

Organizationally-Pedagogical Aspect of Preparation of Students to Professional Activity in the Process of Educational Practice

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Abstract

One of the main forms of educational process in teaching students is educational and field practice; it is a relatively independent form of training and education of students. A summer educational and field practice is complicated pedagogical system regarding the structure and functional components, which includes theoretical and practical activities of teachers and students, whose purpose is to extend theoretical knowledge and formation of practical skills of the students. Also, it is a mode of study, where different methods of stepping up of students' cognitive activity are applied. Moreover, this is one of the forms of students' education, including various sides of the educational process, such as moral, aesthetic, environmental and labor education, in course of which the development of students' interest for teaching activities, the formation of motivational and need sphere, and person's competency are carried out. A successful implementation of educational and field practice produces a good outcome: obtaining satisfaction from work, self-reliance, self-organization, development of the ability to make and execute a decision, personal responsibility and discipline education.

Keywords: *Research activity, Organizing the research activity, Field practice, Education and research practice.*

Introduction

The aim of the research was to identify organizational and pedagogical conditions of increase of educational process efficiency during the educational and field practice, its use in student's training for professional teaching.

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Methodology

We used the following methods in the study: analysis of pedagogical literature, academic documentation, a questionnaire survey, for which a questionnaire “Student of the Pedagogical University and Training for occupational guidance for prospective work in school” was developed, psychological testing with a differential-diagnostic questionnaire (DDQ) by Klimov (1983), orientation questionnaire, by Smekalova & Kuchera (2003).

During the practical training, students acquire certain competencies. As for Pak, Solomin & Zelezinsky (2003), the competencies are socio-pedagogical, subject-educational, communicative-linguistic, informational, technological and spiritual-cultural competence.

Results and Discussion

The study was carried out in stages.

The 1st and 2nd year students from the Biology Department of the Institute of Natural Science and Geography of Abai Kazakh National Pedagogical University (KazNPU) were involved in the experimental part of the work. Execution of all work was built on the organizational principles, the process integrity, organically linked with the mental, moral and labour education, including the impact on all aspects of personality.

According to the standard instruction on organizing and conducting educational and field practice “the educational and field practice in the educational process is considered as a continuation of the laboratory practices, extends and reinforces the theoretical knowledge gained by students during the previous classes in the institute, teaches them to apply the knowledge in practical work creatively, develops the theoretical and practical foundations for understanding the subsequent lectures, practical laboratory classes and prepares for teaching practice” (A typical program for conducting field practices on zoology in the pedagogical universities, 2011), also during the practical training, the students acquire certain competencies, such as social-pedagogical, subject-educational, communicative-linguistic, informational, technological, and spiritual-cultural competence (Pak, Solomin & Zelezinsky, 2003; Tarman, 2012).

Field practice of the 1st and 2nd year students in zoology was used during the study of the role of the educational and field practice in the professional development of students and future biology teachers in preparation for students’ professional orientation. When studying this subject, wide possibilities of training future biologists have been opened.

The educational process during a summer educational field practice has two main objectives (in terms of study): extend theoretical knowledge and formation of teaching skills of biological cycle subjects. From the educational point of view these two tasks are also solved: education of the student's personality and the formation of the students' education skills.

At the organization of educational activities, according to Friedman (1987), the structure can be divided into two parts: educational and test evaluation.

The learning and cognitive activity includes: formulation and adoption of common learning goals; the nomination and the perception of private purposes. Formation of the educational activity motivation, the new information perception, its processing and absorption, mastery of skills also apply to this activity.

The test and evaluation activity involves the monitoring of academic work in all forms and at all stages of the educational process, work assessment, accounting and training activities adjustment.

When performing the analysis of the educational and labor activity of the students during an educational and field practice we adhered to the same forms of activities division. On this basis, we carried out the analysis and evaluation of some of the forms of organization of an educational and field practice (EFP) (Golneva, 2004).

In the work of Kashina (2007), one of the purposes specified practices to prepare students for creative application in the professional activities of scientific and theoretical knowledge and skills received at studying of special disciplines, and the promotion of interest in future professional activity.

According to the standard instruction "A typical program for conducting field practices on zoology in the pedagogical universities" (2011), EFP is a continuation of the laboratory forms of study. Training sessions are conducted by subgroups of students, formed to conduct laboratory classes. Hereinafter, this EFP form of organization, we will call the "traditional" (control) form of the EFP. The main goal of this form of educational practice was extend and consolidation of theoretical knowledge obtained by students during prior training sessions at the institute, learning how to creatively apply the knowledge in practical work, the development of theoretical and practical basis for deep understanding the subsequent lectures, practical and laboratory studies, preparation for conducting the teaching practice.

The EFP form was developed in the 30ies for a field practice in botany and zoology, and in 1955 with the EFP introduction on the basics of agriculture and methods of teaching biology was automatically applied to these items as a single form for all items in the biological cycle (Gitlits & Lukashuk, 1986).

The deepening challenges facing the school and the stress of preparing students for work led to the new forms of organization of socially useful labor by high school student production teams. The task of training the future teachers of biology and agricultural work has found its solution in the educational and field practices on the agrobiological stations of pedagogical institutes in the form of apprenticeship (training and production) teams. This EFP form of organization appeared in the 80-ies. The complication of the task for the biology teacher is in the introduction of polytechnical education. The inclusion of elements of labour education and occupational guidance for schoolchildren in the biology learning process has led to changes in the objectives of the training and education of students of the Pedagogical Higher Educational Institution and their preparation to work in school. The goals and objectives of the EFP, as an integral part of the educational process of the University, have been changed and deepened.

An educational and field practice during this period was conducted in the following forms: EFP on educational-experimental plot in high school and at the agrobiological station (in traditional form); on the form of a student production team at agrobiological station of the Institute; on the form of a student production team of pupils.

At this time, one of the most important tasks is the quality improvement in teachers' preparation to work in a rural school. A tendency of improvement the future teachers' preparation to conduct workshops and elective courses in agricultural area in school, which form the ability of working with wildlife. Another challenge is building skills to guide the work of pupils on the school educational-experimental stations, student labor unions (Regulations on the Agrobiological Station at the Pedagogical Institute, 1992). In the second phase of our study, we have changed the traditional EFP forms of organization, because the form change, the introduction of new attributes increase the interest and bring elements of creativity in students' work according to the monitoring of a number of leading educators and psychologists (Kuzmina, 1961; Friedman, 1987 etc.). From 2013 to 2016 the educational and field practices on the first and second course were conducted in the form of student teams. The Council of fieldwork, which led the entire academic, educational and industrial work, was elected. In the study, this

EFP organizational form is called “experiment-1”. Organization of educational and labour activity of students during educational and field practices in the form of student production teams is a business game, where situations of the future activities of teachers on the organization of student teams and other associations of pupils in the school are being played. In the process of organizing the training production team, the students will practice and pass all the stages of formation of the team from forming the link and Council team, the adoption of plans and the contract signing with the administration to the summing up. During the work students do good school work of labour organization of pupils, develop the skills necessary for performing professional duties. Future teachers are being educated with creative attitude to work, ability to solve arising problems and find the right solutions in the process of executing tasks; it is a good preparation of future biology teachers. Not the last role in the education of students is played by the acquisition of abilities and skills for defining invertebrates and vertebrates. The interest of students to the subject and their activity has been increased. During this period, the issues of moral education of students, conducted cultural-mass work and physical education students are being resolved. Thus all components that are part of the work of the teacher organization and guidance of students are covered. The success of all the work mostly depends on setting the proper goal and tasks, a good selection of the coordinating center and the Council team. The members of the Council should be proactive, responsible and disciplined. The form of students’ work organization should be group, collective, where the individual has his own opinion, different from the collective one, and should submit to the team decision.

The successful implementation of the practice has led to good practical results, obtaining satisfaction from the work done. The organization of independent training and production activities of students promotes the development of independence, self-organization, the ability to make and execute a decision, the responsibility and discipline education.

The goals extension of the practice, the skills formation of the research work organization, teaching creative attitude to work have taken the practice to a new form – the type of organization of the temporary creative groups of students. The work that began with a study of the influence of the social significance of labor on the formation of employment orientation and increase of its level approached the issue about the formation of research and mobilization function of a future teacher and enhance his creative potential (Sarfanova, 1984).

One of the features of our research is the creative groups formation based on common interests of students, regardless of academic group.

Another feature lies in the fact that when defining the goals of the practice we took into account the need to prepare students to the organization of their socially useful labour and practical work on the school educational-experimental plot for growing various plant products, animal care, planting and caring for avenues, parks, flower gardens, school gardening, taking a new look at the tasks of pupils' labor education and their career guidance. The work of the 2nd year students during the EFP period is the most productive: determination of species, distribution and biomass. During this period, it is necessary to solve the problem connected with the education of collectivism, diligence, self-organization, initiative and responsibility, i.e. to form a psychological readiness to work as to basic needs, whether it is teaching labour or any other. Creative possibilities, based on hobbies, are one of the components of personality professional orientation, which also includes knowledge and skills. One of the tasks of the practice was to prepare students for the organization of pupils' SUL (socially useful labour), development of their creative abilities.

Complex training of educational and field practices while the organization of the students in terms of temporary creative groups in our study is denoted as "experiment – 2".

Organization of students' participation during the field practice is carried out in four areas of activity:

- educational area (the implementation of practice teaching objectives);
- educational and field area includes the obtaining practical results and counting of species along with the implementation of the educational objectives.
- scientific and research area includes research tasks performance of the department and commercial unit, the result is practical recommendations, developed from the results of the experiment;
- research and production area is related to the solution of tasks of research character, combined with practical product and calculation of economic efficiency.

The educational practices on this type of organization have been conducted since 2015. Temporary creative collectives are small groups that conduct a field experiment. The experimental work in the period of laboratory and practical classes starts with the preparation for the field experiment: determining the issue, topic, purpose and object of the study. All this work

is carried out by the students independently at different levels. A technological work plan is formed during the study of literature, collection of scientific data concerning the problem. The results of preliminary work are discussed and approved by the faculty supervisor.

In the process of study the formation of the gnostic component is being formed: consolidation, expansion and extend of theoretical knowledge. Students acquire design skills in formulating hypothesis, defining problems, goals and objectives of the experiment; and constructive skills in the preparation of the technological plan and scheme of the study. Communicative and organizational components of the activity are formed while the organizing and conducting interviews, professions defense contests, festivals, exhibitions, scientific conferences following the results of the practice. In the work process pupils' work organization skills on the educational and experimental plot, carrying out career guidance through training, education and organization of their socially useful work, are formed.

The development of personal qualities such as commitment to work, teamwork, business skills, aesthetic and ethical feelings and relationships are formed in students.

Control and evaluation activities also have become more important. This change is expressed in the development and extension of its form. The traditional form of organization of the field practice included assessment of students in a classification according to the EFP results displayed in the students' field experience diaries, the results of the contests and the harvest festival. All of this relates to the testing of educational readiness (formation of knowledge, abilities and skills) and willingness to undertake the education of schoolchildren by means of extracurricular activities in biology. Some students were evaluated on the formation of research skills at the end of the final papers.

Changing of the practice forms organization, learning and cognitive activity of the students resulted in change of organization forms of control and evaluation activities. The including of the training to vocational guidance of pupils to the EFP content necessitated not only mastering the skills in identifying types of animals, as well as familiarity with the geographical features of the study area. The available research, scientific and industrial areas of the students' activity created the opportunity for developing research skills. All of the above has expanded the scope of monitoring and evaluation functions. In addition to assessing educational readiness in the form of credits and preparation for educational work in the form of competitions, exhibitions, celebrations, the wide participation of students in research work created the

opportunity to use such forms of assessment of students as scientific-practical conference on the EFP results, production of publications, defense of complex course and graduate works, participation in exhibitions of scientific and technical creativity. All this creates the opportunity for a more complete and qualitative assessment of students' readiness, the EFP in their learning, training and preparation for future professional activity (Latysheva & Petrova, 2000).

In the course of the experimental work was determined the structural model of the EFP organization that consists of the following components:

- preliminary examination of the students' psychological readiness to educational and field practice, interests, motivational activities, preferred subject;

- introductory and motivational component involves the determination of the subject of the forthcoming work, the formulation of the main goal, tasks and forming teams to perform tasks;

- operational and informative component involves the decision of adopted tasks, the implementation of the plan in the period of summer educational and field practice;

- monitoring and evaluation component involves the practice results summarizing, students' activity evaluation.

The preliminary stage begins in the process of conducting laboratory and practical classes, the study of students' interests, identifying the preferred subject of activities, goals and motives of admission and training at the Institute, the personality and activity orientation. In the process of this work, the specific character of the students is formed; their psychological readiness to participate in the EFP is studied. The ability to compare subjective side of motivation and objective learning goals, identify their divergence, gives to foresee the success of students' participation in the EFP, to correct certain deviations and to smooth over differences.

In the period of the introductory-motivational stage, students are taught with the methods of the experiment organization, the formation of microgroups, temporary creative teams consisting of 3-6 people with common personal interests or business relationships. After a joint discussion the subject of future work is determined; topic and objective of the study are formulated. At the same time the direction of the students' activity, the basic methods, level of independence and performance are determined.

Operational and informative stage is the longest and the most complicated stage of practice. In the decision process adopted by the task and implementation of composed technological plan unexpected problems that require adjusting the plan of activities are appeared. In the course of the practice subjective aspect of motivation becomes clear; its stability is cleared up. Perseverance in overcoming emerging problems contributes to the development of important personal qualities, creates the possibility of forming practical abilities and skills. The need to resolve emerging challenges stimulates the need for self-expansion and extends the theoretical training. Participation in research promotes the formation of appropriate skills and development of creative abilities. Creative orientation of the personality leads to an increase in the orientation level, desire to improve his work. This creates the possibility of development of such qualities as: self-confidence, reliance, ability to adapt quickly to new, unknown situations, to find the right solutions quickly (Kalinova & Myagkova, 1989).

Conclusion

Monitoring and evaluation stage is the last stage of practice. It is associated with the debriefing and practices assessment at all stages. Monitoring and evaluation activity is manifested in the organization and holding of contests, exhibitions, festivals and conferences. Activity is assessed not just by teachers, but also by students, members of the micro-group, in discussing the work of the micro-groups at conferences and other events the work of microgroup and all students is assessed in general. Students often approach to self-assessment and evaluation more critically than teachers, they sometimes given inappropriately high rating. In these cases, the adjustment on the part of teachers and supervisors is necessary. In summing up the practice the practical significance of the results and the further prospective are determined. However, the division of practice into stages is conventional, because it is a continuous and dynamic process. Such EFP structural modeling is necessary to streamline the EFP organization, detection, evaluation, and correction of emerging problems, improve the effectiveness of each stage and the whole practice in general.

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