



Development of personal and intellectual reflection in university students in challenging learning situations

Desarrollo de la reflexión personal e intelectual en los estudiantes de instituciones de enseñanza superior en situaciones problemáticas de estudios

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ABSTRACT:

The development of personal reflection and intellectual reflection in university students is necessary due to its high importance in the professional training of future specialists. The research covered 98 psychology students. The research was conducted using the questionnaire and

RESUMEN:

El desarrollo de la reflexión personal y la reflexión intelectual en los estudiantes de enseñanza superior es necesario debido a su importancia en la preparación profesional de futuros especialistas. En la investigación participaron 98 estudiantes – psicólogos. En el trabajo se utilizaron

methods "Level of Personal Reflection", "Pedagogical Estimation of the Level of Intellectual Reflection in Students" and "The Method for Determining the Individual Degree of Reflexivity" developed by A.V. Karpov. It was demonstrated that the students insufficiently exert self-control and plan their cognitive activities. The level of personal reflection was found to be high in 8.16% of students, medium in 77.55% and low in 14.29% of students; highly developed reflexivity was demonstrated by 11.22%, the medium reflexivity - by 70.41%, and the low reflexivity - by 18.37%. The high level of intellectual reflection was found in 3.06%, the medium in 83.67% and low in 13.26%. The obtained results necessitated inclusion of the challenging learning situations in the training program. The work resulted in significant changes in the levels of personal and intellectual reflection in the students of experimental group, who participated in the proposed program, as confirmed with Wilcoxon T-Test, the mathematical statistics method.

Keywords: reflection, reflexivity, personal reflection, intellectual reflection, learning activity, university students

los cuestionarios y metodologías de autor "Nivel de la reflexión personal", "Evaluación pedagógica del nivel de la reflexión intelectual de estudiantes" y la "Metodología de la determinación de la medida individual de reflexividad" de A.V. Karpov. Fue demostrado que los estudiantes utilizan de una manera insuficiente el autocontrol y la planificación de las actividades cognitivas. El nivel alto de la reflexión personal fue detectado en el 8,16% de estudiantes, el nivel medio - en el 77,55% y el nivel bajo - en el 14,29% de estudiantes; la reflexividad altamente desarrollada fue detectada en el 11,22%, el nivel medio de la reflexividad - en el 70,41%, el nivel bajo de la reflexividad - en el 18,37%. El nivel alto de la reflexividad intelectual fue detectado en el 3,06% de todos los estudiantes, el nivel medio - en el 83,67% y el bajo en el 13,26%. Los resultados obtenidos determinaron la necesidad de incluir en el programa de los cursos las situaciones problemáticas de estudios elaboradas por nosotros. Los resultados del trabajo consistieron en los cambios significantes de los niveles de la reflexión personal e intelectual en los estudiantes del grupo experimental que tomaron parte en el programa ofrecido, lo que fue confirmado por medio del método de la estadística matemática del criterio T de Wilcoxon.

Palabras clave: reflexión, reflexividad, reflexión personal, reflexión intelectual, actividades de estudios, estudiantes de instituciones de enseñanza superior

1. Introduction

Reflection remains the understudied psychological phenomenon which ensures personal integrity and contributes to the rethinking by the personality of own self and own mental contents when resolving internal and interpersonal conflicts. Reflection, which becomes an age-specific neoformation at primary school age (Davydov, 1991), retains its importance at other ages, including adulthood. Reflection is studied from the following perspectives: cooperative, communicative, intellectual and personal (Semenov & Stepanov, 1983, 1987; Rossohin, 2005). Personal reflection is the sense-bearing centre of the inner reality of an individual and all of its activities (Rossohin, 2005) and is directed at the individual itself, as opposed to the intellectual reflection which is directed outwards (Semenov & Stepanov, 1983). Intellectual reflection is manifested in the voluntary regulation by an individual of its mental activity, expressed in its control and search for information processing strategies adequate to the situation and planning of further steps (Kholodnaya, 2004).

Development of personal and intellectual reflection in the university students is one of the necessary conditions for their further professional success. A student capable of self-scrutiny and comprehension of complex aspects of challenging learning situations recreating professional activity is better mastering the future profession and gets ready for upcoming difficulties (Kayasheva, 2015). In order to develop personal and intellectual reflection among university students, we proposed to include specially developed challenging situations in practical classes.

2. Literature Review

Initially, the reflection was examined as a part of research on thinking and intellect, and later became a separate subject of research. The scientific foundation for exploring reflection in psychology and the main directions of its research were laid by L.S. Vygotsky (2013) and J. Piaget (1951). J. Piaget (1951), who was dealing with the problem of thinking, focused on one of its types - logical thinking as a reflexive side of the intellect, basing on words and images and aimed at the unification of meanings. L.S. Vygotsky (2013) considered the category under study to be an indicator of the growing complexity of personality structure and, the same as J. Piaget, a characteristic signifying maturing in adolescence. Reflection is contemplation on one's own processes in the consciousness, and the development of self-consciousness and associated reflection contributes to further personal development, a broader understanding of others, and the formation of logical thinking (2013). According to the stance of L.S. Vygotsky's followers, by means of reflection a person becomes an observer of his own life, goes beyond the habitual borders and as a result changes the attitude to it. The psychological phenomenon under study was considered as an explanatory principle behind organization of the highest form of human psyche and a result of the cultural experience interiorization (Leontiev, 2005; Rubinstein, 2003). Reflection was understood in the scientific school of I.N. Semenov (Semenov & Stepanov, 1983, 1987) as a creative reserve of thinking and a multilevel model of conscious regulation. Reflection has been examined as a part of research on human intelligence (Eysenck, 1998; Kholodnaya, 2004; Sternberg & Mio, 2009).

Reflection may be described as a product, a form, a condition and a mechanism of consciousness existence (Karpov, 2004). The latest formation in a human, according to B.G. Ananyev (2001), is the self-attitude (personal aspects of reflection) that develops after other attitudes have been shaped (to other people, situation, object, etc.). Reflective properties of the character, giving rise to integrity and self-regulation, are developed based on the accumulated many years of experience of self-awareness and own behavior. Communication is the basis for the formation of reflective properties and the reflection itself. Reflection was described, *inter alia*, as a unique ability of the personality leading to emergence of fundamentally new meanings, qualitative changes in reflective functioning, to qualitative development of

subjectivity and the personality as a whole (Rossohin, 2005).

At present, reflection has become the target of research in various applied sciences: medicine, clinical psychology and psychotherapy (Grant et al., 2002; Lysaker & Dimaggio, 2014; Kuczewski et al., 2014; Fischer-Kern et al., 2015; Strijbos & Glas, 2018), education (Semenov & Stepanov, 1983, 1987; Kayasheva & Kravcov, 2006; Frick et al., 2010; Quinton & Smallbone, 2010; Koole et al., 2016; Walker & Mann, 2016; Blakemore & Agllias, 2019), psychology of management (Karpov, 2004), etc. Thanks to V. Lefevr (2003), a direction is developed that deals with mathematical modelling of self-reflective systems (Sawa & Igamberdiev, 2016). Researchers examine relation of different kinds of reflection to past experience, the present and the future of a person (Leontiev & Osin, 2014; DaSilveira et al., 2015), self-reflection to adaptability of a person, understanding by a person of own emotions and cognitive processes (Trapnell & Campbell, 1999; Pozina, 2018).

Among different types of reflection, the personal reflection and intellectual reflection were distinguished (Semenov & Stepanov, 1983, 1987). Personal reflection implies an active self-exploration of one's own emotions and needs, which becomes most complete in the process of communication, in challenging and conflict situations (Prihozhan & Gutkina, 1987), in situations of decision-making that cause an internal conflict with one's own self (Semenov & Stepanov, 1983, 1987). Development of personal reflection reduces person's proneness to internal conflict, helps to overcome problematic aspects of personality (Semenov & Stepanov, 1983, 1987), increases social adaptability and contributes to personal integration. Intellectual reflection implies comprehension by a human of the substance of the challenging situation and implementation of operational transformations depending on the task content (Semenov & Stepanov, 1983). The thinking efficiency of a person increases due to the activation of intellectual and personal reflection (Semenov & Stepanov, 1987). Reflection of intellectual type includes the following components: self-control and self-regulation of cognitive activity; reflection on individual peculiarities of cognitive activity as a process (thinking tactics and strategies); reflection on individual peculiarities of cognitive activity pertaining to personality traits (Samsonova, 2012). In higher educational institutions, the development of personal and intellectual reflection in the students necessary for addressing challenging situations and making decisions represents a relevant problem. One of the tasks of university teachers is to pass knowledge to the students how to develop self-control and self-regulation, which form the basis for self-correction, self-development and overcoming of difficulties in the learning process (Kayasheva, 2015).

3. Research Methods

Our research on intellectual and personal reflection was conducted over a time span from 2017 till 2018. The research covered 98 psychology students studying at the higher educational institution in Moscow

(Russian Federation) - Russian State University for the Humanities. The age of the respondents was from 17 to 20 years. The objective of this research was to develop personal and intellectual reflection in university students through specially designed challenging learning situations. We set the following tasks: 1) to reveal the levels of personal reflection, intellectual reflection and reflexivity in students of psychological specialties; 2) to develop challenging learning situations necessary for developing personal and intellectual reflection in psychology students; 3) to identify significant changes in the levels of personal and intellectual reflection of students receiving training on psychological specialties after participation in the specially developed program including challenging learning situations.

Students were divided into two equivalent samples. 49 students were included in the experimental group (41 girls and 8 boys), 49 students (44 girls and 5 boys) constituted the control sample. The questionnaire method was used. The author's questionnaire included questions aimed at finding out certain characteristics of the respondents (age, gender, place of study, training profile) and the ways how they deal with the challenging learning situations (persistence when implementing challenging tasks, the level of self-control, independence, orientation in time). The testing method implied the use of the "Personal Reflection Level" method by O.I. Kayasheva (2015), the method for determining the individual degree of reflexivity by A.V. Karpov (2004), and the questionnaire "Pedagogical Evaluation of the Student's Level of Intellectual Reflection" by O.I. Kayasheva (Kayasheva, 2015). The questionnaire "Pedagogical Evaluation of the Student's Level of Intellectual Reflection" implies evaluation by the teachers of the way how the students deal with the challenging learning situations by 9 criteria (self-control of own activities by the students when dealing with the challenging learning situations, making an action plan, self-regulation of cognitive activities, use of the previously obtained experience to address the challenging learning situations, reflection by the students on own mistakes, effectiveness of self-correction of mistakes, independence of conclusions made when dealing with the challenging learning situations, reflection by the students on procedural characteristics of their individual cognitive activity (mental tactics, strategies), reflection by the students on their own intellectual abilities.

The evaluation of each criterion was carried out by two expert teachers on a 3-point scale (1 point - criterion is not expressed or students made significant mistakes, 2 points - criterion is expressed at medium level, students made insignificant mistakes, 3 - the evaluated criterion is expressed at high level, no mistakes were made). The results were consolidated for all criteria and the level of students' intellectual reflection was determined (low level - 9-14 points, medium level - 15-20 points, high level - 22-27 points). Wilcoxon T-Test was used for mathematical processing of data, this test is intended for comparing indicators measured under different conditions on the same sample, and helps to

determine whether the shift of indicators in one direction is more intense than in another.

4. Findings and Discussion

Questioning of 98 students revealed that for 28.6% of students a high degree of persistence is typical when dealing with the challenging educational tasks, for 40.8% - medium and for 30.6% - low. First of all, when dealing with the challenging learning situations, the students are relying on: the help of their classmates - 32.65%, the independent search for solutions using all available Internet resources, research data on the topic, etc. - 30.6%, the help of their teachers - 25.5%, own mind and ability to think the problem through and to find a solution - 5.1%, the help of their brother or sister - 3.1%, the help of parents - 2.1%, acquaintances among students of the senior grade - 1.1%. When dealing with the challenging situations, 77.55% of students focus on the present, and demonstrate situational aspects of personal and intellectual reflection ("I solve problems as they appear", "I act in my studies depending on the current situation", etc.), the appeal to the past (retrospective aspects of reflection) and the future (perspective aspects of reflection) is less typical for these young people. 20.41% of the respondents believe that self-control is necessary during the entire process of resolving challenging learning situations, 54.1% believe that self-control is necessary only at the final stage of resolving challenging learning situation in order to get the desired mark, and 25.51% believe that the control function should be performed by teachers, while self-control is not a priority in the training process.

The method "Level of Personal Reflection" helped to reveal the high level of personal reflection in 8.16% of students, medium in 77.55% and low in 14.29% of students. According to the method of determination of individual degree of reflexivity offered by A.V. Karpov (2004), highly developed reflexivity is revealed in 11.22%, the medium level of reflexivity in 70.41%, and the low level of reflexivity in 18.37%. The questionnaire "Pedagogical Evaluation of the Student's Level of Intellectual Reflection" implied evaluation by the teachers of the way how the students deal with the challenging learning situations by criteria. According to the consolidated results, the high level of intellectual reflection was demonstrated by 3.06% of all students, medium by 83.67% and low by 13.26%. It was found that the students had the major difficulties with self-control and planning of the cognitive activity, they made critical mistakes when dealing with the challenging learning situations, failed to draw analogies with the past experience (obtained at the master classes, traineeships at psychological centers, pre-school facilities, schools and public enterprises, etc.) and with the present challenging learning situation.

The obtained results led to the conclusion about a necessity to develop intellectual and personal reflection in students. Further work was carried out with 49 students who during practical classes participated in

resolving challenging learning situations offered as a part of psychological disciplines (family psychology, psychological counseling, special psychology and clinical psychology). A total of ten meetings were planned for each of the four study groups during one academic semester. The challenging situations were as follows (depending on the academic course): the students were asked to identify symptoms of mental illness, find out specific needs of the clients in psychological counseling, conduct psychological consultations with parents of children with disabilities, etc. All challenging situations included in the training program were divided into three blocks depending on the level of their complexity. In the first basic block a teacher worked jointly with the students, and they analyzed various difficult situations from psychological practice and their possible constructive solutions. The students were encouraged to show initiative and be proactive, the course teacher focused on the strengths of the students, their successes and achievements in finding solutions to the challenging situations, which was subsequently necessary for the successful completion of the second and third blocks. In the second block, the students were given more independence. Students actively discussed challenging situations, put forward hypotheses concerning possible solutions, took part in the staging of the offered challenging situations (meetings of the family psychologist with the spouses experiencing a situation of divorce; biographies of the known people who suffered mental and psychosomatic illnesses were analyzed based on viewing the films about them and reading excerpts from memoirs of their contemporaries ; the practical experience of leading psychologists was analyzed based on viewing the transcripts of their meetings and video recordings, etc.). The personal traits of the students that may hinder resolution of challenging situations in their future professional activity were analyzed, and the analysis results were used to search for the appropriate methods to enhance professional efficiency of the future specialists (introduction into the techniques of emotional self-regulation, development of stress resistance, etc.). In the third block the students dealt with the proposed challenging situations on their own and predicted the possible consequences of the various decisions made by the psychologist in the process of interaction with clients, analyzed complex cases from psychological practice, developed practical recommendations for parents, spouses and specialists from various areas of professional activity (medicine, pedagogy, etc.).

The repeated diagnostics of the students showed significant changes in the experimental group with the help of Wilcoxon T-Test. The obtained empirical value Temp is within the zone of significance by the level of personal reflection (Temp = 153, at n=49) and by the level of intellectual reflection (Temp = 153, at n=49). As concerns the individual degree of reflexivity the obtained empirical value Temp is within the zone of uncertainty (Temp = 445, at n=49), which probably may be attributed to the fact that the development of reflexivity as a personal ability requires additional work with students. In the control group of students, no significant changes were revealed in the levels of intellectual reflection

5. Conclusion

The conducted work has allowed us to identify possible ways for developing personal and intellectual reflection in the students obtaining psychological specialties in conditions of the higher education. Personal reflection results in the active exploration of the own self, which is fully manifested, among other things, in challenging learning situations, when a student makes decisions and realizes the associated responsibility as a future professional. Development of personal reflection reduces person's proneness to internal conflict, and contributes to personal integration. Intellectual reflection supplements personal reflection and implies comprehension by a human of the substance of the challenging situation and implementation of operational transformations depending on the task content. The efficiency of thinking by the future professional increases due to the activation of intellectual and personal reflection. Development of personal and intellectual reflection in the university students is necessary for training future qualified professionals. Inclusion in the practical classes of three blocks of challenging learning situations related to future professional activities has proven to be efficient and demonstrated the potential of their inclusion in the program of courses on the family psychology, psychological counselling, special psychology and clinical psychology. Significant changes occurred in the levels of psychological and intellectual reflection of students receiving training on psychological specialties. The proposed developments will be useful for high school teachers.

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