

AD ALTA: JOURNAL OF INTERDISCIPLINARY RESEARCH

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A SOCIAL SCIENCES

AA	PHILOSOPHY AND RELIGION
AB	HISTORY
AC	ARCHAEOLOGY, ANTHROPOLOGY, ETHNOLOGY
AD	POLITICAL SCIENCES
AE	MANAGEMENT, ADMINISTRATION AND CLERICAL WORK
AF	DOCUMENTATION, LIBRARIANSHIP, WORK WITH INFORMATION
AG	LEGAL SCIENCES
AH	ECONOMICS
AI	LINGUISTICS
AJ	LITERATURE, MASS MEDIA, AUDIO-VISUAL ACTIVITIES
AK	SPORT AND LEISURE TIME ACTIVITIES
AL	ART, ARCHITECTURE, CULTURAL HERITAGE
AM	PEDAGOGY AND EDUCATION
AN	PSYCHOLOGY
AO	SOCIOLOGY, DEMOGRAPHY
AP	MUNICIPAL, REGIONAL AND TRANSPORTATION PLANNING
AQ	SAFETY AND HEALTH PROTECTION, SAFETY IN OPERATING MACHINERY

PEDAGOGICAL CONTEXT OF ATTRIBUTIVENESS OF REFLECTION IN TRADITIONAL AND E-LEARNING OF FUTURE TEACHERS AND ALREADY WORKING AS SOCIALLY ORIENTED INDIVIDUALS

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Abstract: The article presents the theoretical and empirical results of the research of the phenomenon "reflection". The theoretical aspect of the study was related to the analysis of significant for socially oriented individuals types of reflection (personal, group, professional) and areas of reflection (thinking, communication and cooperation, consciousness, reflection in activity, formation of reflection, development of reflection, levels of development of reflection in areas). Generalization of data on the pedagogical context of the attributiveness of reflection during the traditional teaching of future teachers and teachers as socially oriented individuals was carried out. The experimental work involved future teachers and teachers who work at the school for up to 5 years. Experimental work was aimed at: 1. Analysis of reflection as a process. 2. Establishment of objects of reflection, reflective situations and results of reflection in objective and virtual realities without regard to professional activity. 3. Establishment of objects of reflection, reflective situations and results of reflection during traditional and e-learning of future teachers in higher pedagogical education and teachers (working in schools up to 5 years) in postgraduate education. Based on the generalization of theoretical and experimental data, conclusions are drawn about: components of professional (pedagogical) reflection; reflective processes carried out by the teacher as a socially oriented person; formation and development of reflection, and also about the attributiveness of personal and group reflection during traditional and e-learning of future teachers and teachers who work at the school up to 5 years.

Keywords: Group reflection, Learning, Professional reflection, Reflection, Reflection as a process, Teachers.

1 Introduction

In any transformational processes in society and in education, the teacher as a socially oriented person simultaneously implements two processes: forms other personalities and constantly carries out self-improvement. The attributiveness of these processes is reflection. According to S. Rubinstein, the philosophical understanding of life causes the emergence of reflection. From that moment on, every human action acquires the character of a philosophical judgment about life, connected with the general attitude to life. From this moment, there is a problem of responsibility for everything done and everything lost [32, p. 352].

In the works of the past, the essence of reflection as a process is revealed without the use of this term in reasoning:

- In the works of ancient Greek philosophers – Socrates (469 B.C.) – "know yourself"; Aristotle (384 B.C.) – "appeal to thinking" [14]; Plotinus (III century A.D.) – the direction of the soul to itself, to own invisible actions and their content. The soul seems to follow its work, is its "mirror" [15].
- In the works of French philosopher R. Descartes (1596-1650), and later the English philosopher J. Locke (1632-1704) – "mental observation of own activities" [14].

For the first time the use of the concept of "reflection" and its derived concepts was observed in the works of representatives of German philosophy. According to I. Kant (1724-1804), without reflection it is impossible to formulate judgments, compare knowledge, and think. J.G. Fichte (1762-1814) [15] introduces the concept of "reflective thinking", which creates the "Self" of

man. Hegel (1770-1831) [27] for the first time uses the concept of "reflective movement" (it is an absolute backward push into oneself), "reflexive process" (it is beyond the immediate), "reflective actions" (this thinking as the process of imitation of content and as a process of its construction).

Modern philosophers explain the essence of the phenomenon of "reflection" using the terms "activity", "self-knowledge", "principle of thinking". Thus, the concept of "reflection" means:

- A form of theoretical activity of socially developed man, aimed at understanding all their own actions and their laws; activity of self-knowledge, revealing the specifics of the spiritual world of man [14];
- The principle of thinking, through which the analysis and awareness of their own forms (categories of thinking) of activity, which is not only the result of internal needs of isolated consciousness, but is manifested through relationships with other people" [13].

Also, the study of reflection was conducted by psychologists of Western social psychology and reflected in the works of D. Holmes, T. Newcomb, C. Cooley. Psychologists define the concept of "reflection" using the concepts of "self-knowledge", "knowledge", "mental state", "mental reflection", "direction of thinking".

Thus, the concept of "reflection" is interpreted as:

1. The process of subject' self-knowledge of internal mental acts and states [39].
2. Type of cognition, when in the course of any activity the subject himself becomes the object of his observation.
3. Reflections, analysis of their own mental states.
4. The process of mirroring by the subjects of each other, the subject's awareness of how it is perceived or evaluated by other people. According to L. Vygotsky [50], S. Rubinstein [32], reflection is: a) introspection (from the Latin *introspectare* – to look inside) of one's own psyche; b) understanding of life program, the principles of correlation of goals, values, requirements, guidelines, aspirations, etc.

According to Z. Stanovsky's generalizations, in the psychological and pedagogical context reflection is a more or less clear awareness of a person's mental processes, actions, states, personal qualities and their changes in the process of development in certain environmental conditions. The process of reflection involves a "mental way out" of the current situation and consideration of a person himself, his actions from the position of another specific or imaginary person or group of people [43].

Various functional manifestations of reflection are considered in the following works:

- A. Karpova [18] – reflection is: 1) mental property that corresponds to the cognitive mode of mental; 2) mental process, which is a regulatory mode of mental; 3) mental state, which corresponds to the communicative mode of the mental.
- V. Wolfov and M. Kharkin [49] – reflection is: 1. Mental state (relatively static moment, which differs from the process). 2. Process (Reflections as a process are inherently integrative. Reflection involves thinking, feelings, will, past and present, real and imaginary. This inner work, "work of the soul" is a response to events that affect the state and behavior of man). 3. A unique factor in the transformation of information into knowledge (Reflection as a person's realized ability to internally discuss various aspects of his life is a unique factor in the transformation of information into knowledge).

2 Materials and Methods

According to E. Rapatsevich, reflection is not just a person's knowledge and understanding of himself as a subject of knowledge, but finding out how others perceive this person. Reflection focuses on different contexts of mutual reflection of subjects: the subject himself, as he really is; the subject he sees himself as; an entity that is seen by others. Reflection is a process of double mirror reflection of each other's subjects.

Reflection is considered by Z. Stanovsky [43] as a specific intellectual activity of the individual, which arises in a certain situation of difficulty in implementing significant activities and is an attempt to overcome difficulties by understanding them and finding new ways of activity and self-realization. Reflection is a necessary condition for conscious regulation of human activity, interaction with other people, achieving the highest results in various areas of life. It provides a conscious definition of the preliminary construction of actions, anticipation of their consequences, control and management of human' behavior, his ability to be aware of what is happening in himself and in the world around him. Reflexive prediction, which is part of self-regulation, allows a person at a certain stage of self-determination to get the result, which at the beginning of this process was in the human imagination.

In the theoretical part of the research, the emphasis is made on such aspects of the phenomenon "reflection" as: types of reflection (personal, group, professional), spheres of reflection (thinking, communication and cooperation, consciousness), reflection as a process (reflection as reflection process, reflection in activity, formation of reflection, development of reflection, levels of development of reflection in directions). The pedagogical context of the attributiveness of reflection during the traditional training of future teachers and working teachers is also analyzed. The experimental part of the study is aimed at studying the attributiveness of reflection during traditional and e-learning in institutions of higher pedagogical education and postgraduate education.

3 Results and Discussion

3.1 Significant for Socially Oriented Personality Types of Reflection and Spheres of Existence of Reflection

The following types of reflection are significant for socially oriented personality:

1. Personal reflection – deepening into the world of own actions, feelings, experiences, their correlation with the surrounding reality [35].
2. Group reflection is a metacognitive unity of known mechanisms and processes of reflection, which is carried out in intersubjective interaction at different levels of its value. Group reflection regulates the formation of group subjectivity. There is a transition from blocking the perception of thoughts and models expressed by partners to increasing sensitivity to the manifestation of the inner world to the acceptance of "by-products" of the movement of thoughts unaware of their authors [24]. Group reflection can be observed not only in the educational process, but also when communicating with friends and parents. I. Cohn [20] noted that friendly communication gives a person the opportunity to know himself in comparison with others. Indicators of the amount of reflection that can unfold in communication are the presence in it of discussions of new issues and experiences, emotions, attitudes, knowledge.
3. Professional (pedagogical) reflection is a process of knowing oneself as a professional by analyzing one's own professional and personal knowledge, behavior and experiences in connection with professional pedagogical activity, awareness of how he (teacher) is perceived and evaluated by other subjects [23].

In the process of professional reflection, the teacher takes an active research position to himself as a subject and to the activities he carries out, in order to constructively transform and

improve it. There is a comprehension and rethinking of professional problems to overcome, the development of ideas for solving professional problems, the choice of appropriate methods and strategies that are adequate to the nature of teaching and those that have developed as a result of internal activity.

The professional reflection of a teacher has certain specificity, which is due to the nature of pedagogical activities with a certain category of students. For example, the professional reflection of primary school teachers is characterized by the following features [23]:

1. The need for constant reflective analysis of various pedagogical situations, understanding the context of both their own actions and the actions of other actors in the educational process.
2. Multifunctionality of activity (teacher who teaches several subjects, class teacher, subject of public education, etc.).
3. The need for constructive and operational overcoming of contradictions in the process of professional activity, etc. The following criteria testify to the formation of professional reflection: value attitude to professional reflection; knowledge of the content and means of implementation, the ability to professional reflection, reflective position.

For future teachers and already working teachers as socially oriented individuals, three spheres of existence of reflection are significant, which are defined in the work of V. Davydov, V. Slobodchikov and G. Zuckerman. These are the following [10]: 1) thinking; 2) communication and cooperation; 3) consciousness (self-consciousness).

Thinking unfolds as a process of solving problems. Thinking functionally provides the relationship of knowledge that forms the content (subject) side of thinking, with mental abilities. Reflection in thinking affects: 1) the course of the thought process; 2) the process of knowledge formation; 3) the course of mental development.

Consideration of communication and cooperation as spheres of existence of reflection is most fully manifested during the internal construction of the interlocutors remarks or statements in the process of communication, control over its progress for achieving own goals of communication.

According to G. Andreeva [3], reflection appears for communication partners as a kind of doubling of the process of mirroring each other and is manifested in the way each of them is perceived by the interlocutor. In the work of A. Bodalov [6], reflection is manifested in: penetration of the visible; fixation of psychological reasons and features of the person; understanding of conscious and unconscious "messages" (facial expressions, pantomimes, gestures, postures, actions, deeds). N. Yakushina and S. Yakushin [30], taking into account the degree of understanding of each other, distinguish two processes: 1) the process of reflection in dialogue (involves awareness of the interlocutors' own interpretation of the situation and of content); 2) the process of dialogue in reflection (this is the development of communication techniques).

Analyzing consciousness and self-consciousness as areas of reflection, we note that reflection, participating in the processes of knowledge formation, worldview, ideological and moral beliefs, attitudes toward other people and self, promotes other processes. This is the course of the process of cognition, self-knowledge, the formation of the content of consciousness, transformation into a worldview, and so on. According to A. Ogurtsov [28], the process of formation of human consciousness is not possible without reflection, and, therefore, scientists have identified reflexivity as one of the most important features of human consciousness. V. Slobodchikov [41], E. Isayev [17] focus on the role of reflection in the formation of self-awareness. Scholars consider reflection as self-knowledge and as a mechanism of self-regulation, as well as as a phenomenon related to locus control (a person takes the position of "looking

at myself through the eyes of another person", analyzing the situation and solving it on the basis of new ways).

3.2 The Emergence of Reflection and the Course of Reflection as a Process

The process of reflection is described by various scientists. In particular, G. Schukin S. [1] describes the moment of self-reflection. This moment is not always clearly understood by a person. Often it is just the realization of: 1) some new and disturbing feeling (the rapid flow of life, the irreversibility of time, dissatisfaction with themselves, life begins to seem devoid of high meaning and deep meaning); 2) a sudden impulse, a shock that awakened consciousness.

According to Z. Stanowski [43], the emergence of reflection is caused by various factors. This may be: 1. Internal need for self-awareness of failure or disruption of activities. Attempts to use known methods do not work or it is obvious that they are not suitable in this case. 2. A set of vital contradictions for a person, which he actively seeks to resolve in the absence of known ways to resolve them. Man uses a reflexive (mental) way out of the current situation, distancing himself from it, awareness of all important conditions and factors and finding fundamentally new ways to further activities (practical or intellectual).

To the qualitative characteristics of reflection as a process Z. Stanovsky [43] includes:

1. Correspondence of the content of reflection to the actual needs of the individual.
2. The presence of conflict, cognitive dissonance (inconsistency of information, motives, methods of implementation, etc.).
3. The need for conscious activity in the direction of trying to solve the problem through analysis, conscious revision of its various components.
4. Manifestation of specific intellectual activity – going beyond the existing situation in of the individual's "subject-object" position in relation to himself (the mechanism of decentralization), the transition to the "reflexive mode" of self-consciousness.
5. Solving the reflexive situation by finding new, previously unknown ways of activity (intellectual or practical), restructuring existing ones.

The course of reflection as a process should be reflected using the content of such derivative concepts as:

1. Object of reflection – the term refers to various aspects of human life, results of actions (activities), self- and mutual evaluation, personality traits, abilities, etc [10].
2. Reflexive situation – a set of internal and external factors that determine the process of entering of the individual in the mode of self-analysis, self-knowledge, carried out on a certain emotional background. Reflexive situation arises in the case of: unsatisfactory performance, changes in its course, the detection of inconsistencies in the content of information, the inability to solve the problem, the emergence of a problem situation, etc.
3. Reflexive operations are awareness, comparison, analysis, etc.
4. "Start" of reflection – the emergence of intra-personal conflict, which activates the comprehension and rethinking of the individual's previous ideas and experiences becomes the impetus for internal reflective activity of "Self".
5. Reflexive way out – going beyond the main activity and addressing it as a certain content that needs to be understood. This is the exit from the previous position and the transition to a new position – external, both in relation to previous, already performed actions, and in relation to future activities that are projected [51].
6. The result of reflection – changes in self-awareness (new components of the image of "Self" and (or) the world; new ways of action, activity, life; new skills (skills of self-actualization, self-analysis, self-evaluation, self-regulation, etc.); "Self" or its components [47].

According to Z. Stanovsky [43], the result of solving a reflexive situation is the expansion and restructuring of the individual's self-consciousness, which is reflected in further activities and is accompanied by certain experiences.

Also, the result of reflection includes changes that relate to the process of reflection. These are reflexive competence and reflexive skills. Reflexive competence plays a significant role in rethinking personal and professional experience, promotes the formation of new professional standards, stimulating the development of the specialist, allows effective and adequate reflection, comprehension and overcoming problems, forecast socio-pedagogical situations and promotes self-development [29].

Reflexive skills [16] is a complex structured personal creation, a synthesis of conscious actions, operations, self-attitude (as an attitude to self), embodied in the ability of the individual to objectively analyze own inner world, activities, behavior in various situations of interaction with surrounding; it encourages self-determination and activity.

O. Herasimova organizes reflexive skills in four planes. These are [16]: 1. Cognitive plane (intellectual abilities and personality qualities, self-perception as a subject of educational activity, basic reflexive actions and operations). 2. Motivational plane (ability to analyze dominant goals, motives of one's own behavior and constant educational and cognitive needs). 3. Perceptual plane (self-perception and attitude to oneself and others). 4. Activity plane (ability to see the problem, make the subject of analysis own actions and personal qualities, the ability to analyze own educational activities and determine the prospects for further educational activities).

3.3 Reflection as an Activity

Consideration of reflection in activity is based on the work of L. Vygotsky [10] and S. Rubinstein [32]. Psychologists note that reflection is a person's understanding of the preconditions, patterns, and mechanisms of own activities. Reflection exists in the process of activity and is structured like any other activity, including intellectual. Reflection is always aimed at something, has its own meaningful component. I. Bech [5] notes that the readiness for meaningful performance of activities depends on the intensity of the reflection process.

In the research of A. Tyukov, V. Schur [48], reflection is characterized as a conscious activity process that: 1. Mentally organized and focused on activity as its subject. 2. Ensures the existence of activities in a variety of forms. According to G. Shchedrovitsky [37], in the process of activity the most important are two aspects of the manifestation of reflection: 1. Reflection as a process and a special structure of activity. 2. Reflection as the designing of activity. In A. Zak's work, reflection should be considered in the context of action aimed at elucidating the basics of one's own way of solving a problem in order to generalize and theorize it [51].

Reflection in the activity acquires pronounced manifestations in the case of:

1. Subject and personal goal setting in the activity. A. Kholmogorova, V. Zaretsky, I. Semenov [19] note that reflection in subject goal-setting is aimed at understanding the subject situation, conditions of activity. In the context of personal goal-setting, reflection is aimed at: determining of specific actions to achieve the goal, identifying difficulties that arise during their implementation; analysis of one's own "Self", in particular one's capabilities, aspirations, motives and meanings of activity. With a negative attitude towards oneself, against the background of dissatisfaction with oneself, reflection is a means of self-oppression. Conversely, with a positive attitude, when a person accepts himself and experiences himself as a value, reflection functions as a self-sufficient and constructive means of self-development.

2. Taking a subjective position in the activity, because the object of observation in the activity is the subject of this activity.
3. The use of control and evaluation mechanism of reflection, which in accordance with the work of M. Savchin and M. Student [35] is manifested in monitoring the process, assessing the reality of goals and appropriateness of means, comparing the results with the original goal. In other words, the control and evaluation mechanism of reflection provides for self-control, self-evaluation, identification, evaluation of goals and control over their achievement.
4. Implementation of constructive and creative mechanism of reflection. This is a reflection during creative activity [35].

3.4 Formation of Reflection and Levels of its Development by Directions

The formation of reflection is gradual. According to G. Zuckerman [44], at first mainly reflexive operations or reflexive skill are formed. Progress in their formation is determined by the following main features: students' ability to ask questions; the ability to find information that is missing; the readiness to change ways of action; critical attitude to actions and thoughts; independence in assessments and self-assessment; the habit of looking for evidence; a tendency to debate.

At the end of primary school age, the emergence of "new structural and functional features of self-awareness" is observed [12]. According to L. Bozhovich, it is "the birth of reflection" [9]. The development of reflection in adolescence "generates" interest to own inner world (to emotional experiences, character traits, abilities, motivation, etc.). The development of reflection is accompanied by the process of comparing oneself with others and gives rise to the processes of self-affirmation and self-determination.

Further development of reflection unfolds on the basis of intensive development of abstract-logical thinking and self-knowledge, which causes a qualitatively new level of development of self-awareness and generates deep thoughts about self, self-education. Man realizes himself as the author of his own actions, as a subject of life with needs and abilities, as a carrier of intellect, feelings, and will. The development of reflection is caused by self-activity aimed at "creating yourself tomorrow", "constructing your own life path" [47], solving vital problems, including professional self-determination, self-affirmation and professional education.

According to V. Slastyonin [40], the reflection of adults is based on: 1. Existing ideas about the reflective landmarks of their lives and activities. 2. Striving for awareness and rethinking of personal and professional scenarios of their life movement, the formation of their own reflective models of future activities and life in general. 3. Reflections on status growth in personal and professional terms, the pursuit of the implementation of individual reflective programs of personal and professional self-development.

According to G. Zuckerman [44], the process of formation of reflection should begin with the formation of control and evaluation functions, which are aimed at establishing the correctness and completeness of operations, actions or activities, state the level of mastery activities.

Formation of reflection on the basis of control and evaluation functions is possible only if joint educational activities are organized. If this condition is met, reflection unfolds both from the position of the learner and from the position of the teacher [46]. Joint learning activities provide a more effective internalization of actions [45].

According to O. Herasimova [16], the effectiveness of the formation of reflective skills in students of pedagogical university depends on the system and continuity of the process, activation of reflective potential of various disciplines, students' orientation to the development of reflective skills in learning,

and the introduction of reflective dialogue and analysis of problem-reflective situations.

According to M. Marusinets [23] the development of professional reflection is facilitated by the process of creating reflective situations, asking reflective questions of different content, participation in collective discussion of problem situations.

The process of development of reflection is characterized by scientists at the following levels and directions:

1. Development of reflection of actions, operations, and personal qualities. N. Nikonchuk [26] distinguishes four levels of reflection on actions, operations, and personal qualities in relation to younger students.

Pre-reflexive level – lack of reflection of actions, operations and personal qualities. Students do not distinguish between actions and operations. Ways of organizing activities are borrowed or compiled by chance.

Level I – awareness of individual actions and operations; awareness of ways to perform activities; coordination of students' characteristics of their own activities with the requirements of this activity in the environment, the implementation of instructions, the use of specified algorithms, taking into account recommendations, comments, etc. Students are aware of their skills and differentiate in these skills specific actions and operations. The selected components are largely related to the subjects that students work with, but may already be the object of independent analysis and regulation.

Level II – awareness of individual generalized actions and operations; awareness of the strategy of activity and interaction with others. Students learn to use actions and operations in new conditions, to transfer from one activity to another.

Level III – awareness of generalized actions and operations. Using actions and operations to solve problems of personal growth.

2. Development of reflection on skills. Nikonchuk [26] singles out four levels of reflection on skills in relation to younger students. At the first level of development of reflection, students perceive their skills as a whole and cannot identify individual components. At the second level, students, as a result of reflection, distinguish in the skills of action and operation based on the subject and algorithm of the activity. At the third level, students, along with the components required to perform a narrow task, highlight some generalized actions and operations. At the IV level of development of reflection, students identify components of skills that are based on generalized mental actions and can be used to solve a wide range of problems. The integration of the components of abilities into the structure of the personality takes place according to the scheme: mode of action → strategy of activity → personal quality.

3. Development of reflection of own abilities. As a result of N. Nikonchuk's [26] experimental research, four levels of development of reflection have been established, which is aimed at assessing one's own abilities. At the first level, the result of the reflection of younger students is the assessment of abilities, which reflects the highest achievements, but ignores failures. At the second level - assessment of abilities occurs in students as a result of separate, unrelated reflection on successes and failures. At the third level, as a result of reflection, students distinguish the interval of the scale within which their achievements are usually located. The range of one's own abilities is being assessed. At the IV level as a result of reflection, which takes into account the comparative characteristics of their own abilities and the abilities of others, differentiation and gradient of abilities, the idea of the possibility of their development are formed [26].

4. Development of reflection of the process of performing actions. M. Botsmanova, A. Zakharova [8] distinguish three

levels of development of reflection: 1. High (supplementing the analysis of the problem situation by analyzing own actions, which, in turn, serves as a basis for determining the general way to solve it). 2. Medium (analysis of own actions is not holistic, but is a set of individual elements). Zero (no analysis of own actions).

5. Development of reflection of the way of action of the individual in a problem-conflict situation. Semenov, Stepanov, Novikova distinguish four levels of development of reflection [36]: 1. Reproductive (solve a creative problem using the usual schemes and tools; simplification of the content of the task and attempts to perform it as standard). 2. Regressive (avoidance of conflict, the task is considered as such that cannot be solved at all, the experimental situation is devalued, etc.). 3. Progressive (the experience of conflict is not muffled, but rather exacerbated; the situation is perceived as vital, the solution of which depends on the ability to overcome such difficulties, mobilize internal resources). 4. Productive (awareness of the contradictions between approaches to solving the problem used earlier and real requirements, the rejection of previous options for the task and the search for new ones is recorded).

6. Development of reflexivity as an ability to the process of reflection. In particular, V. Davydov and O. Zak [11] distinguish two levels of development of reflection. The level of formal reflection corresponds to a lower level of reflexivity. In ontogenesis, formal reflection is functionally ahead of meaningful reflection. The level of meaningful reflection corresponds to a high level of reflexivity, manifested in the interested involvement of man in certain activities, including professional activities.

As a result of the research, N. Nikonchuk [26] found that first-graders are at the pre-reflexive (43.75%) and I level (56.25%) level of development of reflection skills and personal qualities. The majority of second-graders are at the first level (60.42%) and partly at the second level (35.42%) of the development of skills reflection and reflection of personal qualities. Among the third year students, the majority are at the first level (47.92%) and at the second level (45.83%). The majority of fourth-graders are at the second level (58.34%) of reflection on skills and personal qualities.

N. Nikonchuk [26] also found a discrepancy between people who are targeted by primary school students in educational activities, and people who value the achievements of children. Classmates represent a model for in mastering learning skills. Students try to imitate successful students, compare their own achievements with their results, compete with them for the championship. Differentiated assessment of academic achievement children receive mainly from parents (71.35% of respondents) and relatives (64.06%). Despite the established views, the primary school teacher is a reference person only for some junior students (60.93%).

According to the experiment of M. Marusynets [23], a high level of formation of the value attitude to professional reflection was found in 17.2% of the studied students. A high level of understanding of the essence of professional reflection, methods of its formation was found in 5% of respondents. It is established that some students are not capable of deep reflection, while others are immersed in thoughts about themselves, which complicate the understanding and prediction of the realities of their professional development.

I. Bech [5] formulated a conclusion about the dominance of reflection in the mental life of an adult.

3.5 Pedagogical Context of Attributiveness of Reflection during Traditional Teaching by Future Teachers and already Working Teachers as Socially Oriented Individuals

To translate reflection into the attributiveness of traditional learning, it is necessary to acquaint future teachers and those already working with the manifestations of reflection in preschool and school education and the impact of different types

of reflection on the effectiveness of educational activities. Achieving this goal is facilitated by acquaintance with the results of various experimental studies that directly or indirectly relate to reflection. We analyzed the scientific literature, singled out and commented on the results of scientific research in the context of reflection.

Based on the analysis of the results of the research, B. Ananiev [2] found that the work of preschool teachers and general teachers affects the awareness of preschool children and younger students regarding their personal qualities and the qualities of other children. Children and students, first of all, are aware of those personal qualities and characteristics of behavior that are most often assessed by others and on which their position in the group or class depends. Thus, in the process of formation of reflection, a special role belongs to the social environment, or rather the content of evaluative statements of the social environment.

According to the results of the experiment, B. Lomov formed the following conclusion: if the task of finding a certain subject was simple, then during the search for this subject, each student did not interact with other participants in the experiment. If the task of finding a certain subject was difficult, it was recorded to turn to other students for mutual exchange of information and to increase the efficiency of finding the subject [22]. In turn, we can conclude about the types of reflection that take place when performing tasks of varying complexity. The student is actively involved in personal reflection in the case of a simple task. While performing a difficult task, the student experiences the need for group reflection.

Also, the scientist [22] studied self-knowledge while performing a task first independently and then in interaction. It was found that as a result of performing a certain task independently, each of the participants of the experiment did not doubt the correctness of its implementation and the results obtained. When the participants compared the results obtained by themselves, they found differences in their work. This fact created a problematic situation and encouraged the participants of the experiment to work together without external instructions to cooperate. The results of this study show that group reflection, which follows personal reflection, increases the cognitive activity of each participant in the interaction, internally motivates to actively compare the results of work and reconcile differences.

N. Bordovskaya [7] summarizes data on experimental studies of the interaction of adolescents in the group. It is established that the organization of interaction of adolescents in the group has the greatest positive impact on the "middle" students, who rise to the level of "strong" students. The effectiveness of group reflection in joint activities aimed at completing the task depends on individual characteristics (level of personal reflexivity, level of awareness of educational material and value of the task, level of intellectual activity) and the creative focus of the task. Group reflection in joint activities contributed to the task, which was not feasible for independent performance by each individual student. The process of group reflection influenced both the result of the task and the process of forming a way to achieve it.

Bordovskaya [7] also notes that the process of communication is especially active in a difficult problem situation. In the absence of the opportunity to engage in direct interaction with others, adolescent students may engage in dialogue with an imaginary interlocutor and anticipate possible objections. Imaginary dialogue directs thinking to find a way to complete a task and helps to complete the task.

The result of fulfilling the task with the use of personal reflection differs from the result of the task with the use of personal and group reflection. This fact is explained by scientists' research:

- M. Sherif [38] – scientists found that when the participants of the experiment performed tasks independently, their results differed. When they performed the same task in

joint activities, the result was completely different. The participants of the experiment influenced each other and the result of their work was a certain group norm.

- L. Ross, R. Nisbet – found that almost 50-80% of participants in the experiment agreed rather to make a clearly wrong decision of the group than to go into conflict with its members [31].

During the learning process, the student focuses on the personal manifestations of participants, namely: their emotional reactions, details of behavior, attitudes to different activities in the classroom. Assessing activity or inertia, enthusiasm or indifference, content or primitiveness of their answers, a person simultaneously looks at himself, his thoughts, his actions, his reactions. In communication that is built on similar interests with others, the student discovers what is inherent in him. These are his personal qualities (emotional, intellectual, volitional), abilities, and opportunities for further improvement.

The experimental work involved future teachers and teachers who work at the school for up to 5 years. The experimental work was aimed at:

- Analysis of reflection as a process;
- Establishment of objects of reflection, reflective situations and results of reflection in objective and virtual realities without regard to professional activity;
- Establishment of objects of reflection, reflective situations and results of reflection during traditional and e-learning of future teachers in higher pedagogical education and teachers working in schools up to 5 years, in postgraduate pedagogical education.

Figures 1, 2, 3 show the results of a study of various aspects of reflection in everyday life of future teachers and teachers who work in schools up to 5 years.

Figure 1 summarizes the data on the object of reflection. It was found that in real life, future teachers are dominated by reflection of the actions of others in a given situation (95% of respondents) and reflection on their actions and deeds in a given situation (88% of respondents). 18% of future teachers surveyed reflect on the "Self" based on a critical view of themselves from the outside.

Teachers who work in schools for the period under 5 years indicated that they reflect on how to act correctly (100% of teachers surveyed), produce reflection on actions and deeds in a given situation (92% of teachers surveyed). 4% of teachers surveyed reflect on the "Self" based on a critical view of themselves from the outside.

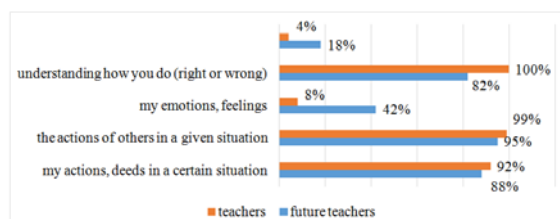


Figure 1 – Object of reflection in real life in relation to future teachers and teachers working in schools up to 5 year

Analysis of the data in Figure 2 shows that for 100% of respondents in both categories, the occurrence of a reflective situation in real life is associated with unsatisfactory results and the inability to perform mandatory work. Inconsistency of information causes a reflective situation in 99% of teachers and 68% of future teachers.

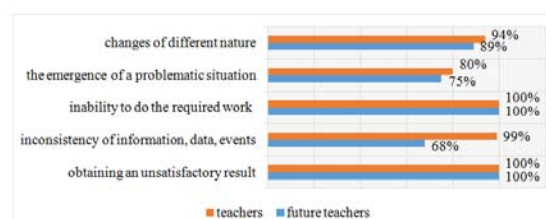


Figure 2 – The emergence of a reflective situation in real life, regarding future teachers and teachers working in schools up to 5 years

In 100% of teachers surveyed, the result of reflection in real life is (Figure 3): 1) certain conclusions from the situation; 2) understanding what they are doing; 3) understanding the cause of failure; 4) way to resolve misunderstandings; 5) identifying what needs to be worked on. Regarding future teachers, we received other data. Thus, in 100% of surveyed future teachers the result of reflection in real life is: 1) understanding what they do; 2) understanding the cause of failure. It was also found that reflection causes changes in the lives of 22% in future teachers surveyed and only 4% of teachers surveyed.

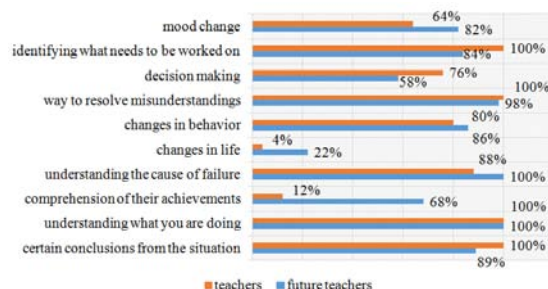


Figure 3 – The result of reflection in objective reality regarding future teachers and teachers working in schools up to 5 years

Figures 4, 5, 6 show the results of a study of various aspects of reflection in virtual reality, which is carried out by future teachers and teachers who work in schools up to 5 years.

Analysis of testing data revealed that for 100% of respondents of both categories, the objects of reflection in virtual reality are (Figure 4): 1) events and their impact on respondents; 2) actions, deeds of others in a certain situation; 3) a way to succeed in virtual reality. It was also found that the reflection of the way of self-realization in virtual reality is significant for 100% of future teachers and for 26% of teachers.

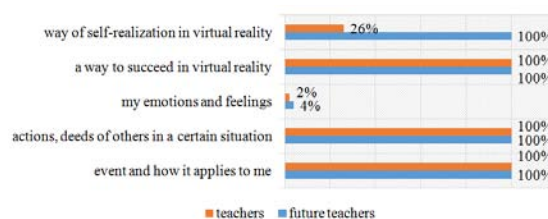


Figure 4 – Objects of reflection in virtual reality regarding future teachers and teachers working in schools up to 5 years

Analysis of the data in Figure 5 revealed that for 100% of respondents in both categories, the emergence of a reflective situation in virtual reality is associated with: 1) unsatisfactory results of self-realization; 2) socio-economic changes. Significant differences relate to the reflection of inconsistent information. 38% of surveyed future teachers and 72% of teachers reflect on this direction.

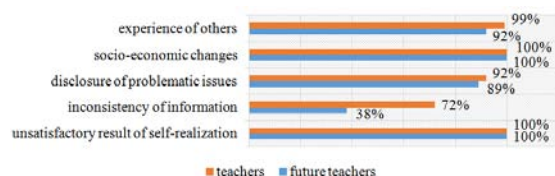


Figure 5 – The emergence of a reflective situation in virtual reality in regarding future teachers and teachers working in schools up to 5 years

Analysis of the data in Figure 6 showed that for 100% of respondents in both categories, the result of reflection in virtual reality are certain conclusions from the situation and determine how to solve problems. The smallest number of respondents indicated that for them the result of reflection is: 1) determining what needs to be done (50% of surveyed future teachers); 2) changes in behavior (52% of teachers surveyed).

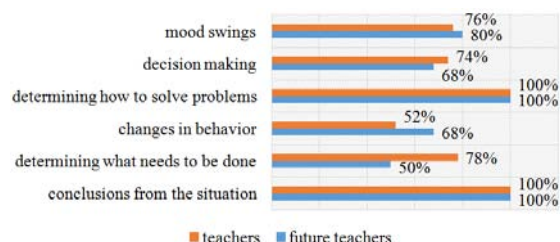


Figure 6 – The result of reflection in virtual reality in future teachers and teachers working in schools up to 5 years

We also analyzed the objects of reflection, the emergence of a reflective situation and the result of reflection during traditional and e-learning of future teachers (in higher pedagogical education) and teachers (in postgraduate pedagogical education). The results of the research are shown in figures 7, 8, 9.

The analysis of the results of the data of Figure 7 showed that during traditional training, in 100% of respondents of both categories the objects of reflection are: 1) knowledge and skills; 2) the actions they perform; 3) the answers of others. In traditional teaching, only 4% of surveyed teachers working in schools under 5 years and 46% of future teachers reflect on their learning opportunities.

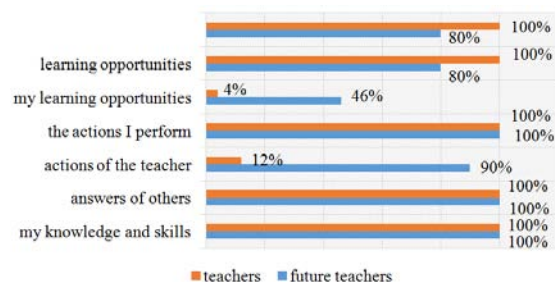


Figure 7 – Objects of reflection during the traditional training of future teachers in the institution of higher pedagogical education and teachers in the institution of postgraduate education

In 100% of respondents of both categories, the occurrence of a reflective situation during traditional learning was caused (Figure 8): 1) by different results of the task; 2) by different ways of performing the task; 3) by conflicting opinions. Also, the emergence of a reflective situation was recorded when obtaining an unsatisfactory result, in the absence of awareness of information, inconsistency between knowledge and skills and what needs to be done, inconsistency between their own experience and the experience of others. Only 8% of future teachers surveyed indicated a reflexive situation during traditional learning in the absence of success.

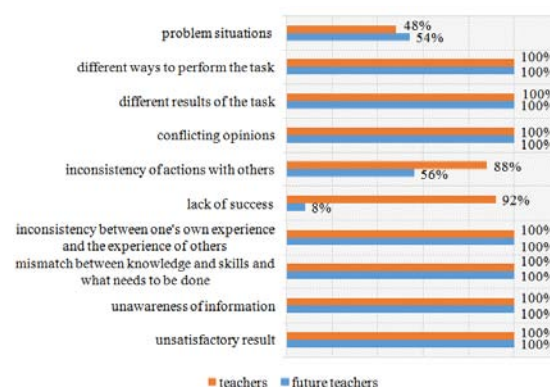


Figure 8 – The emergence of a reflective situation during the traditional training of future teachers in higher pedagogical education and teachers in postgraduate education

The result of reflection during traditional training for 100% of respondents in both categories concerns the following (Figure 9): formulation of certain conclusions from the problem situation; understanding the causes of failure; understanding what they are doing; identifying what needs to be worked on. It should be noted that understanding the reasons for success is defined as the result of reflection for only 10% of teachers and 12% of future teachers.

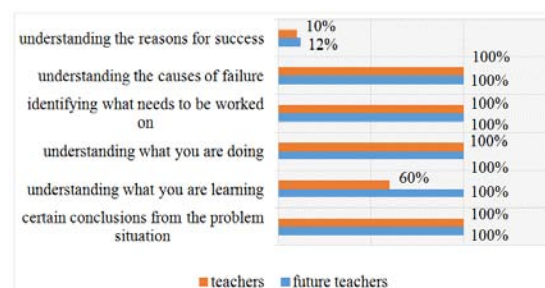


Figure 9 – The result of reflection during the traditional training of future teachers in higher pedagogical education and teachers in postgraduate education

Figures 10, 11, 12 show the results of research on various aspects of reflection in e-learning of future teachers and already working teachers.

It was found that, during e-learning, for 100% of respondents of both categories the objects of reflection are (Figure 10): 1) content; 2) the answers of others. Only 2% of teachers and 34% of future teachers think about their participation in e-learning.

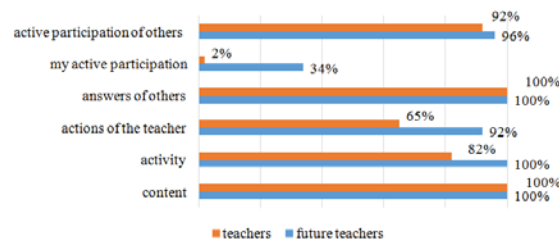


Figure 10 – Objects of reflection during e-learning of future teachers in the institution of higher pedagogical education and teachers in the institution of postgraduate education

100% of respondents in both categories have the same conditions for the emergence of a reflective situation during traditional and e-learning. These are (Figure 11): unconscious information, inconsistency between knowledge and skills and what they need to do, inconsistency between own experience and the experience of others, conflicting opinions, the use of different methods of task, obtaining different results during the

task. It was also found that for 100% of respondents in both categories, the emergence of a reflective situation during e-learning is due to technical circumstances and low (insufficient) level of ICT skills. For 100% of teachers, the emergence of a reflective situation in e-learning is due to the lack of coordination of their own actions with the actions of others.

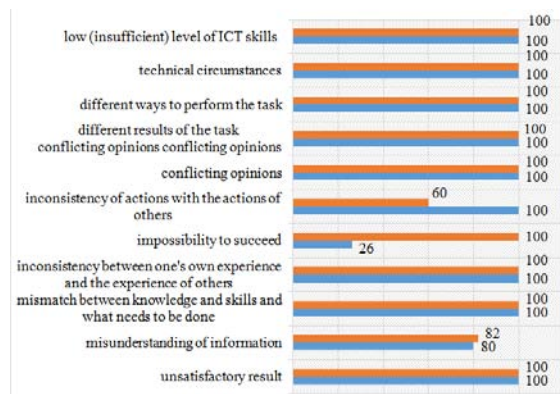


Figure 11 – The emergence of a reflective situation during e-learning of future teachers in higher pedagogical education and teachers in postgraduate education

As shown in Figure 12, sometimes the result of reflection in e-learning is understanding the reasons for success (4% of teachers and 6% of future teachers) and understanding the reasons for failure (15% of future teachers). This indicates that the result of reflection in e-learning is more related to the learning process ('understanding what you are doing now, understanding what you are learning now, identifying what you need to work on, thinking about conclusions from a problem situation').

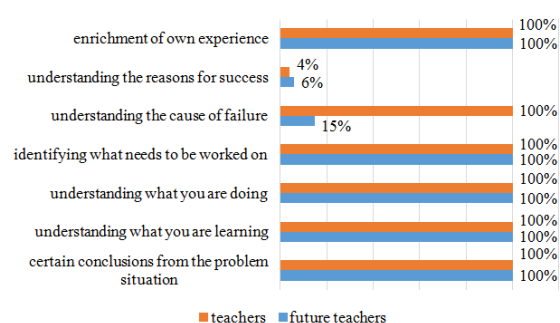


Figure 12 – The result of reflection during e-learning of future teachers in the institution of higher pedagogical education and teachers in the institution of postgraduate education

The results of the experiment show that the attributes of traditional and e-learning of future teachers and teachers as socially oriented individuals are:

- 1) Personal reflection (directions: understanding what needs to be done, directing one's actions, analyzing the results, identifying what needs to be worked on);
- 2) Group reflection (areas: analysis of the actions of others, analysis of the responses of others, analysis of the activity of others, analysis of conflicting opinions of others, analysis of a certain consistency of their own actions with the actions of others).

It is also established that these areas of personal and group reflection are also attributes of young people's self-realization in objective and virtual realities.

4 Conclusion

Philosophers, psychologists, and educators explain the phenomenon of reflection in different ways. What is common is the understanding of man as a subject of self-knowledge ("as I

see myself") and self-knowledge through the perception of others ("as others see me"). Reflection in pedagogical activity has a certain pedagogical context.

1. The components of professional reflection are personal and group reflection.

2. The teacher as a socially oriented person is involved in the following reflective processes:

- Formation and development of reflection in students;
- Self-knowledge as a professional;
- Self-knowledge through perception by other participants in the educational process (students, colleagues, management, parents of students, scientific and pedagogical community).

3. The formation of students' reflection is a gradual movement from the formation of reflexive operations and reflexive skills to reflexive competence. This process is accompanied by the emergence of new structural and functional features of self-awareness, the intensive development of abstract-logical thinking and self-knowledge.

4. Pedagogical context of the development of reflection relate to different areas of development of reflection. In particular, these are: 1. The development of the reflection of actions, operations and personal qualities, the development of the reflection of the formed skills, the development of the reflection of one's own abilities (N. Nikonchuk). 2. Development of reflection of the process of performing actions (M. Botsmanova, A. Zakharova). 3. Development of reflection on the way of personality action in a problem-conflict situation (Semenov, Stepanov, Novikova). 4. Development of reflexivity as the ability to the process of reflection (V. Davydov, O. Zak).

5. The analysis of the results of the experiment confirmed the attributiveness of personal and group reflection during traditional and e-learning of future teachers and teachers working in the school up to 5 years. It was found that respondents on their own initiative mentally analyze the actions and activities of others, reflect on the answers of others, analyze the contradictions of their opinions (group reflection). They also comprehend what needed to be done, direct their own actions in accordance with the goal, analyze the results, identify ways to solve problems, formulate their own conclusions, identify what needs to be worked on (personal reflection). Proving the fact of initiative of future teachers and teachers working in the school up to 5 years in the implementation of personal and group reflection is based on establishing the attributiveness of group and personal reflection in their daily lives, including real and virtual activities.

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