Some Problems of Quality Training of Future Teachers

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ABSTRACT
The study examines individual problems of training future teachers - the formation of an integral ability to solve educational problems at the stage of training at a higher education institution. An important psychological condition for this skill is the formation of a reflexive attitude of the individual to one’s own activity. The topicality of the study is also due to the need to change the content of education at higher education institutions, as well as the need to develop the reflexive processes of the future teacher. The purpose of the presented research is to study the features of the development of reflexive processes of future teachers in the process of learning to solve educational problems. The preparation of the future teacher should also include the development of reflexive processes. This study examines the features of the teacher's reflection during comprehension, solution and assessment of the solved educational task. The results of the diagnostic study prove that the training of future teachers needs to be improved. According to experts, a significant part of graduates of pedagogical specialties demonstrate a low and very low level of ability to solve educational problems. The reasons for this are: negative attitude of future teachers to the use of psychological and pedagogical theory of solving educational problems; insufficient theoretical substantiation of their own decisions; professional functions are performed on an empirical level, by trial and error. The use of training to solve educational problems is a psychological means of developing reflexive processes of future teachers. The results of the training established the dynamics of: the development of the ability to solve educational problems; meaningful theoretical knowledge, the desire to operationalize psychological and pedagogical knowledge, to develop on their basis constructive and methodological schemes for analyzing educational situations and making productive decisions. The results of the study proved that the significant didactic potential of training future teachers is contained in such an organization of learning, which involves the development of reflection in understanding, solving and evaluating the solved educational task.

Keywords: learning task, solving a learning problem, efficacy to solve a learning problem, reflective processes, reflection, development of reflective processes, training of future teachers.

1. INTRODUCTION
Today, the priority of every country is education. A strong state needs strong individuals who are able to self-learn, realize one’s potential, understand others, understand themselves, work in a team. However, traditional education is aimed mainly at accumulating knowledge. It is this circumstance that necessitated the reform of education, both secondary and higher.

The quality of education is: both the result of learning and the formation of personal potential; system of psychological properties that determine the development of competencies [1; 2]. Analysis of the successful experience of European countries will help to optimize the process of education reform [3]. So, the goal of the reform is the formation of a personality capable of introspection, self-esteem, self-improvement, responsible, intrusive in achieving goals. This is precisely the evidence of the importance of the personality reflexive processes.

The success of education reform depends on many factors [4; 5]. The main role in this process is given to the teacher, the educator. The quality of the process of developing the professionalism of the future teacher is: the quality of the technology of one’s learning; psychological properties of the graduate of pedagogical specialties which form one’s efficacy for performance of professional activity. The basis of efficacy for future
pedagogical activity is the ability to solve educational problems.

Thus, today the requirements for the training of specialists in pedagogical specialties are growing. Requirements for the training of future teachers as participants in the educational process are in conflict with the existing level of knowledge (mostly theoretical) and practical level, which is based on reflective processes. A lot of research [6] prove the low level of reflection of pedagogical specialties graduates. However, the needs of a modern school are such that require significant changes in the training of future teachers. That is, the system of education at a higher education institution should be aimed not only at acquiring knowledge and certain practical skills, but also at the development of professional reflection. To solve this problem, it is necessary at the stage of students’ education to form their efficacy for the practical performance of their professional duties, in our case to solve educational problems [7]. Accordingly, this task is not possible without the development of reflexive processes. This problem is relevant today and poorly developed for implementation, i.e. there are almost no reasonable approaches to its solution.

The analysis shows that the imperfection of the existing training program for future teachers lies primarily in the vagueness, uncertainty of the criteria of the standard, on which pedagogical higher education institutions, training a specialist, are focused. The presence of developed professional requirements for specialists in pedagogical specialties has almost no active influence on their formation in the teaching process. One of the promising areas of restructuring teacher training, in our opinion, opens the psychological concept of improving the training of specialists, which is based on the development of reflexive processes.

Thus, the topicality of the study is due to the need to change the content of education in higher education, as well as the need to develop reflective processes of the future teacher. The purpose of the presented research is to study the peculiarities of the development of reflective processes of future teachers in the process of learning to solve educational problems. The object of research is the process of professional training. Subject is the process of training future teachers.

2. RESEARCH METHODOLOGY

Reflection is the subject of many modern studies. Prominent scientists study reflection in two areas: a necessary condition for professionalism; a necessary condition for self-development.

The study of the problems of professional reflection formation of future teachers is determined by the requirements of society for the eachers training. Features and patterns of professional training, the development of professional reflection have been actively studied by many psychologists and teachers, namely: research: professional consciousness (N. Kucherovska, H. Lozhkin, A. Samoilova, N. Shevchenko, etc.), professional thinking and reflection (G. Ball, M. Verban, N. Poviakel, N. Prorok, etc.), professional identity (E. Zeyer, A. Markova, N. Chepeleva, L. Schneider, T. Tytarenko, etc.). The study of responsibility as an internal condition for organizing the life of the individual, as a means of regulating one’s decisions and actions is the object of scientific research of Ukrainian and foreign psychologists (K. Abulkhanova-Slavska, K. Muzdybaev, M. Savchyn, O. Samnikova, V. Safin, etc.).

Some scholars consider professional and pedagogical activity to be inherently reflexive process. Such a characteristic of pedagogical activity is given in the works of M.Yu. Arutunian, O.O. Bodalov, S.H. Vershlovskiy, H.O. Kovalov, S.V. Kondratieva, Yu.N. Kuliutkin, L.A. Petrovska, H.S. Sukhobska, T.N. Shcherbakova and others.

However, the outlined problem is multifaceted and the conducted researches do not solve it. The psychological features of technologies for the development of responsibility for future professional activity while studying at a higher educational institution require careful study. The topicality of the outlined problem is also due to its practical significance for the improvement of technologies for training future specialists.

This study examines the features of the teacher's reflection during the comprehension, solution and evaluation of the solved educational task. We assumed that these processes are directly related to the various subjects that make up the content of teaching: teaching information, perception and assimilation of information by the student. Thus, we singled out the following subjects of reflection: orderly view of the teaching profession, practical thinking of the teacher: categoriality, constructive-methodological schemes, pedagogical techniques and means [7].

The professionalism of the teacher is not possible without reflexive processes, without a reflexive attitude of the individual to the activity. The teacher's ability to reflexively assess one's own personality and own professional activities is based on established soft-skills. This is due to the fact that it is precisely on interaction with others that first teaches us to understand another (schoolchild), and then teaches us to evaluate oneself and one's activity from the position of another (from the position of a schoolchild) [8]. Thus, the training of future teachers should include the development of reflective processes that are implemented in professional activities in the process of: practical interaction of teachers with students (understanding of student actions); designing student activities; self-analysis and self-assessment by the teacher of one’s own activity and oneself as its subject.
To sum it up, a significant criterion for the development of reflexive processes is the ability to solve educational problems: a clear relationship has been established between the teacher's orientation to independence in solving various educational problems and the level of formation of one's professional reflection [9]. Thus, the reflection of the future teachers can be judged primarily by how well they will cope with solving educational problems [10; 11].

These considerations formed the methodological basis of the presented study.

3. METHODOLOGICAL SUPPORT, PROCEDURE AND RESEARCH RESULTS

A study has been conducted. The aim is to study the peculiarities of the development of reflexive processes of future teachers in the process of training to solve educational problems. Methods that have been used: expert evaluation, surveys (questionnaires), business games. It should be noted that the survey (questionnaire) was conducted at all stages of the study. In this approach, the assessment of the efficacy of future teachers to solve educational problems was carried out on the basis of generalization of expert judgments. The experts were teachers and methodists with more than 15 years of experience: 9 teachers and 3 methodists.

It was assumed that the efficacy to solve educational problems is related to the level of development of reflexive processes. The results of the assessment were expressed in points: 1 - actions are not justified and not conscious (i.e. self-analysis of actions is absent, no pedagogical action is projected); 2 - actions are partially justified and partially conscious (pedagogical actions are partially projected, educational interaction is fragmentary, self-analysis of one's own actions is partial); 3 - actions as a whole are substantiated and conscious, characterized by independence (on the basis of self-analysis of actions pedagogical activity is designed, educational interaction is systemic); 4 - actions are fully justified, conscious, independent, timely (systematic interaction in learning is systematically designed on the basis of self-analysis of pedagogical actions).

The study consisted of two stages.

In the first (diagnostic) phase of the study, experts assessed the efficacy of future teachers to solve learning problems (assessment was accompanied by an assessment of reflexive processes). The sample included 178 graduates of pedagogical specialties. Two types of surveys were conducted. The first included a set of questions to assess the efficacy of future teachers to solve educational tasks. Namely, it is the diagnosis of knowledge of future teachers about: the teaching process, educational material, methodological support of the teaching process, methodological forms of educational material and learning situations.

The second survey aimed to identify the difficulties that students face in the process of vocational training.

The results have been obtained: 9% of graduates have a high level of efficacy to solve with the appropriate level of reflexivity; 27% average level; 40% low level; 24% very low.

The second stage of the study involved developmental training. The purpose of the training is to form readiness to solve educational tasks by means of development of reflexive processes. 15 graduates of pedagogical specialties took part in the training. At the beginning and at the end of the training, an expert assessment of the efficacy of future teachers to solve educational problems by means of reflexive processes was conducted. Expert evaluation at the end of the training made it possible to assess the effectiveness of the developmental training.

Forming the content of the training, we proceeded from the position that: professional and pedagogical activities - a continuous process of solving a number of educational tasks by the teacher (ultimately, the tasks of reflexive management); the ability to solve educational problems is associated with the level of development of reflexive processes of the personality. Thus, the development of the ability to solve educational problems determines the development of reflexive processes. We can consider the ability to solve educational problems as a trigger for the formation and development of reflexive processes of the teacher.

Training in the training group involved the development of reflection through the formation of the ability to solve educational problems. Thus, the classes in the training group met the general requirements for the formation of the trigger influence on the development of the necessary processes, in our case reflexive processes [12].

When forming the content of education in the training group, we took into account a number of circumstances that optimize the process of developing the ability to solve educational problems:

• the general basis that regulates the process of making practical decisions by the teacher is the categorical (conceptual) apparatus of pedagogical thinking. The obtained theoretical (methodological, psychological-pedagogical, methodical, professional) knowledge must be transformed into a specific system, built in accordance with the logic of practical solutions to educational problems. Successful implementation of such integration, in fact, is one of the necessary conditions for future teachers to enter the teaching profession;

• the movement of theoretical knowledge in the decision-making process is subject to a certain logic that directs the activity, sets the leading psychological and
pedagogical ideas learned by the teacher as one’s own beliefs. They are embodied in constructive and methodical schemes of the decision;

• an important psychological condition for the formation of student efficacy for future professional and pedagogical work is the development of a reflective attitude to their own activities. The reflective position of the future teacher is manifested in the process of one’s own analysis of constructive-methodical schemes, which one uses in the process of solving educational problems. The basis for the development of such a position is the development of a reflective attitude towards oneself as a subject of professional and pedagogical activity.

In the second stage of the study, as a result of the training, the following results have been obtained: the number of participants with a low level of efficacy to solve educational problems decreased from 42.0% to 34.0%; the number of participants with an average level of efficacy to solve educational problems increased from 19.0% to 47.0%; the number with a high level of efficacy to solve educational problems increased from 11.0% to 19.0%. The obtained results also confirm the effectiveness of the conducted training.

4. DISCUSSION OF RESULTS

The results of the first phase of the study indicate that the training of future teachers needs to be improved. Namely, a significant proportion of graduates of pedagogical specialties demonstrate a low and very low level of ability to solve educational problems. Such a situation cannot satisfy the modern requirements of society for pedagogical work.

The analysis of the student survey made it possible to identify the difficulties that cause this situation. The main attention during the questionnaire was paid to the operationalization of psychological and pedagogical knowledge of future teachers, the formation of their integrated ability to use the acquired theoretical knowledge to analyze the proposed teaching situations, highlight the latest learning objectives and make informed and productive decisions. The results of the survey of graduates demonstrate a significant difference between theoretical knowledge and practical actions. Moreover, very often the psychological and pedagogical knowledge of graduate students is scattered, fragmented, not reduced to a certain system, built in accordance with the logic of solving an educational problem, or even simply erroneous. All this has led us to direct training work to develop not only the ability to solve educational problems, reflective processes, but also to conduct special work on understanding the relevant psychological and pedagogical knowledge. At the same time, the main attention was paid to the psychological concepts of developmental education.

Training sessions were held, which solved the problem of development of reflection and self-assessment of future teachers’ educational actions: formation of participants’ skills of self-assessment of professional and personal competence, identification of typical difficulties in professional activity, development of professional and personal improvement programs, diagnostics of their efficacy for pedagogical tasks.

In the training we used methods aimed at enhancing the interaction of participants. Namely, interactive methods and techniques were used: business game; brain storming; situational exercises; discussion and reflection of the submitted information. Working in a group during training sessions helped students develop reflective processes.

Number of participants - 15 people. The training course consists of 7 classes lasting 1.5 - 2 hours each.

In forming the content of the developmental training, considerable attention was paid to: ensuring the operationalization of psychological and pedagogical knowledge; formation of integral ability to use theoretical knowledge for the analysis of educational situations; allocation of educational tasks; making informed and productive decisions. Analysis of the students survey at the first stage of the study showed that graduates are not guided (do not know) the main theories of teaching and, accordingly, do not understand what value they have for practical activities, how to apply them. Therefore, to conduct training, especially business games, we used the study of the following psychological theories of teaching: the concept of educational activity (D.B. Elkonin, V.V. Davydov), the theory of the stage-by-stage formation of mental actions (P.Ia.Halperin, N.F. Talyzin), theory of doctrine (D.M.Bohoyavlensky, N.A.Menchynska). We assumed that the knowledge and skills of future teachers, based on the specified theoretical knowledge, will help them effectively solve educational and pedagogical problems.

Thus, the participants of the training at the stage of preparation for the lesson worked out some provisions of these psychological concepts of teaching. To quickly study the important theories of the training participants were divided into three groups, each of which first carefully studied, and then presented the results of their work for collective discussion.

The first group analyzed the concept of educational activities (D.B. Elkonin, V.V. Davydov, S.D. Maksymenko and others) with an emphasis on the fact that full-fledged learning should include the following components: understanding and acceptance by the individual of the educational task, implementation of active educational actions (transformation, comparison, modeling), actions of self-control and self-assessment. Only when the individual understands the educational task and the meaning of exercises, one actively and consciously performs actions with educational material, as well as controls and evaluates oneself, forms
educational and cognitive motives, masters not only knowledge but also ways to acquire them.

Another group analyzed the theory of gradual formation of mental actions (P. Ya. Halperin, N.F. Talyzina and others), in which the problem of the teacher’s control of the learning process is specially revealed, for which the characteristics of schoolchildren’s actions (from the material, materialized forms to external verbal and subsequent mental) are distinguished.

It was noted that within this concept there are three types of learning:

- the schoolchild is not fully aware of the content of educational material, does not distinguish essential features from insignificant ones, and one’s educational actions are built on the method of trial and error;
- the schoolchild does not fully understand the content of the educational material, does not distinguish essential features from insignificant ones, and one’s educational actions are based on the method of trial and error;
- the schoolchild independently builds the educational actions on the basis of the analysis of conditions and full orientation in them, educational actions are formed quickly, are carried out without errors and are easily transferred to new conditions.

Obviously, the teacher must form in schoolchildren exactly the third type of learning as the most productive one.

Participants of the third group worked on the analysis of works of D.M. Bohoyavlensky, N.A. Menchynska and other psychologists, drawing attention to the fact that learning outcomes should be evaluated not only by knowledge but also by cognitive processes and qualities of schoolchildren’s thinking, which requires, in turn, the diagnosis of the state of mental activity methods formation and special work on their formation. As a result of this creative search, students identified a number of characteristics of schoolchildren’s learning activities that the teacher should diagnose and keep in mind when solving educational problems:

- understanding by the schoolchild of the educational meaning of the task set by the teacher; transition to independent setting of educational tasks;
- performing actions according to the model; execution of actions according to the instruction with restrictions or with missing separate links; performing individual actions of transformation, comparison, modeling in the options “from subject to model” and vice versa; separating and distinguishing the method from the result; the transition from model actions and from the search for stereotypical ways to finding new ways;
- isolating and comparing several ways to solve one problem; finding the most rational one in several ways; finding a new, non-standard way to solve the problem;
- independent transition in educational activities from one link to another; independent transition from one activity to another; independent going beyond educational activities;
- availability of prognostic functions of self-control and self-assessment; transition from mutual control and mutual assessment to self-control and self-assessment; development and ability to play different roles in group learning activities and the ability to evaluate from these positions their actions and the actions of others.

The following results of the second stage of the study – training – have been obtained. It should be noted that after the developmental training, a group of participants with a very low level of efficacy to solve educational problems disappeared. What concerns the group with a low level of preparation for solving educational tasks, it decreased from 42.0% to 34.0%. It is obvious that the majority of graduate students, who at the beginning of the experiment were characterized by a very low level of efficacy, moved to this group, and some of those assigned to this group as a result of training moved to a group with medium and high level of efficacy to solve educational problems. The group of future teachers with an average level of efficacy to solve educational problems has significantly increased (from 19.0% to 47.0%). The growth of the group of future teachers with a high level of efficacy to solve educational problems has a less rapid dynamics (from 11.0% to 19.0%).

The survey, which was conducted before and after the training, shows that the participants had some positive changes. Future teachers have become more aware and conscious in their approach to defining the goals of the learning process in general, the tasks of schoolchildren learning a particular subject, learning topics and material of individual lessons.

At the end of the training, some participants stood out, focusing primarily on a differentiated approach to schoolchildren for better learning, others who focused primarily on the development of schoolchildren’s cognitive interests, and others who sought to ensure the development of schoolchildren’s personality through the use of tasks, which gradually became more complicated.

The general approach to the selection of educational material - assessing its accessibility for schoolchildren - during the training was retained by most of the participants. If at the beginning of their work, future teachers were mainly guided by the assessment of the content of the educational material and its structural and logical properties, then gradually most of them began to take into account other criteria: the presence of basic knowledge and skills in schoolchildren, the formation of generalized methods of educational work, the characteristics of personal attitudes to educational activities, their interests and inclinations, and the like.
It was also observed that future teachers rethink their approach to the selection of teaching methods and techniques. At the beginning of the training, they all correctly pointed out that the choice of teaching methods and techniques for enhancing the cognitive activity of schoolchildren at the lesson depends on the tasks, the content of the educational material, age characteristics and individual psychological characteristics of schoolchildren. At the same time, only 11.0% of them were able to justify the choice of teaching methods, another 23.0% made a fairly productive choice (although they could not give it a justification), and the decisions of the rest were neither consistent with the content of the educational material, nor with the characteristics of schoolchildren and the class, in fact, they were determined by the capabilities of the future teachers.

During the collective cognitive activity, the participants of the training mastered certain skills of analysis of the educational task and the choice of teaching methods based on the theory of optimization. When solving criterion problems, this approach was typical of almost all beginners, and in 72.0% of cases they were able not only to offer but also to justify a very productive system of methods to achieve the objectives of the lesson and so on.

5. CONCLUSION

The needs of the modern school require significant changes in the training of future teachers. The training of future teachers should include the development of reflexive processes.

Professional and pedagogical activity is a continuous process of solving educational tasks by a teacher. High-quality professional training of future teachers involves the formation of an integrated ability to solve educational problems at the stage of higher education. An important psychological condition of this skill is the formation of a reflexive attitude of the individuals to their own activities. The reflexive position of the teacher is most clearly manifested when one makes the subject of one’s analysis those constructive-methodological schemes that one uses in the process of solving educational problems. The basis for the development of such a position can be the development of a reflexive attitude towards oneself as a subject of professional pedagogical activity.

The results of the diagnostic study indicate that the training of future teachers needs to be improved. Thus, according to experts, a significant proportion of graduates of pedagogical specialties show a low (40%) and very low (24%) level of ability to solve educational problems.

The reasons for this are: the negative attitude of future teachers to the use of psychological and pedagogical theory of solving educational problems; insufficient theoretical validity of their own decisions; professional functions are performed at the empirical level, by trial and error; using an intuitive way of solving problems or using analogies with the actions of others; difficulties in defining the goals and objectives of the lesson, lack of understanding of the importance of the target guidelines for achieving the proper effectiveness of the pedagogical process; a large number of errors in the analysis of educational situations, the selection of actual pedagogical tasks, making theoretically sound decisions to solve them.

Consequently, with the spontaneous development of the functional content of the pedagogical profession, there is a parallelism of the processes of accumulating practical experience and the development of psychological and pedagogical knowledge, they exist, as if separately, which stands in the way of the teacher’s formation of reasonable constructive and methodological means of solving pedagogical problems.

All this determined the specificity of the approach to the organization of educational and cognitive activities of future teachers, which should ensure the development of their ability to analyze and explore learning situations and their actions in them. This approach is essentially a reflective learning. At the same time, future teachers gain experience in creating learning strategies, the ability to effectively use feedback, etc., they develop such professionally significant personal qualities as critical thinking, analysis, ability to self-analysis and self-assessment, improve learning communication skills.

The use of training to solve learning problems becomes a psychological means of developing reflexive processes of future teachers. The results of the training of development of future teachers’ ability to solve educational problems (by means of development of reflexive processes) established the existence of dynamics of this skill development. Namely, after the training there were no students with a very low level; the number of middle-level teachers has significantly increased (from 19.0% to 47.0%), due to the transition of graduates with low and very low levels of readiness at the beginning. At the same time, the following grows: systematic and meaningful theoretical knowledge, the desire to operationalize psychological and pedagogical knowledge, to develop on their basis constructive and methodological schemes for analyzing educational situations and making productive decisions; developing a personal attitude to certain psychological and pedagogical ideas and concepts.

Thus, the results of the study showed that a significant didactic potential for the training of future teachers is contained in such an organization of learning, which involves the development of reflection in understanding, solving and evaluating the solved educational task.

A promising area for further study of the theory and practice of psychology is the development of special
instruments for in-depth development of the abilities of the teacher at the stage of their professional training.

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