

Integration of Reflection and Self-Regulation as Factors of Personality's Self-Actualization

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Abstract

The study aimed to determine the formation level of future professionals' reflexive abilities and the development of a steady need for self-regulation of their activities via comparative quantitative research methods. As a result, the number of subjects with high and medium level of development of the reflexive component increased by 17.9% and 5.9%. In conclusion, the integration of reflection and self-regulation has a positive impact on the process of self-creation of the personality of a future professional.

Keyword: Self-Creation, Reflection, Self-Regulation, Learning, Professional.

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Integración de la reflexión y la autorregulación como factores de la autorrealización de la personalidad.

Resumen

El objetivo del estudio fue determinar el nivel de formación de las habilidades reflexivas de los futuros profesionales y el desarrollo de una necesidad constante de autorregulación de sus actividades a través de métodos de investigación cuantitativa comparativa. Como resultado, el número de sujetos con niveles altos y medios de desarrollo del componente reflexivo aumentó en un 17,9% y un 5,9%. En conclusión, la integración de la reflexión y la autorregulación tiene un impacto positivo en el proceso de autocreación de la personalidad de un futuro profesional.

Palabra clave: autocreación, reflexión, autorregulación, aprendizaje, profesional.

1. INTRODUCTION

Modern society increasingly requires individuals to be adaptable under its rapidly evolving influence. Self-sufficiency is necessary to successfully adapt to the difficult conditions caused by societally induced life crises and realize oneself in educational and professional activities. In this regard, professional training in higher education should focus on shaping the future professional's personality through self-creation and self-actualization. In the psychological sciences, there are various interpretations of the phenomenon of self-creation. Russian psychologist Mukhina offered the following definition of this concept (Mukhina, 2007).

Ukrainian psychologist Mukhina (2007) considered self-creation a condition of the harmonious development of personality, full-fledged individual life, and also productive social inclusion. He called it a core essential ability that ensures the possibility of continuous changes in the structure of personality and considered it inseparable from development processes, self-improvement, and self-realization. In pedagogical literature, self-creation is an individual's transformational activity, conjugated with self-awareness as a subject of professional activity and self-realization of natural and creative potentials.

Reflection is the process of rethinking and transforming values, norms, methods of work, and ways of thinking, a process of reassessing the past and present (Mishina, 2002). Dewey provided the methodological basis for studying reflection in modern conditions. In Pedagogy and Psychology of Thinking, he identified five logical steps of reflexive thinking: the feeling of complication; the prevention of difficulties and their differentiation; idea of a possible solution; the process of analyzing a problem, that is, developing an idea by reasoning about ways of acting; confirmation of that idea in the activity or its refutation; further observations, leading to the development of alternative solutions (Dewey, 1999; Shemshurin, 2000; Safdari et al, 2013).

Teachers and psychologists Davydov (1996), Markova (1996) have accumulated a powerful foundation of pedagogical research on the formation and development of reflective skills in learning activities. In the opinion of Davydov (1996), learning activity occurs due to reflection, which is a fundamental quality of consciousness. The researcher calls reflection and the ability to learn the basic qualities of educational activity, arguing that reflection as one of learning ability's necessary components can be formed by means of educational activity. Problems regarding the formation of reflective skills and related qualities were discussed by (Rukavishnikova, 2000).

The problem of self-regulation has been highlighted in numerous psychological studies. Ozhiganova (2016) and Osnitsky (2009), among others, examined self-regulation of human professional activity. Bandura (2000) reveals the essence of the concept of selfregulation in the context of the socio-cognitive theory of personality, claiming that self-regulation is a cognitive characteristic that provides the ability to evaluate and adjust one's own behavior based on internal standards (Konopkin, 2010; Sazesh & Siadat, 2018).

Therefore, clear that self-regulation of educational and professional activities contributes to the development of reflection among subjects engaged in educational processes. At the same time, the presence of a reflective component serves as a prerequisite for the development of self-regulation. Thus, it appears that reflection and self-regulation are interconnected (Table 1).

Stages of reflection	Characteristics of self-regulation	
Self- awareness	Preparing to begin the learning activity: the student	
	consciously perceives the goal of the learning	
	activity, compares his own goals with the goal of	
	his future activities, clarifies for himself what one	
	should know and be able to learn in the future and	

	in what sequence it should be learned.				
Self-determination	Actualization of supporting knowledge,				
	clarification of conditions favorable to the goals.				
Self-expression	Actualization of supporting knowledge, subject				
	experience, the choice of the optimal way to carry				
	out educational activities, active learning and				
	cognitive activity.				
Self-affirmation	Active learning and cognitive activity, the				
	definition of criteria for the success of the predicted				
	result.				
Self-actualization	Active teaching and learning activities, comparing				
	the results of work with reference samples or other				
	students' achievements.				
Self-regulation	Reflection on one's own activities in the process of				
	correcting the results obtained; formulating new				
	goals.				
Table 1: Integration of reflection and self-regulation in student					

learning activities

The necessity of including reflection processes in human activity was most convincingly proven by Shchedrovitsky (2005). A reflexive exit, or reflexive position, is a situation in which the subject moves from the position of the actor to a new position that is external to the activity being performed. The main activity becomes the subject of special treatment due to being directed to the secondary (reflexive) activity. Its specific task is to analyze the initial activity, to delineate in its process certain new formations that could serve as means of building new, more advanced activity processes. According to Shchedrovitsky (2005), in order to reach a reflexive position, an individual must have special specific means of understanding, allowing the combination of two positions: the object and the subject of the activity. During diagnostic method selection, the author's tests and questionnaires were widely used, making it possible to measure the formation level of general reflexivity (Karpov, 2006), professional reflection Rukavishnikova (2000) and reflexive thinking to perform self-assessment of personally and professionally valuable qualities, as well as reflexive skills and abilities that comprise the content of various types of reflection: personal, intellectual, communicative, cooperative, regulative, etc. In order to explore and develop future professionals' reflexive skills through educational activities, we used special reflexive procedures, the organization of which should lead to a holistic activation of all aspects of the personality and encourage creative research of educational and professional experience, selfknowledge, and self-development. It should be noted that the proposed materials make it possible to intensify future specialists' training activities to develop their reflection and self-regulation.

The variety of scientific positions on reflection and selfregulation shows that reflection is integral and the basis for selfregulation formation, contributing to the awareness of all components of self-regulation of educational activity. The level of self-regulation development depends on the degree of reflection development. Methods to relieve emotional tension normalize mental and physical states, and restore personal resources are widely used to develop high school students' self-regulation of educational activities methods. Methods to improve behavioral communication skills and selfconfidence, master positive thinking, and practice special tasks and exercises are also used, mainly based on such methods of reflexive self-knowledge and self-regulation as relaxation, concentration, visualization, and self-suggestion.

2. RESULTS

Experimental studies have shown the formation of students' holistic view of the essence of higher education learning activities and the importance of a reflexive component for its successful implementation. Students were offered tasks and exercises aimed at the development of personal and professional reflection. Participating in the experiment were 538 students, with the experimental group (EG) consisting of 273 and the control group (CG) of 265. The study was carried out over four years (2015–2018) and was divided into three stages.

The first stage (2015-2016) involved a review of the existing literature and the selection of diagnostic methods for the reflexive component, as well as acquisition of exercises and tasks for reflection and self-regulation formation; during the second (2016-2017), the participants' reflexive component was formed, they were divided into experimental and control groups, and a methodical seminar was conducted with the teachers involved; in the third (2017- 2018), the psycho-technical exercises and tasks were implemented, a control test was conducted, and the results were calculated. The fixing and forming experiment results were analyzed using empirical distributions (Wilcoxon's criterion to check the groups' qualitative homogeneity).

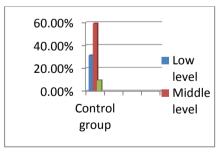
The critical points of the criteria as determined by this method are used to find the level of significance $\alpha = 0.05$ and the volumes of samples $n_1=265$, $n_2=273$ (the first being a smaller sample), as shown in Table 2.

CG – EG	CG – CG	EG – EG
$n_{1=265}, n_{2}$	$n_{1} = n_{2} = 265$	$n_{1} = n_{2} = 273$
=273		
67882	66901	71055
74953	73814	78276
		$\begin{array}{ccc} n_{1} = 265, & n_{2} & n_{1} = n_{2} = 265 \\ = 273 & & & & \\ \hline 67882 & & & 66901 \end{array}$

Table 2: Critical points of the Wilcoxon criterion

 $(\alpha = 0.05; n_1 = 265; n_2 = 273)$

To determine the development levels of the reflexive component, we applied the Rukavishnikova's (2000) method. This technique uses a 34-point grading scale, the results of which are shown in Figures 1 (before the experiment) and 2 (after).



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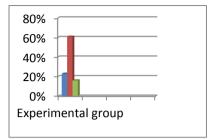


Figure 1: Formation levels of students' reflection for control and experimental groups before the experiment.

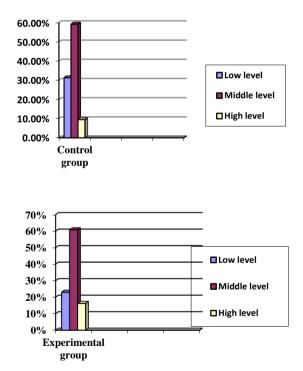


Figure 2: Formation levels of students' reflection of control and experimental group after the experiment.

Statistical analysis of empirical data showed that before the experiment, the groups were qualitatively homogeneous, and their quantitative indicators did not differ significantly. At the output stage, the studied groups turned out to be qualitatively heterogeneous in terms of the formation of the reflexive component, and the groups' quantitative indicators differed more significantly. The results showed that a high level of reflection formation was found in 22.1% of the participants, among whom 62.2% were EG and 37.8% CG. An average reflection formation level was found in 63.0% of participants, among whom 49.9% were EG and 50.1% CG, while 14.9% of the participants were at a low level of reflexive development, 37.5% EG and 62.5% CG. After the experiment, the number of EG participants with high and medium formation levels increased by 17.9% and 5.9%, respectively.

At the same time, in the CG, the number of participants with high and medium formation levels increased by 7.9% and 7.2%, respectively, while the number with a low level decreased by 15.1%. The CG also saw positive changes, but the corresponding indicators of such changes in the EG were significantly higher. The effectiveness of the implementation of the proposed psychotechnical exercises and reflexive tasks is, therefore, supported by the general increase in reflection formation level among future professionals and the development of their sustainable need for self-regulation (Indriastuti, 2019; Tambunan, 2019).

3. DISCUSSION

In the conditions of intensive development of society and constant updating of information the problem of person' selfdevelopment becomes very important, the essence of which is the development of important self-processes for the future professional self-education, self-development, self-control of self-realization, selfimprovement, etc. The effectiveness of self-examination is largely ensured by future specialists' skills and abilities of reflection and selfregulation, the formation of which is advisable to start at the first stage of education and training. The purpose of our study was the development of future specialists' reflexive component of educational and professional activities. The hypothesis of the experiment was that the level of formation of the reflexive component would increase if special reflexive procedures (psycho-technical exercises and reflexive tasks) were applied in the educational process, and the integration of reflection and self-regulation would positively affect the ability of students to self-development and self-improvement.

Using author's techniques at the diagnostic stage of the experiment, we determined the initial level of formation of the reflexive component, which turned out to be approximately the same for the students of the control and experimental groups. At the next stage of the study, the introduction of an experimental group of special tasks and exercises into the educational process was carried out in order to develop the students' skills of reflection and self-regulation.

The control group students continued to study according to the traditional system.

The results of the forming stage of the experiment showed that in the experimental group the number of subjects with the high and average formation of the reflexive component increased. Thus, the research hypothesis was confirmed experimentally and the conclusion was drawn about the importance of integrating reflection and selfregulation as factors of self-development of the personality of a future professional. As prospects for further research, we see the further formation of other self-processes in order to develop future specialists' abilities to further self-development and self-improvement.

4. CONCLUSIONS

The central task of personality-oriented vocational training of specialists in the context of modernization of higher education is the development of the personality of a future professional through a steady need for self-creation and self-improvement, which can be achieved by developing among the future specialists the phenomenon of self and related self-processes that enhance the quality of educational activities and professional training. Such self-processes include self-organization, self-design, self-government, self-control, and others. Conscious reflection (self-reflection) and self-regulation, which are important for achieving an effective result in educational and professional activities. In our study, we focused on the formation of reflexive skills and self-regulation. During the pedagogical experiment, special reflexive procedures were offered, the organization of which contributed to the actualization of the reflexive component of the training activities of future specialists, as well as psycho-technical exercises and tasks that form the skills of self-regulation.

The performance of the offered exercises and tasks by the students of the experimental group in the educational process led to the expected results: the number of subjects with high and medium level of development of the reflexive component increased by 17.9% and 5.9%, respectively, at the same time decreased by 23.8% the number of participants with a low level of its formation. The obtained experimental data confirmed our assumption that the integration of reflection and self-regulation has a positive impact on the process of self-creation of the personality of a future professional. Thus, we tried to prove that only a person who possesses the skills of reflection and self-regulation, who has the ability to create themselves, will be able to qualitatively prepare for the successful fulfillment of professional duties in conditions of increasing professional competition.

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