b>Procedural and activity</b>	1,7	2,53
<b>Research</b>	1,6	2,47
Total	1,66	2,56

Noteworthy is a higher level of motivational component of reflection (2.7 points). This is important because without a positive motivational component the start and the dynamics of teacher's pedagogical reflection development are not possible. The study of teachers' motivation on reflective activities showed that the dominant motives underlying positive attitude towards pedagogical reflection and its manifestations, became external cognitive motives (to make the educational process more productive and the desire to improve it) and inner motives of the personal achievement (to increase their professional level and pedagogical skills).

The average range of dynamics of the teacher's pedagogical reflection development level in the learning process was 0.8 points. The final level of the development process reached 2.56 points, indicating significant changes and a sufficiently high level of teachers' reflection. This was primarily due to a decrease by half the proportion of teachers with low level of pedagogical reflection and growth (also twice) the share of teachers with a high level of reflection.

Before experiential learning high (creative) level of pedagogical reflection and willingness to implement it manifested only 9% of the total participants. While low levels (reproductive and theoretical-empirical) had 34.7% of the teachers (Table 2).

**Table 2. The overall dynamics of the teachers' pedagogical reflection development level (in%)**

Levels of development	Before the experiment	After the experiment
Creative (more than 2.5 points)	9,0	18,6
System activity (2.5-1.5 points)	56,3	66
Reproductive (1,5-0,5 points)	27,6	14,2
Theoretical-empirical (below 0.5 points)	7,1	1,2

As a result of variable and consistent application of pedagogical conditions almost every fifth teacher (18.6%) achieved by the end of the experiment a high degree of reflection. The proportion of teachers with the reproductive level decreased from 27.6% to 14.2%. This confirms the positive influence of the complex of didactic conditions on the teachers' pedagogical reflection development. These data allow to state the positive dynamics of the attitude to the reflective activity. This is evident in the increasing number of teachers who believe the pedagogical reflection mandatory and optional component of educational activities (92%). Diagnosis of the results of teachers' training fixed the increased interest in pedagogical reflection.

## Conclusions

The data obtained when tracking the experimental results allowed to conclude that the process of reflective learning actualizes the teachers' professional motivation and self-perfection enabling to reorient the role of expert in supporting existing knowledge to the role of reflexive interaction organizer and coordinator. The results of the experimental work confirmed the effectiveness of the development of pedagogical reflection using the reflective learning and technological conditions of its implementation, enabling every teacher being on their professional level, learn the pedagogical reflection basics and apply them in their pedagogical work. The experimental results confirmed the validity of the basic provisions on the conditions of the modern teacher 's pedagogical reflection development effectiveness.

Given the complexity and multidimensionality of the teachers' pedagogical reflection development problem in the process of training, this article does not claim its complete and comprehensive explication. Our research and approbation of its results provide a basis for further investigations aimed at optimizing the technological aspects of the teachers' pedagogical reflection development process, modernization and development of reflective learning.

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