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Psychological and Pedagogical Support for High School Students' Self-Reflection

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Abstract

Today it is essential to create conditions for reflective processes which facilitate self-realization among schoolchildren. Self-reflection is necessary for the development of high school students, since it is due to reflection that the attitude to oneself is revived, the need for self-change and self-development appear. The aim of the study was to identify and test the effectiveness of psychological and pedagogical support for reflection formation in high school students. Various theoretical and empirical methods of research were used; a psychological and pedagogical experiment was conducted by means of the following methods: "Self-Reflection and Insight Scale" (SRIS) developed by Grant, Franklin, & Langford (2002); Leontyev's (2009) questionnaire "Differential Type of Reflection" (DTR) and Karpov's (2003) questionnaire "Method of Reflexivity Diagnostics" (MRD). The article presents the results of experimental work on testing the effectiveness of the program to ensure the development of reflection among high school students. Experimental studies were carried out in secondary schools of the city of Kazan (Russian Federation). The results of the experimental study proved the effectiveness of psychological and pedagogical assistance in high school students' self-reflection formation.

Keywords: reflection, psychological and pedagogical support, reflection formation, reflexivity, high school students, formation program.

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Introduction

Currently, one of the main tasks federal educational standards assign for modern educational process organization is the need to create conditions for reflexivity realization, assisting students in mastering the skills of self-organization and self-government, in gaining self-regulation experience in mental activity, in moral comprehension of actions, communication and the ability to negotiate with other people in performing collective tasks, in the awareness of personal dynamics and their own abilities. Such a mechanism for the formation and self-development of schoolchildren, in our view, is reflection, since it is due to self-reflection the renewal of value system, aspirations, work methods, self-images, attitudes towards oneself and others occur, thus being the way for students to develop themselves.

Reflection is an essential mechanism that helps penetrate into the internal state, intentions, motives, thoughts, feelings and value system of others, provides analysis and control of information received by a person about another one and about the results of interaction with each other. These properties are not given to a man from birth, they are to be formed. The role of the teacher in this process is the crucial one. Unfortunately, teachers frequently do not think about their reflective competency improvement, as well as about special organization of reflective process with pupils.

Thus, there is a contradiction between the requirements of modern federal educational standards for the school graduate to have high level of self-reflection formation, and insufficient psychological and pedagogical support realization in schools for the development of high school students' reflection.

On that basis, the problem of the research was defined as follows: what is the impact of psychological and pedagogical support for the formation of self-reflection in high school students?

Purpose and objectives of the study

The aims of the study are the following:

1. To reveal the essence of reflection concept in modern science on the basis of psychological and pedagogical literature analysis.
2. To study the nature and characteristics of high school students' self-reflection.
3. To determine the main content, forms and methods of psychological and pedagogical assistance in high school students' self-reflection formation.
4. To test the effectiveness of psychological and pedagogical support for the formation of self-reflection in high school students.

Various aspects of reflection are considered in the studies of many scientists working in different areas - Philosophy, Psychology, Sociology and Education. As for the psychological and pedagogical perspective, most researchers describe reflection in psychological studies as: the function of the personality (Bolshunov et al., 1984); the property of the human psyche, the process of understanding and rethinking one's personal experience (Semenov, 1987; Alekseyev, 2005; Davydov, 1987). Educators view it as the ability for analysis and self-analysis, as the foundation and result of professional and personal self-development and self-exploration (Andreyev, 2012); as the pedagogical activity skill (Kulyutkin & Mushtavinskaya, 2002), which is very important for the current research. Besides, reflection is considered as the form of activity and communication (Shchedrovitskiy, 2001; Naydenova, 1991); the function, property, ability of the individual; the totality of skills, the constituent structure of self-regulation, self-consciousness of the personality (Karpov & Skityaeva, 2005), etc. The role of reflection and the need for its formation are noted by most researchers.

Literature review

In our study, we rely on the phenomenon of self-reflection, because in adolescence it is self-reflection that is particularly acute, so it is important to form it correctly. The phenomenon of self-reflection was widely covered in the works of foreign and Russian authors. These are practical studies in the framework of personality psychology (Mitina, 1997) and educational psychology (Zakharova & Botsmanova, 1982). In the Soviet psychology the study of reflective teaching was carried out in the 1980-s in the framework of developmental psychology (Gutkina, 1982; Novikova, 1984; Stepanov & Semenov, 1982). Self-reflection was entitled the function of researching one's own self-consciousness, which made it possible to attribute it to thinking process (Stepanov, 2008). Recently, there has been an increased interest in this problem, which is reflected in many modern studies (Linetsky, 2004; Simakova, 1998).

Besides, there are studies on the ways to develop self-reflection (Alekseyev, 2005; Anisimov, 1989; Bartsalkina, 1986), on reflection in the teaching process (Belozertseva, 2000; Pol'kina, 2015; Prokhorov & Chernov, 2013), on pedagogical reflection (Biktagirova, 2016; Islambekova & Salmanova, 2008; Novoselova; 2007), on mastering reflective skills by students and teachers (Akhramenko, 2015).

Today, the authors focus more on reflective training of pre-service teachers, in-service teachers and subject teachers rather than schoolchildren (Biktagirova & Valeeva, 2014; Gorokhov & Rusina, 2010; Almabekova, 2012; Golubeva, 2011), which shows the relevance of the reflective process for teachers. The understanding of the reflective role helps teachers provide pedagogical support for the reflective formation of students.

So far, foreign scholars have accumulated vast experience in the field of studying the problems of reflection. Beginning with John Dewey (1997), reflection was already viewed as an important component for the formation of personality and was essential in the pedagogical process. Most experimental studies on reflection were initiated in the 1970s-1990s. It should be noted that the terms "reflection" and "self-awareness" were used synonymously. Studies of psychological mindedness, intellectual reflection (metacognitions), self-reflection and self-consciousness were more common.

Self-analysis was considered in the works of Boroto (1972) and Huebner (1988). These scholars studied the propensities for self-analysis and developed diagnostic methods for studying reflection. Later there appeared works on the study of a systematic approach to the development of pedagogical reflection (Marzano, 2012; Schön, 1988; Sparapani, 2000). Johns (1995) and Grant, Franklin, & Langford (2002) revealed various perspectives on reflection, the role of teaching reflection, self-reflection and the changes caused by it. Some scholars regarded the formation of reflection in teaching students of different ages – their studies cover practical implementation, ways to develop students' reflection, the features of pedagogical support in reflection formation in schoolchildren (Allen, Bennett, & Kearns, 2004; Valkanova, 2004; McFarland, 2009; Scharaldi, 2017).

Thus, foreign studies consider individual reflective practices and solutions. So, we can state there is a lack of studies devoted to the formation of reflection in high school students.

Methodology

Theoretical and empirical methods

The following research methods were used:

- theoretical (study and critical analysis of Russian and foreign literature on the topic of the research, methods of analysis and synthesis, modeling, project method, systematization, classification and generalization);

- empirical (psychological and pedagogical observation, questioning, psychological and pedagogical experiment, diagnostic testing by means of the following methods: “Self-Reflection and Insight Scale” (SRIS) developed by Grant, Franklin, & Langford (2002); Leontyev’s (2009) questionnaire “Differential Type of Reflection” (DTR) and Karpov’s (2003, 2004) questionnaire “Method of Reflexivity Diagnostics” (MRD).

The trial infrastructure

The article presents the results of experimental work on testing the effectiveness of the program on the formation of reflection in high school students. Experimental studies were carried out in secondary schools №51 (Vakhitovsky district), №48 (Privolzhsky district), and №167 (Sovetsky district) of the city of Kazan (Russian Federation).

Stages of the research

The research was conducted in three stages:

At the first stage, we developed the program, defined the hypothesis of the research, analyzed the studies on the research topic and carried out the selection of research methods.

At the second stage, we studied the level of self-reflection intensity and orientation in high school students and developed the pedagogical support for self-reflection level improvement.

At the third stage, we carried out the comparative analysis, synthesis and systematization of the data obtained and worked out the design of the research.

Evaluation criteria

“Self-Reflection and Insight Scale” (SRIS) consists of two scales - self-reflection (auto-reflection - reflection of one’s own experiences, analysis of one’s internal desires, motives and goals) and socio-reflection (awareness of others’ experiences). The scales include 10 direct and inverse statements, which, in turn, are evaluated on a 6-point scale (Grant et al., 2002).

Leontyev’s (2009) questionnaire “Differential Type of Reflection” (DTR) is an original psychodiagnostic method developed to define the type of reflection as a stable personality trait. It was designed by Leontyev (2009) to study the individual characteristics associated with the way a person looks at oneself. The test measures system-based reflection, as well as the proneness to self-scrutiny and fantasy thinking.

Karpov’s (2003) questionnaire “Method of Reflexivity Diagnostics” (MRD) is designed to determine the level of a person’s reflection development. The method of diagnosing an individual measure of reflexivity intensity is based on using a list of situations that reflect the respondents' inclination to reflect on their actions and the actions of other people, on thinking about what is happening in life.

Results and discussion

Results of the ascertaining experiment

In our study, we rely on the research of Karpov (2004), who interprets reflection as a general human ability. He defines reflection as high level integration process that allows speaking about the mechanism of the psyche going beyond its own limits. This feature determines the flexibility and adaptability of reflection as a phenomenon of the psyche.

The analysis of psychological studies helps us conclude that at this age there is a formation of a new stage in the development of self-consciousness, a characteristic feature of which is “the birth of ... reflection” (Bozhovich, 1979). Of particular importance for a high school student is his/her personality, self-analysis of internal processes by means of comparing oneself with other people - close relatives and peers. From our perspective, in adolescence, the role of the reflection in communication and interaction is

vital, which follows logically from the patterns and characteristics of this age stage. The development of self-reflection ensures the integration of adolescents' self-concepts: Physical Self-Concept, Emotional Self-Concept, Mental Self-Concept and Value-Conscious Self-Concept. The formation of high school students' self-reflection takes place in the developing society.

Thus, the main purpose of reflection formation is the activation of internal self-regulating mechanisms for the development of high school students, which is achieved due to the reflection of their own activities. It promotes high school students' awareness of self-development necessity, which leads to an increase in intrinsic motivation of activity, an awareness of one's near and distant goals, an awareness of oneself as the subject of one's own life activity.

To provide pedagogical support for reflection formation in high school students, we involved 143 pupils of the 10th grade in the diagnostic experiment – 71 student in the control group and 73 students in the experimental groups (secondary schools №51, №48 and №167 of the city of Kazan, RF).

The results of the study using SRIS method (Grant et al., 2002) showed that at the ascertaining stage auto-reflection of high school students is less expressed (about 60% of students in both groups have a low level) than socio-reflection (about 52-54% of students in both groups have a medium level). Adolescents are not prone to reflection of their own emotional experiences, analysis of behavior and actions; they do not seek to analyze their inner desires, motives of activity and goals. However, at the time of the ascertaining experiment, students demonstrated a good level of socio-reflection development that shows they evaluate peers' opinions and the current situation in the society.

Leontyev's (2009) DTR questionnaire helped discover that in the groups studied, system-based reflection, self-scrutiny and fantasy thinking of high school students at the stage of the ascertaining experiment are also insufficiently formed. Most students manifested low level of reflection. Unfortunately, high school students find it difficult to evaluate their actions, not only from the outside, but also from their own position, without thinking about it. They do not seek to understand the positions of different parties in the interaction. Their actions are mostly situation-driven or moment-related; thinking process is not regular, which means these students don't go deep into the essence of the issue and the situation. After conducting an additional conversation with this category of students, it was revealed that they themselves explain it by saying that "I do not consider it necessary to bother..." or "I do not care what others think of me or anyone else", "I don't mind ...", etc.

The medium level of self-scrutiny at the stage of the ascertaining experiment was diagnosed in 50% of high school students of the control group and in 45.83% of the experimental group. Students of this group finding themselves in meaningful situations put feelings first when it comes to the question of their social well-being, which hinders objective evaluation of what is happening to them. Since the author of this method assigned that a higher score on the scale of self-scrutiny demonstrates neuroticism, we believe that medium level on the scale of self-scrutiny of the majority of students is a positive indicator and the emotional state of a high school students is quite favorable and contributes to their personal development.

The diagnostic study conducted using Karpov's (2004) MRD questionnaire showed that the level of situation-driven, retrospective, prospective reflection, reflection of communication and reflexivity of students of the control and experimental groups at the stage of the ascertaining experiment is not sufficiently formed.

The medium level of situation-based reflection was diagnosed in 37.5% of students in the experimental and control groups. The situation-based reflection of these adolescents is not systematic; self-control in the challenging situation is not always stable: a student can easily change positions or actions.

The understanding of the elements of reflection is not deep; the analysis of what is happening is short-term. It is hard for them to correlate their actions with the situation and to coordinate them in accordance with changing conditions and also with their own state of mind.

The low level of situation-driven reflection was diagnosed in 61.7% of high school students in the experimental and control groups. It is not common for them to analyze current events; daily activities are either habitual in nature, or spontaneous. They usually do not have a personal assessment of the outcome of the situation, regardless of the degree of significance for the students themselves.

The medium level of retrospective reflection was diagnosed in 29.12% of high school students of the control group and 25% of the experimental group. This reflection is not systematic; manifestations in meaningful situations and duration of reflection are short-term. Actions and position of the peers, subjects of the interaction, are meticulously assessed whereas one's own behavior is turned to advantage.

The low level of retrospective reflection was diagnosed in 62.5% of high school students in the experimental and control groups. These high school students never assess past events and do not seek to draw conclusions based on the assessment of their own or social life experience.

The medium level of prospective reflection was diagnosed equally in 58.53% of pupils in the control and experimental groups. These pupils don't consider future socially-significant, emotionally-personal situations and aren't prone to plan their own behavior in the future.

The low level of prospective reflection was diagnosed in 41.67% of senior pupils in the control group and 41.67% of the experimental group. These students do not reflect on the events of the future. In a conversation with students of this group, we got the following reasoning: "I am not sure about what will happen tomorrow ...", "I do not think about the future, parents do it for me ...", "I don't care about the future, I couldn't care less ...", "Even if I plan today, it will still be as it will be ...".

The medium level of communication reflection was diagnosed in 33.33% of students in the control group and 40.7% of the experimental group. These students reflect on interpersonal communication, they are aware of interaction role in different groups. However, as the results of methods described above show, the value and depth of reflection is determined by personally significant motives. The position of "self" has top priority for these students in interpersonal relations and reasoning about communication. The position of communication and the motives of communication of their peers, subjects of communication, are not assessed.

The low level of prospective reflection was diagnosed in 66.67% of high school students in the control group and 58.33% of the experimental group. High school students with a low level of communication reflection do not analyze situations of interpersonal communication. They are not interested in the position of the communication partner. An interesting fact is that, in our conversation, we received the following reasoning: "He told something, I don't remember ... I didn't listen, I didn't care," "I'm not interested in talking to him...", "I didn't think over his proposal ...", and even "I ignore him ...". Observations showed that in communication these students face interpersonal conflicts. They do not assess the situation of communication and do not make predictions for constructive regulation of the conflicts.

Thus, the medium level of reflexivity development is observed in 37.5% of the respondents in the control group and 33.33% of the respondents in the experimental group. The low level of reflexivity, indicating a lack of personal reflection, was found in 62.50% of students in the control group and 66.67% of students in the experimental group. These high school students, as a rule, find it hard to plan for the future, have a proneness to pattern thinking, do not show the ability to analyze mistakes made in the past, cannot control themselves, do not know how to use acquired successful or unsuccessful experience in

overcoming difficult situations and cannot reflect on the current situation. They don't have empathy and can't put themselves in other person's position.

Organization of psychological and pedagogical support for high school students' self-reflection formation

Psychological and pedagogical support for high school students' self-reflection formation is the creation of special measures (goal setting, conditions, development and organization of the stages, content, basic forms and methods, concrete ways of all participants' interaction in the process, etc.) to be implemented in working with students and teachers for the development of high school students' self-reflection.

Educational creative activity of teachers and students in the process of self-reflection formation should be designed and implemented on the basis of following principles' integration:

- the principle of "individual acquisition" through "social interaction", i.e. through the organization in accordance with the goals of the individual development of a particular social situation;
- the principle of the ideal combination of individual and collective forms of learning activities.
- the principle of the gradual formation of reflection as a property of the psyche;
- the principle of consistency in the choice of support and the process itself;
- the principle of the integrity of "selfness" awareness;
- the principle of self-organization and self-development; the ability to really provide the personal meaning of information perception by everyone and the reflection of its self-motion in the learning process.

This process is carried out with both students and teachers. Teachers participate in specially organized methodological seminars, training sessions to improve their reflective competence and the organization of this process with students. Thus, there is a gradual mastering of the content of reflective teaching, which now acquires a qualitatively new personal meaning, acting as the basis and environment for the development of the personal experience of each participant in an educational institution.

For the formation of reflection in high school students, a special step-by-step program of 24 lessons (each 2 academic hours long) was developed and tested. The purpose of the program is high school students' self-reflection formation. The tasks of the program are as follows:

1. Realization of a person's reflection and its functions in solving life situations;
2. Development and formation of abilities and skills of meaning-building and sense-consciousness;
3. Formation of a creative approach to solving conflict situations;
4. Awareness of one's creative activity role in the constructive regulation of life.

As part of the forming experiment, we conducted work in the axiological direction, where we formed the ability to analyze personal reflection in interaction with other people and an adequate awareness of one's own and others' advantages and disadvantages, therefore, the methods of influencing the participants of the classes were very diverse and included:

- psychodrama games and tasks, allowing, on the one hand, to improve empathic capacity, i.e. gain additional knowledge about the emotional manifestations and mechanisms of empathy, and on the other hand, get reflective experience by playing the following roles: "Me, as I see myself", "Me through the eyes of another person", "The way I perceive another person", "The way another person perceives himself/herself", "My group status, as I see it", "Social norms as I understand them," etc.;

- psycho-technical exercises aimed at the development of communication skills and self-analysis skills, the formation of self-confidence and positive perception of other people, the activation of

professional and personal self-determination;

- discussions of the ways to resolve conflict situations based on the differences in participants' positions and providing for the possible emergence of polar views on the question who wins the debate and how the conflict should be resolved;

- games and exercises aimed at the development of life-planning skills and the formation of meaningful attitudes.

Analysing the research findings

The forming experiment demonstrated that there were changes in the indicators of the formation of low, medium and high auto-reflection. The low level decreased by 41.67%, the medium level increased by 37.5%, while the high level increased slightly by 4.17%. It can be concluded that the results showed significant changes towards improvement in all indicators. We can state that in the results of diagnostics of socio-reflection formation level performed in the experimental group there is also a positive trend, though not that significant. We observe a decrease of only 12.5% in high school students with the low level of socio-reflection and correspondingly an increase of only 12.5% as well in high school students with the medium level of socio-reflection. There are as many high-school students with a high level of socio-reflection in the experimental group as at the stage of the ascertaining experiment.

We can note that the ability to look at oneself from the side, as well as the proneness to self-scrutiny and fantasy thinking of high school students has improved. It is important that at the time of conducting the control experiment, a critically low level was not identified, whereas a high level was formed in high school students in terms of system-based reflection and self-scrutiny. There is an increase in the number of students on the indicator "fantasy thinking", with a medium level at the stage of the control experiment.

We investigated the level of situation-driven, retrospective, prospective reflection and reflection of communication of the experimental group students. The study showed that in all diagnosed forms of reflection at the stage of the control experiment there is a small number of students with a high level of reflection forms - 29.17% for situation-driven reflection; 25% for retrospective reflection; 16.67% - prospective reflection; 25% for the reflection of communication and 4.17% for the level of reflexivity in general. We can also observe a significant decrease in the number of students of the experimental group with a low level of the studied forms - 50% for situation-driven reflection; 75% for retrospective reflection; 37.5% for prospective reflection; 54.17% for the reflection of communication and 66.67% for the level of reflexivity in general, which is a positive result for the experiment.

Data processing on these methods showed the differences in the diagnosed indicator, so, high school students of the experimental group had changes in the indicators after the forming experiment. For all other diagnostic criteria we observe significant differences. Therefore, the forming experiment can be considered more effective. However, the process of reflection formation requires a longer period.

Research findings allow us to state the following. Reflection must be formed in the educational process. Reflection helps students and teachers comprehend the motives and ways of their educational activities and manage them, modifying if necessary or constructing the new ones. At the same time students change themselves. This process is necessary for their self-development and self-improvement. It is carried out throughout life, but reflection needs to be organized step by step. In such process, there appear the need for reflection and the need for its systematization. High school students acquire it thanks to:

- emotional manifestations and the acquisition of reflective experience;

- development of communicative skills and self-analysis skills;
- formation of self-confidence and a positive attitude towards others;
- solution of problem situations and conflicts;
- search for skills in goal setting, planning, reasoning, finding ideals and mindsets for the future.

Conclusion

In conclusion we can state that:

- at the stage of the ascertaining experiment, reflection is formed at a low and medium levels in high school students, which is not sufficient for a full formation of a personality. This process of formation must start at an earlier age (approximately from primary school up to secondary). It should be noted that at this stage it should be organized primarily by teachers and parents in the following way:

- carrying out purposeful psychological and pedagogical support changes high school students' attitude to this process;

- the attitude of students after the forming experiment is characterized by significant positive dynamics, awareness of the need for this process and essential changes in situation-driven, retrospective and prospective reflection;

- positive dynamics takes place when a student gets involved into reflective process, implements creative approach in solving challenging situations and comprehends them;

- the majority of students showed systematic reflection, which once again underlines the need for the goal-setting, the phasing of this activity and the need for compliance with the integrative principles mentioned in the article.

The materials of this article can be useful for teachers in preparation and implementation of reflective activity with high school students.

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