



Scientific Center of Innovative Researches OÜ

# **PEDAGOGY AND EDUCATION MANAGEMENT REVIEW (PEMR)**

**Issue 3 (9)**

**2022**

***International databases and directories indexing publications:***

- CrossRef (DOI: 10.36690);
- ISSN International Centre;
- ORCID;
- Google Scholar;
- National Library of Estonia;
- PKP-Index;
- OpenAIRE;
- Eurasian Scientific Journal Index;
- Academic Recourse Index (ResearchBib);
- Advanced Science Index (Germany);
- ICI World of Journals (Poland);
- Open Ukrainian Citation Index (Ukraine);
- Directory of Research Journals Indexing (India);

*Pedagogy and Education Management Review*. DOI: 10.36690/2733-2039-2022-3

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## CHAPTER 1

# GENERAL PEDAGOGY AND HISTORY OF PEDAGOGY

## COMPARATIVE CHARACTERISTICS OF THE TRAINING OF DOCTORS OF PHILOSOPHY IN ECONOMICS IN THE LEADING COUNTRIES OF THE WORLD

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**Abstract.** *The scientific training of Doctor of Philosophy is one of the indicators of the country's development and demonstrates the innovative progress of society. The purpose of the article is to compare the features of the training of Doctor of Philosophy in the leading countries of the world. The main methods that were used in the research are analysis and synthesis, methods of comparative analysis, generalization, which made it possible to achieve the set goal. The article examines the specifics of Training PhDs in Economics and systematizes the specifics of each country. In the article, a comparative analysis of the system of training economics specialists at the scientific level of doctoral studies in the USA, Canada, Japan, and EU countries is carried out. The main differences were established in such areas as: Program duration; Master's degree requirements; Research flexibility; Funding opportunities; Teaching expectations. It has been established that Universities in Australia, New Zealand and Canada typically follow the American PhD structure: two years of classes plus three years of independent research. A PhD experience there is comparable to the one in the US. Similar programs (in terms of organization) are offered by top Asian schools in Hong Kong, Singapore, and South Korea. In other parts of the world, where economics research capacities are less developed, doctoral studies take various forms, such as employment at the national academy of sciences.*

**Keywords:** *economics, Doctor of Philosophy, educational innovations, development, progress.*

**JEL Classification:** *A23, A29, I28*

**Formulas:** *0; fig.: 1; tabl.: 0; bibl.: 10*

**Introduction.** Human resources are the key to idea generation and dissemination. Doctoral students have a special attitude to research and innovation due to deep industry knowledge and continuous professional development in the field of quantitative and qualitative analytical skills necessary for practical application of knowledge. Doctoral programs exist in both academic and professional fields and usually require the submission of a thesis or equivalent written work that represents an original contribution to knowledge in the relevant field. As countries for comparing the organization of doctoral education, we will take such well-known leaders of innovative development as the USA, Canada, Japan and EU countries and analyze their systems of training specialists in economics at the doctoral scientific level. The system of training and certification of highly qualified scientific personnel in the USA is a kind of unique historical phenomenon that combines the educational philosophy of a

medieval university and new organizational forms adapted to an industrially developed capitalist society.

**Literature review.** Doctoral programs are the main form of training of highly qualified scientific and pedagogical personnel for higher education in the USA, the innovation complex and the administrative sector of the American economy. American doctoral education strives simultaneously to simplify and complicate its organization. At the same time, the education of doctoral students (they are called graduate students here) and the payment of scholarships are financed by universities, and the education of students until they receive bachelor's diplomas is paid. Doctoral training (graduate school), which culminates in the defense of a thesis and the awarding of the scientific degree of Doctor of Philosophy (Ph.D), is designed for an average of 3 years for masters and 5 years for bachelors. Doctoral study offers specialized training in relevant courses with passing qualifying exams, independent scientific development and mandatory defense of a doctoral dissertation.

The study of the specifics of Training PhDs in Economics was done in the works of Gregory M. Perry (1998). Hansen, W.L. (1991), Scott, F. (1997) and others. A comparison of the features of training PhDs in Economics in different countries of the world was presented in their works by: Sakhno, H (2022), Barnett J.V., Harris R.A., Mulvany M.J. (2017), Nerad M. and Heggelund M. (2008).

Unfortunately, many issues regarding the preparation of PhD programs in economic sciences are not covered in sufficient depth.

**Aims.** The purpose of the article is to compare the features of the training of doctors of philosophy in the leading countries of the world.

**Methods.** The main methods that were used in the research are analysis and synthesis, methods of comparative analysis, generalization, which made it possible to achieve the set goal.

**Results.** We will analyze the peculiarities of the training of doctors of philosophy in different countries of the world.

**United States of America.** In the USA, there is a special law "On the possibility of obtaining higher education", which determines that only higher educational institutions or consortia of such educational institutions can award scientific degrees of doctors in the relevant fields of science. It also defines the mutual obligations and rights of higher education institutions that conduct training under doctoral programs and relevant persons who undergo such training with the subsequent awarding of the scientific degree of Doctor of Sciences.

Doctoral programs in the USA are designed for an average of five years. Today, about 250 US universities award the degree of Doctor of Philosophy (PhD) or its equivalent. The very training of scientific and pedagogical personnel has become one of the leading criteria for determining the quality of academic work of American universities. Modern American doctoral education has a hybrid nature, which is manifested in the presence of two qualitatively different components - mandatory courses and independent research.

The main features of the American model of training doctors of philosophy:

- inertia and conservatism, which are especially intensified in case of radical changes in the surrounding socio-cultural environment;
- striving for specialization at the level of components (programs) and for universality, comprehensiveness at the institutional level (doctoral programs and universities);
- the emergence of institutes such as temporary research teams;
- the spread of "innovative", "non-traditional" doctoral programs that have the characteristics of a competitive institute.

**Canada.** The system of training scientific personnel in Canada is largely similar to that operating in the USA, with the exception of some features. Canadian universities are self-governing institutions that have the right to award academic degrees and determine the conditions for awarding them. At the doctoral educational level, higher educational institutions award the degrees of doctor of philosophy, professional doctor, combined doctoral-master's degree, as well as doctoral professional-philosophical degrees. Obtaining a doctoral degree in Canada involves conducting a unique study and defending a dissertation, which should make a significant contribution to the advancement of scientific knowledge in the researched field. The training of specialists at the highest educational level in Canada is carried out in higher education with the awarding of doctoral degrees of two types (doctor of philosophy and professional doctor), as well as within the framework of formalized post-doctoral education to occupy the positions of researchers and teachers in institutes, universities, as well as in production.

The entire education system of Canada is exclusively under the competence of the provinces - it is the provinces that set their standards in the field of education, regulate the relevant industry according to their legislative norms (in Canada, there is no Ministry of Education at the federal level). Canadian universities offer various programs for graduate students and, no less important, guarantee them full support, including financial support. Graduates of Canadian graduate schools who have received a master's or doctoral degree are extremely in demand, both in academic circles and on the international labor market.

An important aspect of the system of training scientific personnel in Canada is a special attitude towards postgraduate students: persons who have entered postgraduate studies and thus confirmed their high qualifications become partners of universities. As partners, they are more motivated to make a significant contribution to the scientific and practical activities of their universities. Such qualities of graduate students as inquisitiveness, independent thinking and the ability to generate fresh ideas (creativity) are especially valued. Post-graduate students possessing these qualities are "useful" to their educational institutions, since it is thanks to them that the majority of discoveries take place. Thus, Canadian graduate students who expect to receive a scientific degree should be motivated and interested in solving intellectual tasks, constantly contribute to the scientific activity of the university.

At the same time, a significant difference between the Canadian system of training doctors of philosophy and the American one is that only those with a master's degree

can enter doctoral studies in Canada. We remind you that bachelors can also enter the USA, but they study longer.

Summarizing all of the above, we can highlight the following features of the system of training scientific personnel in Canada:

- complete autonomy of the provinces in determining the conditions and procedures for awarding scientific degrees due to the absence of a specially authorized body in the field of education and science;
- a wide variety of doctoral programs offered by Canadian universities;
- a significant number of foreign students and postgraduates studying in Canadian universities;
- worldwide recognition of received scientific degrees.

**France.** Doctoral training in France takes place in special doctoral schools that are part of the university system and are their units. The basis of the educational process is the research activity of scientific groups in which students are united. Each group develops its own scientific project, which becomes the essence of their studies.

As the researchers note in their writings, there are two types of French doctoral studies: postgraduate (after receiving a master's degree), joint (studying under the supervision of two teachers at once). In the case of a joint doctoral program, the topic of the dissertation, as well as its writing, are supervised simultaneously by two universities: students alternately stay in both countries, use the bases of both universities, defend it in the chosen country, but at the same time receive two diplomas.

All doctoral students participating in the joint study program receive a special stipend that covers their transportation costs for trips to France and back.

Only those who already have a master's degree can enter doctoral studies. There are about three hundred doctoral programs operating throughout France: they include more than 60,000 teachers and more than 1,200 research laboratories. France has many treaties with other European states, so doctoral students take an active part in international scientific cooperation programs financed by foundations or industrial organizations. Often, when enrolling in studies, there is an opportunity to receive a grant. The amount of the grant is individual.

After writing the thesis, agreeing it with the supervisors and setting the date for the defense, it is necessary to obtain an official file from the university and fill it out. Reports from people who review the work are also attached to the dossier. There should be two such people and they should not be employees of the laboratory in which the dissertation was performed. It is their feedback that plays a key role in awarding a scientific degree.

Studying at a French doctorate lasts 3 years, of which 1 year is allocated to lectures, and 2 years to scientific activity. Upon completion of studies, the student is awarded a Ph.D.

**Germany.** Doctoral programs in Germany operate and dissertations are defended exclusively at universities. At the same time, doctoral studies in this country are free and last for 3 years.

A necessary condition for obtaining permission to study under the PhD program in Germany is the presence of a specialist or master's degree in the relevant field of

science. Sometimes postgraduate students are required to provide certificates of internship. However, as the German Academic Exchange Service (DAAD) points out, conditions can vary depending on the university, department and even major.

The defense of the dissertation and the receipt of the PhD degree in Germany require the successful completion of the corresponding study program of a higher educational institution. The total period of stay in doctoral studies is 3 years with the possibility of extension up to 5 years (but only in research groups). In the first year of his studies, a doctoral student (Doktorand, Doktorandin - a person engaged in writing a dissertation) must attend seminars and lectures, participate in various scientific discussions. Doctoral students are awarded a scholarship in the amount of 1,000 to 2,000 euros. Some graduate students are fellows (receive a scholarship), others are associate members, their studies and research are financed from other sources (usually these are grants from their supervisors). In this case, the post-graduate student is expected to work as a researcher at a research center.

Each faculty of the university has its own procedure for the defense of the thesis (Promotionsordnung). First you need to open a protection procedure (Promotionsverfahren). This is done by submitting the dissertation and a number of accompanying documents to the dean's office. At the same time, unlike the Ukrainian practice, the presence of publications for protection is optional, but welcome. After that, the Faculty Council forms a defense commission. The commission includes three reviewers (one of whom, as a rule, is a scientific supervisor) and five more men. The dissertation is submitted to reviewers (referees), who write reviews and rate the work on a five-point scale. If the difference in the reviewers' scores is more than one point, additional reviewers may be appointed. Provided that the evaluations are positive, the thesis is allowed to be defended, after which the final evaluation is given for the thesis.

Great Britain. In the UK, the PhD is the most popular academic degree. At the same time, the scientist notes that the financing of doctoral studies in this country takes place at the expense of receiving grants or personal scholarships.

The duration of the study depends on the chosen topic and the motivation of the applicant. As a rule, this is three to four full years of permanent study or five to six years of part-time study.

There are several routes to a PhD in England, with the most common PhD programs being:

- traditional research programs (PhD);
- educational and research programs (New Route PhD);
- professionally oriented programs (Professional Doctorates).

**Japan.** Japan is rightfully considered one of the most innovative countries. The most famous among Japanese universities are Tokyo, Kyoto and Waseda. Applicants are required to have a master's degree and a willingness to participate in research projects. Most often, doctoral studies are conducted only in English, knowledge of Japanese is not required for foreign applicants. However, the practice of passing oral and written entrance exams is quite common.

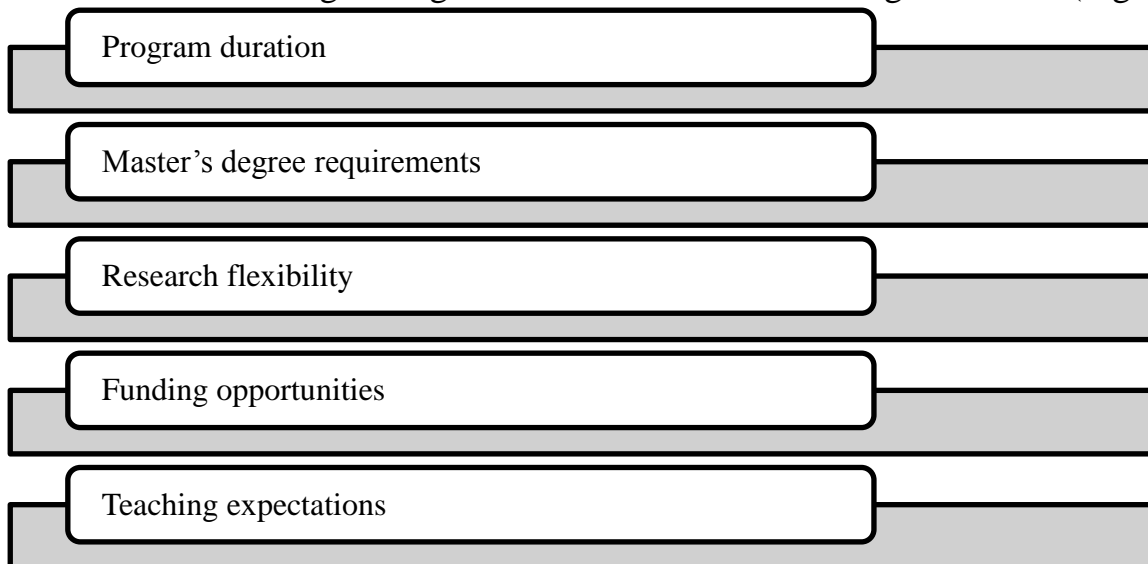
Doctoral studies in Japan are paid for the vast majority of applicants. At the same time, graduate students have the opportunity to receive various scholarships, namely:



- Japanese Government Scholarship;
- scholarship of the Ministry of Education of Japan;
- scholarships from private foundations (for example, the Takaku Foundation).

**Discussion.** The results of the study made it possible to systematize the distinguishing features of the training of doctors of philosophy in the leading countries of the world

The main distinguishing features exist in the following directions (Fig. 1).



**Figure 1. The main distinguishing features in the training of doctors of philosophy between an American and European Economics PhD program**

*Source: systematized by the authors based on [4-10]*

**Program duration.** The most striking difference between an American and European PhD is the expected duration of the program.

In the US, universities traditionally offer a five-year degree where the first two years are devoted to training, and the final three years are expected to be spent on independent research. At the end of Year 1, graduate students take core examinations to progress to the second year. These are traditionally in Microeconomics, Macroeconomics and Econometrics. In the second year of an American PhD, students can choose courses that are closer to their research interests, which allows them to specialize in a particular field.

In Europe, graduate programs vary significantly in terms of both structure and expected study duration. A standard Economics PhD lasts three to four years. In the first year, graduate students typically follow PhD-level courses offered by their department and develop a research proposal. The next two to three years are spent on independent research.

Recently, many top European economics schools have started offering a 5-year PhD program following the American tradition. It is composed of two years of intensive classes delivered ‘in-house’ by the respective department, after which students are typically awarded a degree of a Research Master’s (or MPhil) and progress onto the research stage.

Some universities offer a three-year ‘research only’ program for more advanced students, although this is still uncommon. These programs are usually for students that completed a Research Master (or an MPhil) somewhere else or gained extensive research experience prior to their PhD.

**Master’s degree requirements.** The second difference between an American and a European PhD is whether one can apply with an undergraduate or a Master’s degree. Most economics departments in the US have a preference for candidates with a completed Master’s degree. However, this is not usually a formal requirement: many successful applicants get in with an undergraduate degree and no or limited prior research experience. To strengthen their portfolio, especially when applying to top schools, some applicants spend a year or two as a predoctoral fellow (“predoc”) at a reputable department.

**Research flexibility.** American and European doctoral programs also differ in the degree of flexibility that the students get when choosing their research topic.

In the US, a doctoral dissertation is a composition of several (typically, 3-4) research papers that might or might not be interconnected. They can even come from different fields in economics and demonstrate a diversified portfolio for a future PhD holder. A job market paper, which is chosen from the research portfolio and is usually the most promising and advanced piece of research, plays a far greater role for someone who wishes to pursue an academic career. This is because those pursuing an academic career will be required to submit a single paper for presentation at an annual American economics job market event, where recent PhD graduates are matched with academic institutions. The process is highly centralized in the US by the American Economic Association (AEA).

European PhD students typically develop an elaborated research proposal prior to commencing an active research stage. The projects (typically 3-4) are expected to be interlinked and within one research field.

In striking contrast to the US, many departments in Europe and the UK offer project-based PhD positions. That is, a professor (or a research group) submits a grant proposal on a specific topic to the national or European research council. If the application is successful, the allocated funds are used to cover the compensation of everyone involved: from research assistants and PhDs to postdoctoral researchers and principal investigators. Typically, several PhD students are recruited for one project. As the research topic is predetermined by the project, students have little flexibility to work on something else. This form of doctorate studies is rare in America.

**Funding opportunities.** Funding sources and opportunities for PhDs are another striking difference. In America, PhD funding is typically a complex composite. The funds come from various sources: the graduate school, the department, or a dedicated charity or national fund. The form of funding varies, too: from teaching and research assistantships to merit-based scholarships. The final amount might vary from year to year and depends on the student’s individual circumstances.

In Europe, a PhD scholarship is usually a fixed amount offered for the duration of the program. Additional funds may come from teaching and exam invigilation activities (the latter being particularly common in the UK). The funds are allocated by

the university or the department. For those pursuing a project-based PhD (see the previous section), the funds come from the sponsoring body and are administered by the department.

Moreover, in Europe, it is common to do an externally funded PhD: a company or an organization (such as a ministry, a national central bank, or a think tank) sponsors the doctoral degree for their (future) employee to research a very particular topic that is relevant for them. This is usually done in collaboration with a university, but the expenses are covered by the respective stakeholder.

**Teaching expectations.** Both American and European PhD programs offer significant exposure to teaching. In America, teaching duties are not only an essential part of economics PhD training but also a source of funding in most cases. Teaching at both undergraduate and Master's levels is considered a crucial element of a successful academic job market preparation for graduate students. In Europe, the amount of teaching workload depends on the program and institution. In a standard 4-year PhD track, students spend on average 15% of their time on teaching. Project-based and externally funded PhD students are typically not expected to teach any classes, but the department usually provides the opportunity to do so at the student's will. In the UK, for instance, PhD students can choose how many hours to teach: this work is paid on top of the base PhD scholarship.

Universities in Australia, New Zealand and Canada typically follow the American PhD structure: two years of classes plus three years of independent research. A PhD experience there is comparable to the one in the US. Similar programs (in terms of organization) are offered by top Asian schools in Hong Kong, Singapore, and South Korea.

In other parts of the world, where economics research capacities are less developed, doctoral studies take various forms, such as employment at the national academy of sciences.

**Conclusion.** The main results of the conducted research are presented in the following conclusions:

1. The article examines the specifics of Training PhDs in Economics, and systematizes the specifics of each country.

2. In the article, a comparative analysis of the system of training economics specialists at the scientific level of doctoral studies in the USA, Canada, Japan, and EU countries is carried out.

3. The main differences were established in such areas as: Program duration; Master's degree requirements; Research flexibility; Funding opportunities; Teaching expectations.

4. It has been established that Universities in Australia, New Zealand and Canada typically follow the American PhD structure: two years of classes plus three years of independent research. A PhD experience there is comparable to the one in the US. Similar programs (in terms of organization) are offered by top Asian schools in Hong Kong, Singapore, and South Korea. In other parts of the world, where economics research capacities are less developed, doctoral studies take various forms, such as employment at the national academy of sciences.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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**Received: August 25, 2022**

**Approved: September 29, 2022**

## CHAPTER 2

# INNOVATIONS IN THE MANAGEMENT OF EDUCATIONAL INSTITUTIONS

### IDENTIFICATION AND DISCUSSION OF STRATEGIES FOR THE FUTURE NATURAL SCIENCE TEACHERS' TRAINING TO CONSERVATION ACTIVITY

**Svitlana Liulenko<sup>1</sup>, Vitalii Honcharuk<sup>2</sup>, Roman Podzerei<sup>3</sup>, Lesya Moroz<sup>4</sup>**

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**Abstract.** The article contains a description of the original experiment conducting in order to identify and justify effective strategies for the future natural science teachers' training to conservation activity. The aim of the paper is experiment conducting in order to identify and justify effective strategies for the future natural science teachers' training to conservation activity. A variety of methods have been used to test the hypothesis of the study. They are: interview, observation, survey, questionnaire survey, mathematical statistics methods for quantitative and qualitative analysis of experimental data, determination of the reliability of results. Systemic and personal-activity approaches are the methodological foundation for the disclosure the process of future natural science teacher training to conservation activity in comprehensive school. Experimental study has been conducted to identify and justify effective strategies for future natural science teacher training to conservation activity. The modern state of ecological education of schoolchildren is considered and analysed by facilities of nature protection activity. Well-proven necessity of perfection and satiation of maintenance of educational process by ecological material and creation of the proper terms for ecological education of schoolchildren. Essence of ecological education of schoolchildren is exposed, that consists in a capture scientific knowledges about an environment, forming of knowledges and abilities of research character, understanding of modern problems of natural environment, forming of ecological consciousness and culture of personality. The row of factors which cause growth of actuality of problem of ecological education of rising generation is transferred. It is found out, that ecological education and education of rising generation is the important problem which requires immediate active actions.

**Keywords:** future teacher training, environmental education, conservation activity, teacher of Natural Sciences.

**JEL Classification:** I28, I29

**Formulas:** 0; **fig.:** 1; **tabl.:** 0; **bibl.:** 8

**Introduction.** In the conditions of radical changes in secondary and higher levels of education, Ukraine has been faced the problem of improving the University students' training for professional activity that requires theoretical justification and experimental verification, in particular in the process of environmental education. Modern Ukrainian education in the context of European integration requires a new generation of specialists, having a high skill level, creative individuals, able to make decisions deliberately, in particular in nature protection and conservation activity. Nowadays the considerable experience of environmental education researches, covering many aspects of future teachers' professional pedagogical training, including conservation areas, has been accumulated in theory and practice of higher pedagogical education. The problem of ecological education is connected with the conservation activity; environmental work has always been important in the pedagogical science. The idea of forming an ethical relationship towards the natural environment and future teacher training for the conservation activity has its historical roots. It was regarded as an important means of a harmoniously developed personality training, the ensuring its connection with society and environment.

The problem of future teacher training in the process of young generation ecological education is related to the environment preservation and conservation activity, it has always been important in the pedagogical science, explored by modern scholars (Rodygina I., Stryzhak S., Ishchenko V., Rogozina M., Pustovit G., Sovgira S., Lukyanova L.etc.).

In particular, the training of future natural science teacher to self-educational activity is considered in works of Ishchenko V. [1]; scientific and methodological foundations of professional training of future natural science teachers in higher educational institutions are observed in works of Stryzhak S. [7]; didactic foundations of training students – future biology teachers are described in works of Fleshar Y. [8]; pedagogical foundations of self-educational activity of future natural science teachers are represented in works of Rogozina N. [6]. Prokopenko L. and Mitzenko T., investigating the aspects of natural science teacher training, consider it necessary to bring it to the study of native nature and conservation activity with a leading role of field practices [5, p. 33-34].

Researcher Corner T. treats future natural science teacher training as a process of scientific and methodical knowledge assimilation in all aspects of interaction between nature and society, as well as a readiness to address the challenges of education, including ecological culture and education of schoolchildren [3, p.19]. Thus, the analysis of the study has shown that under the future natural science teacher training to conservation activity we understand the complex of active practical measures and appropriate actions aimed at the preservation, reproduction and protection of the environment, which are implemented by future natural science teachers during a certain period and have tangible results.

**Aims.** The aim of the paper is experiment conducting in order to identify and justify effective strategies for the future natural science teachers' training to conservation activity.

**Methods.** A variety of methods have been used to test the hypothesis of the study. They are: interview, observation, survey, questionnaire survey, mathematical statistics methods for quantitative and qualitative analysis of experimental data, determination of the reliability of results.

Systemic and personal-activity approaches are the methodological foundation for the disclosure the process of future natural science teacher training to conservation activity in comprehensive school [4, p. 77].

**Results.** Experimental study has been conducted to identify and justify effective strategies for future natural science teacher training to conservation activity. 1080 students of higher educational establishments took part in the experiment.

Experimental work was carried out in three stages.

During the first stage, the ascertaining one, the state of future natural science teacher training to conservation activity in comprehensive school has been studied. At the second stage – the forming one – the pedagogical conditions of future natural science teachers' training to conservation activity have been examined. The third stage – synthesis. During this stage the analysis, results summarizing and description of the experiment have been done.

At the stage of ascertaining experiment the initial level of future natural science teacher training to conservation activity has been studied; the factors, influencing its preparation, have been identified.

A formative experiment comprised the implementation of organizational and pedagogical conditions; the proof of the substantive content effectiveness of the educational process of future natural science teacher training on the environmental topics; the updating of professional disciplines programs. The methodology of environmental actions conducting has been included in the program of professional practices.

In order to improve pedagogical practices towards environmental protection measures, the guidelines for practice teachers have been developed.

A comparative experiment was conducted to compare the results of theoretical and practical training of students to carry out environmental works during the implementation of different organizational forms and active learning methods in the experimental and control groups. The selection of students in control and experimental groups was conducted for the experiment. They included those who studied at the natural departments, had the same level of general education and approximate age characteristics. There were 20 students in each group.

It has been developed a system of assessing the levels (high, average, low) of future natural science teacher training to conservation activity in comprehensive school. It is characterized by cognitive, motivational-value and practical components. To conduct mathematical processing of the results the grading scale from 2 to 5 points was introduced to assess each task of components. Grade 2 and 3 correspond to low level and range from 1% to 44%, grade 4 – to average level (from 45% to 84%), grade 5 – to high level (from 85% to 100%).

During the ascertaining experiment the tasks for the evaluation of components formation of future natural science teacher training to conservation activity consisted

of questions, tests, problem situations and projects. In the process of theoretical and practical training the results have been generalized on the arithmetic mean indicators in the fields of study: „biology”, „geography” and “chemistry” and in the components: cognitive (C), motivational value (MV), practical (P). The indicators are shown in the Table 1.

**Table 1. Summarized data of the initial level of future natural science teachers' readiness to theoretical and practical training**

groups	Theoretical training									Practical training					
	Methodology of students' extracurricular work organization			Special seminar			The technology of conservation activity			Training practice			Productive practice		
	Biol ogy	Geo grap hy	Che mist ry	Biol ogy	Geo grap hy	Che mist ry	Biol ogy	Geo grap hy	Che mist ry	Biol ogy	Geo grap hy	Che mist ry	Biol ogy	Geo grap hy	Che mist ry
c	2,15	2,17	2,12	2,12	2,11	2,12	2,13	2,13	2,15	2,14	2,15	2,13	2,12	2,13	2,13
e	2,15	2,14	2,11	2,12	2,12	2,14	2,13	2,13	2,13	2,13	2,15	2,14	2,13	2,13	2,15

Source: developed by the authors

Analysis of digital data in Table 1 has shown that they almost do not differ, although there are some deviations from the overall picture. As a result of calculations it is established that in the experimental group of future biology teachers the arithmetic average  $C_e$  of the conservation activity readiness according to the completed assignments before the studying and improving the content of the discipline "Methodology of students' extracurricular work organization" equals to 2.15 points, which is 43% in the control group:  $C_c - 2.15$  (43%); special seminar:  $C_e - 2.12$  (42,4%); in the control group:  $C_c - 2.12$  points (42.4 per cent); the discipline "Technology of the conservation activity" – in the experimental group:  $C_e - 2.13$  points (42,6%), in the control group:  $C_c - 2.13$  points (42.6 per cent); before the professional practice in the experimental group:  $C_e - 2.13$  points (42,6%); in the control group:  $C_c - 2.14$  points (42.8 percent); practical training in the experimental group:  $C_e - 2.13$  points (42,6%); in the control group:  $C_c - 2.12$  points (42.4 per cent). Relevant studies were conducted in the process of geography and chemistry teachers' training. Generalized averages of the components and training fields show that the cognitive component of environmental work readiness of future biology teachers in the experimental group equals to 42.6%, in the control group – 42.8%; future geography teachers in the experimental group – 42,4%, in the control group – 42.6%; future chemistry teachers in the experimental group equals to 42.2%, in the control group – 42.6%. The indicators are mainly of a low level.

So, in the control and experimental groups the levels of conservation activity readiness of future natural science teachers were almost the same, with a slight difference.

The average generalized level of readiness for conservation activity on the cognitive component of future biology teachers after the first selection of the ascertaining experiment in the experimental group equals to 42.6%; in future geography teachers – 42,4%, in future chemistry teachers – 42,2%; in the control group: 42,8%; 42,6%; 42,6%, respectively; in future geography teachers – 42,6%, in future



chemistry teachers – 42,4%; in the control group: 43%; 42,4%; 42,6%, respectively; on the motivational-value component for the experimental group of future biology teachers it equals to 42.8 percent; future geography teachers – 42,6%, future chemistry teachers – 42,4%; in the control group: 42,2%; 42,4%; 42,2%, respectively; on the active component for the experimental group of future biology teachers – 42,8%; future geography teachers – 42,6%, the future chemistry teachers – 42,4%; in the control group: 43%; 42,4%; 42,6%, respectively.

When comparing the level of readiness formation in future natural science teachers to conservation activity in the fields of study, it has been found that in the experimental group of future biology teachers it equals to  $42,73\% \pm 0,11$ ; in future geography teachers –  $42,53\% \pm 0,1$ , in future chemistry teachers –  $42,33 \pm 0,1\%$ ; in the control group:  $42,67\% \pm 0,12$ ;  $42,47\% \pm 0,1$ ;  $42,47\% \pm 0,1$ , respectively. The results demonstrate that in the process of the ascertaining experiment the students, both experimental and control groups of such fields of study as “biology”, “geography”, “chemistry” showed a low level of readiness formation to conservation activity.

The results of the initial level determination of readiness formation to conservation activity in future natural science teachers have shown a low level. The results are presented in Table 2.

**Table 2. Levels of readiness formation for conservation activity in future natural science teachers at the stage of ascertaining experiment**

Levels	The control group						The experimental group					
	Biology		Geography		Chemistry		Biology		Geography		Chemistry	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
High	3	0,83	1	0,28	-	-	3	0,83	-		2	0,56
Average	101	28,06	83	23,05	96	26,67	60	16,67	71	19,72	90	25
Low	256	71,11	276	76,67	264	73,33	297	82,5	289	80,28	268	74,44

Source: developed by the authors

The results of the investigation show that the low level of readiness formation to conservation activity in future natural science teachers prevails.

So, the results of the ascertaining experiment have shown the necessity to improve the educational process of future natural science teachers training to environmental work in comprehensive school.

To rationalize the educational process, the program of discipline “Methods of students’ extracurricular work organization” has been improved with the implementation the laboratory work “Didactic and methodical foundations of environmental documentation”; special seminar “Methods of the conservation actions”; modification of the educational discipline program “Technology and conservation activity organization”; inclusion of methods of conducting environmental actions to the program of professional practice; the development of guidelines for environmental protection measures during the pedagogical practice. The above mentioned training and methodological support have been integrated in the process of the forming experiment.

The pooled results of the environmental work readiness determination of future natural science teachers have represented the predominance of an average and high

levels in the experimental group and the average one domination – in the control group. The results are shown in Table 3.

**Table 3. Levels of conservation activity readiness of future natural science teachers at the stage of the forming experiment**

Levels	The control group						The experimental group					
	Biology		Geography		Chemistry		Biology		Geography		Chemistry	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
High	78	21,67	53	14,72	61	16,94	112	31,11	90	25,0	103	28,61
Average	168	46,67	156	43,34	160	44,44	187	51,94	176	48,89	180	50,0
Low	114	31,66	151	41,94	139	38,62	61	16,95	94	26,11	77	21,39

Source: developed by the authors

To generalize the experimental results, the comparison of environmental work readiness indicators of future natural science teachers, obtained in the process of ascertaining and formative experiment, are shown in Table 3.

Table comparative analysis research shows that before the experiment the readiness indicators of future natural science teachers in control and experimental groups during the ascertaining and forming stages of the experiment were almost identical. Improving the educational process by introducing experimental innovations to the pedagogical experiment helps students of the experimental group to reach a high level of readiness to conservation activity in comprehensive school.

**Table 4. Comparative efficiency of experimental factors on the results of ascertaining and formative experiments**

Field of study	Components	group	Levels of readiness				
			Before the experiment		After the experiment		Gains %
			Arithmetic average $\bar{X}$	%	Arithmetic average $\bar{X}$	%	
Biology	C	e	2,13	42,6	4,29	85,8	43,2
		κ	2,14	42,8	3,3	66	23,2
	MV	e	2,14	42,8	4,23	84,6	41,8
		κ	2,11	42,2	3,26	65,28	23,08
	P	e	2,14	42,8	4,32	86,36	43,56
		κ	2,15	43	3,29	65,88	22,88
Geography	C	e	2,12	42,4	4,15	82,96	40,56
		κ	2,13	42,6	3,01	60,24	17,64
	MV	e	2,13	42,6	4,18	83,68	41,08
		κ	2,12	42,4	3,08	61,56	19,16
	P	e	2,13	42,6	4,19	83,76	41,16
		κ	2,12	42,4	3,17	63,32	20,92
Chemistry	C	e	2,11	42,2	4,22	84,4	42,2
		κ	2,13	42,6	3,13	62,52	19,92
	MV	e	2,12	42,4	4,2	84,06	41,66
		κ	2,11	42,2	3,15	62,92	20,72
	P	e	2,12	42,4	4,22	84,44	42,04
		κ	2,13	42,6	3,22	64,36	21,76

Source: developed by the authors

A review of table 4 shows that during the ascertaining experiment C component of students' conservation activity readiness in comprehensive school was at a low level, ranging from 42.2% in future chemistry teachers to 42.6% in future biology teachers of the experimental group; from 42,6% in future teachers of geography and chemistry to 42.8% in future biology teachers of the control group.

MV<sub>e</sub> component was at a low level, ranging from 42.4% in future chemistry teachers to 42.8% in future biology teachers, MV<sub>c</sub>, respectively, from 42.2% in future teachers of biology and chemistry to 42.4% in future geography teachers. P<sub>e</sub> varies from 42.4% in future chemistry teachers to 42.8% in future biology teachers (low level), P<sub>c</sub> is from 42,4% in future geography teachers to 43.0% in future biology teachers (low level).

**Discussion.** According to the ascertaining experiment results, the difference between the indices of levels of students' readiness formation for the conservation activity conducting in different fields of study, by different components in the experimental and control groups was significant. So, C<sub>e</sub> component is within a range of 82,96% in future geography teachers to 85,8% in future biology teachers (high and average levels), C<sub>c</sub> – from 60,24% in future geography teachers to 66.0% in future biology teachers (an average level). MV<sub>e</sub> – from 83,76% in future geography teachers to 86,36% in future biology teachers (high and average levels), MV<sub>c</sub> from 61.56% in future geography teachers to 65,28% in future biology teachers (high and average levels). P<sub>e</sub> – 83,76% in future geography teachers to 86,36% in future biology teachers (high and average levels), P<sub>c</sub> – from 63.32% in future geography teachers to 65,88% in future biology teachers (high and average levels).

Comparative analysis results of ascertaining and forming experiments have shown that the C component level in experimental group students was changed from low level to high and average ones, C<sub>c</sub> – from low to average; MV<sub>e</sub> – from low to high and average, MV<sub>c</sub> – from low to average; P<sub>e</sub> – from low to high and average, P<sub>c</sub> – from a low level to average one.

The experimental data are processed according to the methods of Glass J., Stanley J., Lakin G., Marmoza A. It allowed us to compare the levels of future natural science teachers' readiness to conservation activity in comprehensive school before and after the experiment [1].

**Table 5. The dynamics of the levels of future natural science teachers' readiness to conservation activity, based on the results of the experiment, %**

	Disciplines		Levels		
			high	average	low
The control group	Biology	before	0,83 (9)	28,06 (303)	71,11 (768)
		after	21,67 (234)	46,67 (504)	31,66 (342)
		dynamics	21,04	18,61	39,45
	Geography	before	0,28 (3)	23,05 (249)	76,67 (828)
		after	14,72 (159)	43,34 (468)	41,94 (453)
		dynamics	14,44	20,29	34,73
	Chemistry	before	-	26,67 (288)	73,33 (792)
		after	16,94 (183)	44,44 (480)	38,62 (417)
		dynamics	16,94	17,77	34,71
The experimental group	Biology	before	0,83 (9)	16,67 (180)	82,5 (891)
		after	31,11 (336)	51,94 (561)	16,95 (183)
		dynamics	30,28	35,27	-65,55
	Geography	before	-	19,72 (213)	80,28 (867)
		after	25,0 (270)	48,89 (528)	26,11 (282)
		dynamics	25,0	29,17	-54,17
	Chemistry	before	0,56 (6)	25,0 (270)	74,44 (804)
		after	28,61 (309)	50,0 (540)	21,39 (231)
		dynamics	28,05	25,0	-53,05

Source: developed by the authors

To check the reliability of the results the criterion  $\chi^2$  (Chi-square), calculated by the method of Kyverialh A., was used.

In the result of experimental work the experimental group of students have shown higher level of readiness to conservation activity. Thus, after forming experiment conducting a high level of conservation activity readiness in future biology teachers of experimental groups has increased by 30.28 %, an average one – by 35.27 %, a low level decreased by 65.55 %; in future geography teachers – at 25.0%, 29,17 %, and – 54,17 %, respectively; in future chemistry teachers –by 28.05 %, 25.0% and – 53,05 %.

In control groups after the forming experiment conducting, a high level of conservation activity readiness in future biology teachers has increased by 21.04 %, an average one – by 18,61 %, a low level has decreased by 39,45 %; in future geography teachers – at 14,44 %, 20,29 %, –34,73%, respectively; in future chemistry teachers – by 16,94 %, 17,77 %, –34,71 %.

**Conclusions.** Thus, the strategy of a future natural science teacher training to conservation activity indicates an improvement tendency, shown through the increase of a high level of readiness to the conservation activity in future natural science teachers and low-level reduction that confirms the effectiveness of reasonable and implemented organizational and pedagogical conditions of future natural science teachers' training to the conservation activity implementation in a comprehensive school.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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*Received: August 18, 2022*

*Approved: September 21, 2022*

## CHAPTER 3

### THEORY AND METHODS OF VOCATIONAL EDUCATION

#### THE ORGANIZATIONAL AND PEDAGOGICAL CONDITIONS FOR ENSURING CONTINUITY OF PROFESSIONAL TRAINING OF FUTURE PRIMARY GRADES TEACHERS' IN THE «COLLEGE-UNIVERSITY» SYSTEM

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**Abstract.** *The author of the article has examined the interpretation of the concept of «organizational and pedagogical conditions», separated their separate groups. The organizational and pedagogical conditions for ensuring continuity in the professional training of future primary school teachers in the «college-university» system have been defined and substantiated, namely: the implementation of a praxeological approach to the organization of the educational process in the «college-university» system; usage of interactive learning technologies in the training of future primary school teachers; ensuring continuity in the «college-university» system when training future primary school teachers. The basis of the justification of the first condition has been the opinion that in order to ensure the implementation of praxeological principles, it is necessary to ensure: clarity, specificity, interest, accessibility, reality of the educational goal not only for the teacher, but also for students; sufficient usage of time for solving tasks and carrying out substantive actions by students; the complexity of the tasks, which corresponds to the scope of the immediate development of future specialists; activity intensity; adequacy of methods, means and organizational forms of training to the setting goals; the usage of various forms of independent work, their gradual complication; creating a favorable atmosphere during training. The basis for choosing the second condition was the fact that interactive teaching methods allow solving the following tasks in a complex: to form students' interest in the discipline being studied; to increase the effectiveness of the process of understanding, assimilation and creative application of knowledge; to develop intellectual independence; to teach to respect the opinion of other team members, to show tolerance to any point of view; develop leadership skills. The third condition was chosen because the main factor in ensuring continuity is the creation of successive connections and pedagogical systems of an educational institution or bordering educational institutions. Thus, the main meaning of the example is that when transitioning from one stage to another, the main components and methods of organization are preserved in the education system, while the connections between the past, present and future are preserved. These connections ensure the combination of new forms of organization and methods with the old ones.*

**Keywords:** *praxeological approach, continuity, interactivity, future primary school teachers, interactive teaching methods, organizational and pedagogical conditions.*

**JEL Classification:** I28, I29

**Formulas:** 0; **fig.:** 1; **tabl.:** 0; **bibl.:** 23

**Introduction** In pedagogy, the pedagogical process (educational) is a factor – «purposeful, consciously organized dynamic interaction between educators and pupils, in the process of which socially necessary tasks of education and harmonious

upbringing are solved» [7, p. 253], – therefore the conditions created for him will be pedagogical. According to S. Honcharenko, the pedagogical process has the following components: goal, task, content, methods, means and forms of interaction between teachers and pupils, and the result [7, p. 253]. Therefore, pedagogical conditions must be related to one, several or all of the mentioned components and are necessary circumstances that contribute to and enable the achievement of the expected result as a result of the implementation of the pedagogical process.

**Literature Review.** Investigating the organization of the educational process, O. Pyura has claimed that it is important to create favorable pedagogical conditions. He has interpreted the term «pedagogical conditions» as a set of interconnected and mutually determined factors that ensure the desired effectiveness of the educational process and contribute to the achievement of the specified goals [15, p. 172]. A. Aleksiuk, A. Ayurzanain and P. Pidkasisty have understood the «pedagogical conditions» as factors that affect the process of achieving the goal, while dividing them into external ones (positive relations between the teacher and the student; the objectivity of the evaluation of the educational process; the place of study, the apartment, climate, etc.) and internal (individual properties of students: state of health, character traits, experience, abilities, skills, motivation, etc.) [12, p. 85].

Organizational and pedagogical conditions are the types of pedagogical conditions that depend on the peculiarities of the organization of the educational process. According to B. Chyzhevsky, organizational and pedagogical conditions have reflected «the functional dependence of the essential components of the pedagogical phenomenon on the complex of objects (things, their states, processes, interactions) in various manifestations» [4, p.82].

**Aims.** Since the organizational and pedagogical conditions affect the educational process, we have considered it important to highlight and justify them in order to ensure the continuity of the professional training of future primary school teachers in the «college-university» system. Therefore, **the purpose of the article** is to substantiate the organizational and pedagogical conditions of the specified process.

**Methods.** To achieve the goal, we have used a set of methods such as: theoretical – analysis, synthesis, comparison in order to determine the state of research problem of continuous education; empirical – pedagogical observation, conversations, interviews, questionnaires, testing – for the analysis of problems of the development of continuous education in the «college-university» system; methods of mathematical statistics.

**Results.** Due to the fact that the subject of the research is organizational and pedagogical conditions, let's focus on their analysis in more detail. Definitions of organizational and pedagogical conditions proposed by other authors have common and specific features. It can be considered common in the definition of the concept of «organizational and pedagogical conditions» that the majority of authors adhere to the position regarding the interpretation of conditions as circumstances of the pedagogical process necessary to achieve its goal. In the further analysis of this concept in the scientific works of different researchers, there are significant discrepancies related to a wide range of studied educational problems. Thus, E. Sinkina has considered

organizational and pedagogical conditions as a set of factors necessary for the formation of abilities and skills, qualities [20].

We understand the organizational and pedagogical conditions as influencing factors on the educational process, which include the organization and methodics of its implementation.

Therefore, the analysis of the interpretation of the concept of «organizational and pedagogical conditions» by different authors makes it possible to separate them into groups. Namely:

- factors of the effectiveness of the internal educational environment, which plays the role of an active beginning of the social existence of the organization;
- organizational resources and activities (class schedule, mode of life of the educational institution, duration of the working week, class size, etc.);
- a set of interrelated circumstances that ensure purposeful management of the educational process (including its financial, personnel, logistical and informational support);
- circumstances of the educational process that ensure the achievement of the educational goal.

**Discussion.** The author of the article has identified the following organizational and pedagogical conditions:

1. *Implementation of a praxeological approach into the organization of the educational process in the «college-university» system.*

2. *Usage of interactive learning technologies in the training of future primary school teachers.*

3. *Ensuring continuity in the «college-university» system during the training of future primary school teachers.*

The final choice of organizational and pedagogical conditions has been made after surveying graduate students, as they are practically ready for professional activity. The construction of the questions related to the problems that we have introduced into the content of the organizational and pedagogical conditions. Questions:

1. What factors of influence on the organization of the educational process do you single out?
2. What do you understand by pedagogical conditions and what types of them do you know?
3. What are innovative technologies, and what innovations would you like to learn while studying in college?
4. What do you understand by the continuity of education?
5. Will you continue your studies at the university?
6. What needs to be changed in the college educational process in order to continue studying at the university?

We have received the following answers to these questions:

Regarding the factors influencing the educational process, 93.54% were singled out pedagogical conditions and improvement of the content of professional disciplines in terms of taking into account modern learning technologies. But the types of pedagogical conditions were named by 19.35% (organizational and psychological-

pedagogical) of students. Among the shortcomings of the educational process, the lack of connection between theory and practice was pointed out. 88.70% of students expressed the desire to introduce innovations into the educational process. The question about the succession interested everyone, although 95.16% of graduates wanted to continue studying at the university. Among the reasons for refusing further education were: to earn money faster, the family is not able to support financially, they believe that they do not have a sufficient level of training to continue their education.

The analysis of the answers of the graduates has showed the correctness of the choice of organizational and pedagogical conditions.

Let's consider the defined organizational and pedagogical conditions in more detail.

The first condition is the introduction of a praxeological approach into the organization of the educational process in the «college-university» system.

Improving the quality and effectiveness of professional pedagogical activity has been possible with the usage of a praxeological approach in the organization of the educational process. Therefore, the problem of finding reserves and ways to increase the effectiveness of pedagogical activity has become especially urgent. This approach has allowed you to carry out a reasonable and competent analysis of the effectiveness of pedagogical activity, which has been carried out both by the teachers themselves and by the administration of the institution, to establish cause-and-effect relationships between pedagogical actions and the results of the pedagogical process, to identify specific reasons for the effectiveness and ineffectiveness of pedagogical activity, to determine real ways its further improvement, make timely correction [8].

The question under consideration has been studied by scientists in Ukraine and abroad. Thus, in the works of L. Romanovska, praxeology in the system of professional pedagogical education has been defined as an important methodological basis for substantiating the specifics of performing correct and effective actions of the future specialist [16, p. 214–216]. An implementation of the praxeological approach is based on combination of the main categories of praxeology and scientific provisions to clarify the essence of professional activity. The subject of its study is ways of achieving a goal in a certain activity, studying the goals and means of actions, evaluating the suitability of the chosen means for achieving the goal. This makes it possible to consider the praxeological approach as a specific way of analyzing and explaining the practical activity of a person in the context of goal setting, rationality, and the effectiveness of his actions.

The main task of the praxeological approach is the study and implementation of the necessary knowledge for the implementation of effective activities, as well as values and content, goals, actions, procedures, results and appropriate correction. According to the vision of N. Satskov, the implementation of the praxeological approach is based on the integration of theoretical knowledge and practical experience, as a specific form of active attitude to the environment, the content of which is certain changes and transformations, those are, skills, goal setting, actions. «Two values – knowledge and effective activity – are the basis of the praxeological approach as a purposeful system of a set of principles that determine the general goal and strategy of



oriented praxeological actions and show how knowledge is transformed into a direct productive force...» the scientist has noted in his work [18, p. 203].

As for the effectiveness of the organization of the educational process in the college, it has been ensured by the implementation of praxeological principles (principles, laws, approaches, methods) in relation to successful educational activities. We agree with the opinion of O. Malikhin that in order to ensure the implementation of praxeological principles, it is necessary to ensure:

- clarity, specificity, interest, accessibility, reality of the educational goal not only for the teacher, but also for students;
- sufficient use of time for solving tasks and carrying out substantive actions by students;
- the complexity of the tasks, which corresponds to the size of the immediate development of future specialists;
- intensity of an activity (optimal pace of the educational process, a reasonable measure of the teacher's requirements, the real number of planned tasks that students can complete in a certain period of time);
- adequacy of methods, means and organizational forms of training to the setting goals;
- the usage of various forms of independent work, their gradual complication;
- creation of a favorable atmosphere during the training (positive microclimate, creative field, a field of professional activity, etc.) [10, p. 72-73].

O. Bartosh has highlighted the skills that are formed using the praxeological approach. They included: analytical, prognostic, constructive, organizational, communicative, diagnostic and reflective [2, p. 14-21].

We have used some of them in our researches. Let's dwell on the characteristics of such skills. Analytical skills include: a critical approach to the study of scientific literature on a given problem; interpretation and analysis of human behavior and relationships. Prognostic skills include: predicting opportunities to improve one's professional skills; predicting the results of professional contacts and relationships. Constructive skills include: formulating tasks for the organization of professional activity; determination of the content of work taking into account an individual approach to them; identifying and finding solutions that require the interaction of all participants (individuals, groups, communities, organizations, etc.); work according to the algorithm of the developed solution and based on practical models.

Organizational skills include: organization and optimization of purposeful professional activity; creation and maintenance of conditions for an effective process of assistance workers.

Communication skills include: management of the communication process; establishment of working conditions in the team; overcoming a negative reaction arising during the professional activity; usage of all forms of communication (verbal, non-verbal, written, etc.).

Reflective skills include: monitoring and evaluating the results of the professional activities of others and one's own, finding ways to correct shortcomings; ensuring

objective self-assessment and continuous educational, professional and intellectual development; analysis of the effectiveness of the tools and methods used in the work.

So, the praxeological approach ensures the introduction of the necessary knowledge for the implementation of effective activities, as well as values and content, goals, actions, procedures, results and appropriate correction and formation of important skills in professional activities.

The rapid change of the modern world requires adaptation of modern youth to new conditions of study, work and life. Therefore, the task of forming the readiness of young people to interact with the surrounding world, making decisions and possessing the most up-to-date information has been particularly urgent. The main point in the social aspect of education is interactivity, which itself should be the primary goal of any educational process. This provides feedback between the learner and the teacher. Therefore, the *second pedagogical condition has been chosen – the usage of interactive learning technologies in the training of future primary school teachers.*

Translated from English, «interactive» means «to be in a constant dialogue, to be an active participant» («inter» – «mutual» and «act» – «to act»). That's why, interactive learning is learning built on the active interaction of a teacher and a student.

An interactive learning is not a new concept in modern pedagogical science. But it takes on a new color with the usage of information and communication technologies of education.

Scientists, such as V. Vyshkivska and O. Shikyrynska have highlighted the main features of interactive:

- expansion of cognitive activity; this means that the educational process is structured in such way that learning is carried out through multilateral communication, creative interaction and group work;
- mutual learning involves the opportunity to express one's opinion and reflect on the basis of one's own experience and knowledge;
- a situation of success is designed to create an atmosphere of goodwill and mutual support. This will provide an opportunity for everyone to feel comfortable, act actively, highlight their own successes and the achievements of the others;
- connecting different types of activity of the participants of the class: physical (motor activity); meaningful (the subject of the lesson); social (an activity in the social environment – interaction, communication, mutual perception);
- various forms of interactive training, like trainings, master classes [22].

Among the teaching methods, we will consider the features that are characteristic of interactive learning.

First of all, let's highlight a peculiarity in the presentation of the material – it is problematic. It ensures a high level of knowledge assimilation, provides an opportunity for creative cooperation of students in the process of mastering new knowledge, forms creative thinking, learning and motivates to acquire new knowledge. The basis for this has been the creation of a problematic situation, which prompts to search solution of the problem. Understanding and solving problem situations by students has occurred independently, but under the general guidance of the teacher in the process of common interaction [13].

The next feature is the correspondence of the content of educational and cognitive activities to the student's practical tasks and functions. This guarantees the formation of students' own perception of the content of their professional activities [19].

Special attention has been deserved to mutual learning, which is the core form of organizing and holding classes using interactive learning methods. An example is the collective (discussion) form, which at the same time does not refute the individualization of learning, but requires a reasonable combination with the frontal form of organization educational and cognitive activities at the lesson.

An important feature of the educational process has been individualization, which ensures the organization of the educational process taking into account the individual peculiarities and capabilities of the student; develops mechanisms of self-control, self-regulation, and self-learning in students [14].

The teacher has been represented as an assistant to the student in the conditions of using interactive teaching methods. Its role is to organize students' interaction with educational material on the basis of cooperative pedagogy [14].

Interactive learning methods, unlike classical ones, allow you to solve the following tasks in a more complex way:

- 1) to form students' interest in the discipline being studied;
- 2) to increase the effectiveness of the process of understanding, assimilation and creative application of knowledge;
- 3) to develop intellectual independence – the ability to individually search for ways to solve a problem;
- 4) to study to respect the opinion of other team's members, to show tolerance for any point of view;
- 5) to develop leadership skills, as students gain experience working in a team, including learning to form their own thoughts, relationships, professional and life skills.

Thus, the introduction of interactive teaching methods has been one of the most important directions for improving the students' training in a modern university and a necessary condition for effective implementation in the future profession.

The third organizational and pedagogical condition involves *ensuring continuity in the «college-university» system during the training of future primary school teachers*.

Different scientific sources have considered the main definitions of the problem of continuous education in different ways. The Ukrainian Pedagogical Encyclopedic Dictionary provides the following definition of the concept of «continuity» in the educational process: it is «consistency and systematicity in the placement of educational material, connection and coherence of degrees and stages of the educational process... can be carried out when moving from one lesson to the next, ... from one school year to the next» (6, p. 309).

The concept of continuity has been considered in the scientific literature for a long time. Some elements of continuity were considered in writings by Jan Amos Comenskiy. He has drawn attention to the fact that taking into account continuity in the organization of educational process contributes to better assimilation of knowledge,

since new knowledge has been based on previously acquired knowledge. Another researcher I. Pestalozzi has expressed the opinion that continuity contributes to the formation of cause-and-effect relationships between natural phenomena and knowledge.

At the current stage of the development of pedagogical science, various modern interpretations of this concept have been considered. So, the meaning of the concept of «continuity». Considerable attention was paid to the study of the concept of «continuity» by national and foreign psychologists, such as: O. Dodonova [5], V. Zvyaginsky [23] and others. The psychological theory of continuity has widely been presented in the researches of S. Rubinstein. The scientist has considered «continuity» as a feature of «the process of personality development, when each stage is a derivative from the previous one, which acts as a condition for the transition to the next, therefore all stages are interconnected» [17, p. 144-148].

We have been impressed by the opinion of M. Mamardashvili that «continuity is «a connection between different stages of the development of society and culture, which consists in the preservation of individual elements or characteristics of the whole in the process of transition to a new state» [11, p.408). E. Baller has considered continuity as «a connection between different stages of being and cognition, the essence of which consists in one or another 36 components of the whole or individual aspects of its organization, functioning...» [1].

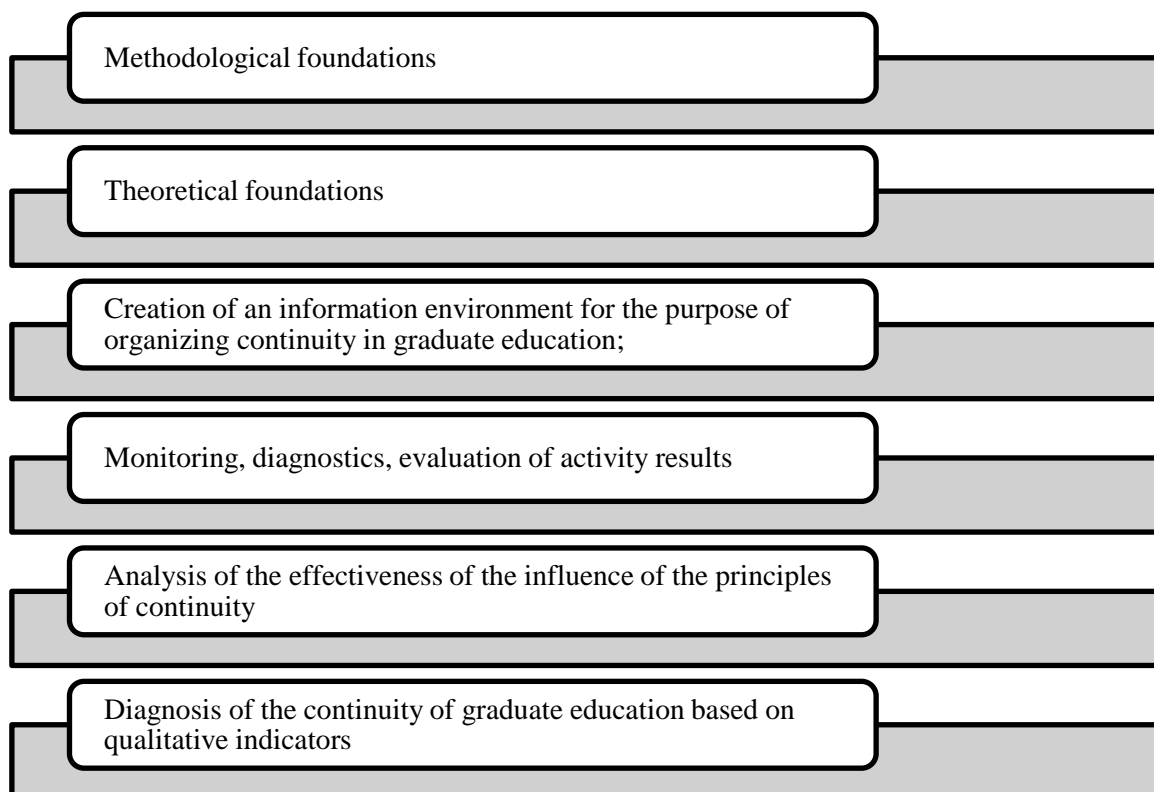
Having analyzed the definitions of the concept of «continuity» presented in the psychological and pedagogical literature, we came to the conclusion that «continuity» should be understood as a characteristic of scientific connections between the levels of their manifestation, interaction, and development, which contributes to solving the tasks of forecasting their future.

Psychologists have given specific definitions of this concept, although they have a common basis – these are connections. Thus, in the publications of A. Brushulinskyi, continuity has been considered as «the regularity of the psychological development of the individual, the essence of which consists in the close interaction of internal and external motivating factors» [3]. The psychologist-scientist has claimed that continuity is a regulator of a person's transition from one stage of his development to another, since at each stage it is necessary to harmonize the features of human development. We have found a continuation of this opinion in the writings of V. Kolesnikov, who considered continuity as «a connection between different states or stages of development» [9]. L. Vygotsky has observed the relationship between education and the psychological development of the individual. At the same time, L. Vygotsky has noted that education «should be oriented towards yesterday's and tomorrow's children's development», that is, development should be accumulated consistently on the basis of previously formed personality properties. L. Vygotsky also has noted that «you can teach a child only because he is able to learn» [21, p.252). We have traced the confirmation of these opinions in the works. This means that education should be consistent and continuous. In his works D. Elkonin has pointed out the relationship between a person's mental development and meaningful generalization at each stage.

In general, scientists note that the scientific and psychological concept of «continuity» is the main factor in the phasing of personality development, because the interpretation of «continuity» describes the process of a certain formation of a personality (teacher, lecturer, student, person).

In our research, we have interpreted «succession» as a regulator of a person's transition from one stage of his development to another, which ensures the strength of the connection of units at different levels.

In the works of scientists, we have found a model for ensuring and achieving continuity in the degree chain of education, which consists of (Fig. 1) [8]:



**Figure 1. The model for ensuring and achieving continuity in the degree chain of education**

*Source: developed by the authors*

*methodological foundations* (laws, regularities, philosophical principles and pedagogical approaches that are characteristic of teachers' pedagogical activities, students' educational activities);

*theoretical foundations*: effective organizational activity of heads of educational institutions and pedagogical activity of teachers, in mastering the criteria and indicators of the formation of continuity in the organization and self-organization of students' educational activities;

*creation of an information environment for the purpose of organizing continuity in graduate education*;

*monitoring, diagnostics, evaluation of activity results*;

*analysis of the effectiveness* of the influence of the principles of continuity: pedagogical, didactic, psychological, social, organizational and management, medical, ecological, economic;

*diagnosis of the continuity* of graduate education based on qualitative indicators, mathematical evaluation of the effectiveness of the continuity of education, assessment of the teachers' and students' achievements in continuity of graduate education.

The main factor in ensuring continuity has been the creation of successive connections in the pedagogical system of the main educational institution or bordering educational institutions. This has raised up the task of classifying these relationships, as well as investigating them and their pedagogic, didactic, psychological, organizational-management, and social mechanisms of formation. Complexity, multiplicity in continuity require modeling in its practical implementation.[9, p. 3).

An example of such interaction is the «college-university» complex. It is supported by a network of college and university educational systems. Their implementation is based on the principle of subordination: the next link dictates all the requirements of the previous one.

Thus, the main meaning of the continuity is that during transition from one stage to another, the main components and methods of organization are preserved in the educational system, while the connections between the past, present and future are also preserved. These connections ensure the combination of new forms of organization and methods with the old ones. At their junction we can clearly see the need for improvement of the educational process, outlined the ways of improvement, forms, methods and means. This allows us to determine what should be taken into the future and what should be left as a basis.

**Conclusion.** Summarizing the above mentioned, we would like to note that according to the results of a survey of college and university students, the introduction of selected organizational and pedagogical conditions into the educational process has been relevant. And our further research will provide an opportunity to check their effectiveness.

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*Received: August 15, 2022*

*Approved: September 25, 2022*

## SCIENTIFIC AND PEDAGOGICAL IDEAS OF VASYL SUKHOMLYNSKYI AND UKRAINIZATION: AREAS OF INTERSECTION

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**Abstract.** The article describes the periodization of the pedagogical activity of V. Sukhomlynskyi, which is based on published and archival sources in the Ukrainian studies dimension and the leading factors in the formation of the personality of a well-known teacher are clarified. Special attention is given (paid) to the scientific-pedagogical concept developed by V. Sukhomlynskyi, which counteracted the efforts of the communist-imperial state apparatus, aimed at the assimilation of the Ukrainian people, at erasing its inherent national features. Pedagogical activity of Vasyl Oleksandrovysh was aimed at exalting the Ukrainian nation, forming patriotism; he wanted that every teenager gradually develops a personal attitude towards the Motherland: a desire, a spiritual urge to confirm its dignity, greatness, honour, glory, and power. An analysis of V. Sukhomlynskyi's creative heritage proves that the formation of his pedagogical views began in 1945–1948. Despite the fact that V. Sukhomlynskyi was educated and brought up under the conditions of a totalitarian regime aimed at Russification, he managed to remain a true patriot, a Ukrainian intellectual who cheered for his native people. The pedagogical heritage of V. Sukhomlynskyi must be considered in the context of the historical period when his formation took place as a teacher and scientist. Simultaneously with the spread of Ukrainization of education, the issue of providing teaching staff for newly created Ukrainian schools became acute. In particular, in 1923, the shortage of national teaching staff was catastrophic – with a need for 100,000 teachers, there were actually 45,000, a significant percentage of whom had a low level of pedagogical and general education. It should be noted that during the early period of Soviet history (1921–1926), the intellectual atmosphere of society was quite free. The national idea was not rejected, but only combined with the idea of internationalism.

**Keywords:** Vasyl Oleksandrovysh Sukhomlynskyi, pedagogy of V. Sukhomlynskyi, Ukrainian studies dimension of V. Sukhomlynskyi's pedagogy, Ukrainianization, historical period, Motherland, internationalis.

**JEL Classification:** I28, I29

**Formulas:** 0; **fig.:** 0; **tabl.:** 0; **bibl.:** 21

**Introduction.** The specificity of historical-pedagogical research is revealed in the combination of its internal logic and principles. The implementation of this work is possible only under the condition of using the principle of historicism in accordance with the features of the personalistic direction of historical and pedagogical research, which will make it possible to reveal and interpret the regular connections between the externally dispersed facts and phenomena of the educational experience of our people, as well as predict the use of that knowledge that can to serve in the conditions of the revival of national consciousness and spirituality and to explore the pedagogical



theories of "the great humanist of the age, the national national pedagogue" V. Sukhomlynskyi [9, p. 22].

**Literature Review.** Adherence to the principle of historicism ensures: 1) the objectivity of the study of the ideas of Ukrainian folk pedagogy in the creative heritage of V. Sukhomlynskyi; 2) carrying out a systematic analysis, a balanced assessment of socio-economic and political factors that affected the formation of the teacher's personality, allow to comprehensively understand the specifics of the chosen era; 3) establishing the time sequence of the stages of educational activity of V. Sukhomlynskyi, taking into account the specifics of each of them, the peculiarities of internal trends and contradictions in connection with other historical phenomena and facts; 4) adequate disclosure of the ideas of Ukrainian folk pedagogy in the creative heritage of V. Sukhomlynskyi, taking into account their evolution, the dynamics of changes within a certain historical period.

**Aims.** The observation of pedagogical activity of V. Sukhomlynsky. The analysis of the formation of Ukrainian pedagogical thought and Ukrainian studies as a science.

**Methods.** In the methodology, there are different approaches. As O. Danilyan and V. Taranenko stated, that "the historical method involves consideration of the objective process of development of the object of its real history with all its twists and turns. This is a certain way of reproducing in thinking the historical process in its chronological sequence and specificity" [4, p. 294]. That is, the historical method of scientific knowledge is used only where the history of the object becomes the subject of research in one way or another [3].

The logical method is a reflection of the historical process in an abstract and theoretically consistent form. That is, the logical is, in its essence, also historical, but freed from coincidences, details, and zigzags. Historical and logical methods of research are the same, because with their help, one and the same object is studied, the genesis of its emergence and development [4, p. 294].

**Results.** According to O. Klymeniuk, the use of the principle of historicism in historical-pedagogical research will allow "to select positive experience in solving certain social problems "..."; to avoid repeating the mistakes that existed in the previous social practice; to develop an algorithmic system of measures for making progressive decisions in specific situations of the development of any society; correctly understand the previous stages of the development of society; objectively assess its present and most reliably predict the future" [8, p. 63–64].

The analysis of the works shows following periods of teacher formation:

I. 1918–1933 – the formation of the personality of V. Sukhomlynskyi during the period of the beginning of Soviet "Ukrainization", the stormy period of the national and political restoration of Ukraine and the corresponding outbreak of ethnologization of humanitarian science. At that time, Ukrainian studies acquired the characteristics of ethnological science;

II. 1934–1947 – the establishment of the teacher's personality and the beginning of his professional activity;

III. 1948–1960 – the establishment of V. Sukhomlynskyi as a teacher-scientist: defense of a candidate's thesis (1955), awarding the title of corresponding member of

the Academy of Pedagogical Sciences of the RSFSR (1957), awarding the title "Honored Teacher of the Ukrainian SSR" (1958 ) – the period of ideological ("Khrushchev") thaw – caused a new surge in the development of Ukrainian studies;

IV. 1961-1970 – discovery of the talent of an innovative teacher, researcher, publicist, children's writer. Awarded the title "Hero of Socialist Labor" (1968), elected a corresponding member of the Academy of Pedagogical Sciences of the USSR (1968); stagnation in social life, which led to a significant detachment of Ukrainian studies from life and its tendency to artificial theorizing.

Thus, studying at school – the first period of the formation of the personality of V. Sukhomlynskyi – falls on the period of the so-called Soviet "Ukrainization" (1926–1933). Actually, "Ukrainization" began with the resolution of the Plenum of the Central Committee of the RCP (b) "On Soviet Power in Ukraine" dated November 29, 1919, which gave a certain stimulus to national and cultural revival [5, p. 56].

In the 1920 resolution "On the Introduction of the Ukrainian Language in Schools and Soviet Institutions" it was noted that "the Ukrainian language, as the language of the majority of the population of Ukraine, and the Russian language, as the common language of the Union, have national importance in the Ukrainian SSR, and they must be taught in all schools – educational institutions of the Ukrainian Soviet Socialist Republic. The People's Commissariat of Education entrusted the teaching of academic subjects in educational institutions to local councils of worker-peasant and Red Army deputies" [15].

In 1923, the decree of the Russian Communist Party (Bolsheviks) started the Ukrainization of school, educational and cultural institutions, and the decision of the Central Executive Committee and the Council of People's Commissars of Ukraine dated August 1, 1923 – the Ukrainization of the state apparatus.

The decree "On Measures in the Matter of Ukrainization" (July 27, 1923) decreed "to complete the translation of social education institutions into the Ukrainian language within the next 2 years" [15]. The policy of Ukrainization consisted in mastering the Ukrainian language, knowledge of Ukrainian history and culture. There was a need to spread the Ukrainian language in the country, given the actual superiority of the Russian language.

The nationally conscious intelligentsia, educators gladly welcomed this policy, had high hopes for it, in particular, M. Hrushevsky wrote in a letter to V. Kuziv: "I attach more importance to the moral and cultural education of our people than to the political issue" [1, p. 281].

**Discussion.** Problems of Ukrainization were regularly discussed at Politburo meetings. During 1923–1925, the Central Committee of the CP(b)U issued several decrees, orders, and instructions regarding Ukrainization, which took place under administrative pressure and within the framework of strict ideological restrictions with threats of dismissal. Instead, the General Secretary of the Central Committee of the CP(b)U L. Kaganovych did everything to empty the content of Ukrainization, direct it into the ideological sphere, demoralize the bearers of culture, and limit their creative freedom. In contrast to him, appointed in 1924 to the post of People's Commissar of

Education of the Republic, O. Shumsky sought to spread Ukrainization in the realm of education, culture, and science.

According to Ya. Dashkevych, "the flourishing of social and cultural life ... was not the result of the national policy of the party, known as Ukrainization... The social and cultural flourishing was not a consequence of Ukrainization, but on the contrary – the pressure of the Ukrainian national element on the party was so strong that it was forced to go for national reform under the disorienting name of Ukrainianization" [6, p. 79].

The intellectuals of that time positively perceived the shift in the national policy of the CP(b)U. In particular, V. Vernadskyi wrote: "Ukraine, it seems to me, has now strengthened nationally, and the communists there are forced to reckon with the national movement more than in Russia" [2, p. 220].

From February 1927, M. Skrypnyk became People's Commissar of Education of the Ukrainian SSR, who continued O. Shumsky's work on the Ukrainization of education. However, in the same 1927, the first devastating blow to Ukrainization was dealt – on July 6, the resolution "On ensuring the equality of languages and promoting the development of Ukrainian culture" was adopted. This resolution canceled all previous legislative orders on Ukrainization.

The beginning of the attack on Ukrainization was two articles by N. Kaganovych published in the "Banner of Marxism" (No. 1, No. 3 for 1930) – "Against 'populism' in linguistics (Where is the Ukrainian literary language going)" and "A few words about dictionaries".

At the 11th Congress of the CP(b)U, which took place in June 1930, the directions of future devastating attacks on Ukrainization were determined. Repressions against its active supporters began in the fall of 1930. The opinion of O. Kucheruk is correct that Ukrainization in Ukraine, initiated by the Bolsheviks, was aimed at identifying nationally conscious people in order to destroy them [10, p. 29]. During 1930-1933, many pedagogues, teachers, especially teachers of Ukrainian studies, were repressed. At the end of the 30s of the XX century entire branches of science – sociology, statistics, pedology, ethnography, demography, regional studies – which were declared "bourgeois-nationalist", stopped their development.

An increase in the level of economic life was observed (thanks to NEP) and the confidence of the Ukrainian people in their own strength appeared, a sense of personal and national dignity was revived [11, p. 167].

The memories of O. Ogloblin deserve attention: "The creative union of national and cultural interests and aspirations was characteristic of Ukrainian professorships, especially young ones, and students of the 1920s. We, the professors of the Kyiv Institute of International Studies at that time, were also very young in age, many of us were not much different from our students... We were united by an even greater goal and love for science, an ardent desire for scientific truth. And most of all, deeply and intimately, we were united by common national and cultural, and sometimes political interests, thoughts, dreams and aspirations - the consciousness and feeling of our national duty to Ukraine and the Ukrainian people. We did not yet have the 'fear

complex" that was massively instilled by the Soviet authorities in the 1930s" [13, p. 224].

The second period of the formation of the personality of a teacher - admission to preparatory courses at the Kremenchug Medical College, transition to study at a pedagogical institute, study at the language and literature faculty of the same educational institution, moving and completing studies at the Poltava Pedagogical Institute. The beginning of Vasyl Oleksandrovysh's professional activity coincides with the period of repression against the nationally conscious intelligentsia. A new, Soviet system of education and upbringing is being implemented in schools, which aims to emasculate the entire nation. In the work "The Way to the Heart of a Child", which saw the light of day in 1963, the teacher recalls how he "with tears in his eyes" convinced his colleagues who accused him of having too close a relationship with the students whom the young teacher was teaching to cut pipes and play them, and he conducted the classes under the open sky [21, p. 4].

It should be stated that neither the anti-Ukrainian policy of the Soviet state nor the "fear complex" prevented the young teacher from passing all the subjects for the third and fourth courses, state exams, and in 1938 receiving a diploma of graduation from a higher educational institution within three months. And his work "Realistic representation of the post-reformed village in the works of Panas Myrny" was rated the highest.

About the years of study at the university, V. Sukhomlynskyi recalled: "I was lucky enough to study at the Poltava Pedagogical Institute for two years ... I say it was lucky, because we, twenty-year-old young men and women, were surrounded at the Poltava Pedagogical Institute by an atmosphere of creative thinking, curiosity, thirst for knowledge" [ 7].

From 1938 to 1941, Vasyl Oleksandrovysh worked at the Onufriiv secondary school as a teacher of Ukrainian literature, and after some time – as the head of the school's educational department. With the beginning of the war, in July 1941, he was drafted into the army. After completing short-term military and political courses in Moscow, he went to the front with the rank of junior political engineer. After being wounded in February 1942 and receiving long-term treatment, he was appointed to the position of director of a secondary school and teacher of Russian language and literature in the village of Uva, Udmurt ASSR.

The third period of formation of V. Sukhomlynskyi as a teacher began in 1944, when he, together with his wife, returned to Ukraine, to the Onufriivsky district of the Kirovohrad region, where for four years he worked as the head of the district department of public education and a school teacher. In 1945, the publishing house "Udarna pratsia" published his first scientific article – "Before the new academic year". Vasyl Oleksandrovysh already had a clear idea of the direction of his activity when he was asked to be appointed the director of the Pavlyshka secondary school:

- 1) organization of work in a team (meaning pedagogical, parental and student);
- 2) ensuring a high level of knowledge of schoolchildren, their depth and comprehension;
- 3) organization of educational work at school:

- ensuring a high level of knowledge of schoolchildren, their depth and comprehension;
- organization of educational work at school:
- education of patriotism;
- education of respect for work;
- education of respect for parents;
- moral education.

It is worth emphasizing that the 1950s and 1960s. – the period of the so-called "Khrushchev thaw", when de-Stalinization and liberalization of society took place, but it was during this period that the state policy of Russification and active falsification of history intensified. At the same time, the teacher at the Pavlyshka school implemented the idea of national-patriotic education of the youth, improved the methodology of studying the Ukrainian language. Thus, in the article "Notes of a History Teacher" Vasyl Oleksandrovysh recalls: "The historical circle and the historical lecture, organized in our school, played a significant role in deepening the students' knowledge. On the territory of our district there are places where the battle of Bohdan Khmelnytskyi with the Poles took place. Remains of a gunpowder factory where gunpowder for the Zaporozhian army was made in 1640–1650 have been preserved. Members of the historical group conducted a tour of these places. Students made notes and sketches on the spot" [17].

As for language education, the teacher considered it necessary to focus on creating a system of oral and written exercises, on the formation of logical and stylistic literacy of students, emphasizing that a special section has been included in the work plan of the school team – "the struggle for the culture of students' oral answers and the culture of their written speech" [16].

In 1955, Vasyl Oleksandrovysh defended his candidate's thesis on the topic "The director of the school is the head of the educational process."

The results of his work are reflected in the books published in the 1950s and 1960s: "Education of collectivism among schoolchildren" (1956); "Labor education in a rural school" (1957); "Pedagogical team of the secondary school" (1958); "Education of love and willingness to work in students" (1959); "Education of the communist attitude to work" (1959); "Education of Soviet patriotism among schoolchildren" (1959); "School director's work system" (1959); "Believe in a Man" (1960); "How we raised a brave generation" (1960).

The fourth period of formation of V. Sukhomlynskyi as a teacher is the 70s of the XX century. It was during this period that his talent as a teacher-innovator, researcher, publicist, and writer manifested itself.

During 1961–1970, they saw the world of work "Education of moral incentives for work in the younger generation" (1961); "Spiritual world of a schoolboy" (1961); "Formation of communist convictions of the young generation" (1961); "A person is unique" (1962); "Work and Moral Education" (1962); "Thought about man" (1963); "Moral ideal of the young generation" (1963); "The Way to the Child's Heart" (1963); "Personality Education in the Soviet School" (1965); "So that the Motherland lived in the heart" (1965); "Moral Precepts of Childhood and Youth" (1966); "Difficult Fates"

(1967); "Pavlyshskaya secondary school" (1969); "I give my heart to children" (1969); "Birth of a Citizen" (1970).

V. Sukhomlynskyi summarized his work experience, education and upbringing system in the works "Pavliska Secondary School" and "Conversations with the Young Director", in which he sought to talk about "the efforts of the teaching staff in raising a comprehensively developed person, ... to explain the methods used, ... to reveal their internal connections and interconnections" [19, p. 7], to give advice and recommendations on specific problems of the educational process and its management, which are based "on many years of personal experience... and on the data of modern science and the generalization of the experience of the best school leaders in the country" [20, p. 393].

V. Sukhomlynskyi built his pedagogical system of work at the school as a unity of a team of teachers, parents, and students to achieve the goal of providing aesthetic, labor, physical, moral, and intellectual education.

In the 1960s and 1970s Russification policy intensified in the national republics of the USSR. Thus, in 1967, Russian-language scientific journals and periodicals published in the Ukrainian SSR already outnumbered Ukrainian-language ones (respectively, 197 of the former were published, 126 of the latter). Instructions came from Moscow regarding the declaration of the Russian language as the second native language of the non-Russian peoples of the state.

This thesis was first announced by M. Khrushchev at the XXII Congress of the CPSU in 1961: "One cannot fail to note the growing desire of non-Russian peoples to master the Russian language, which has actually become a second native language for the peoples of the USSR, a means of their international communication, the involvement of every nation and nationalities to the cultural achievements of all peoples of the USSR and to world culture. The process of voluntary learning of the Russian language, which occurs in life, has a positive meaning for the development of international cooperation" [12].

In 1962, the program "Regularities of the development of national languages in connection with the development of socialist nations" was published in the journal "Linguistic Issues". On its basis, the languages of the peoples of the USSR were divided into promising and non-promising ones. The Ukrainian language was included among the latter. The refusal to learn the native language in schools was promoted and approved.

On the other hand, at the Pavlyshka school, V. Sukhomlynsky emphasized the mastery of the native language and the literary education of students, which was based on the works of classical Ukrainian literature, as well as oral folk art. The teacher wrote: "I remember with great warmth the Poltava Pedagogical Institute that I graduated from, the teachers of pedagogy, literature, and history. Here, pedagogy was not dry conclusions, but a living, vivid story about the art of education, about methods of influencing consciousness and feelings. Here I was taught to love the word. I will never forget how we wrote works at the institute about the evening heat and the January blizzard..." [19, p. 32].

When starting work, Vasyl Oleksandrovysh had a clear system of education, which was based on "the ability to read, understand, feel the primary source" [19, p. 45]. This concerned not only students, but also teachers and parents. The teacher believed that "the crucial condition for success in teaching literature in our school is considered to be love for words, a sense of the beauty of words. The entire team constantly strives to improve the level of its language culture. Illiteracy, indistinctness of speech, inaccuracy are equated with ignorance" [19, p. 45].

He treated the literature lesson as a means of forming a worldview. "Having awakened in the student's heart a feeling of admiration for the ideal of goodness, honor, truth, beauty, a feeling of hatred for evil, injustice, ugliness, the teacher of literature ensures that each student independently reads works of art, thinks about social, moral, aesthetic problems, about the future of his people and their personal future. The works, which by their ideological and artistic value are teachers of life, become the table book of young men and women" [19, p. 225].

Equally important was the students' mastery of their native language, which, according to the teacher, determined the richness and breadth of an individual's intellectual and aesthetic interests [14]. Teachers actively worked on increasing the vocabulary of school students, starting from the first year of study. For this purpose, personal spelling dictionaries, literary diaries were created, exercises were performed, lessons were held in the bosom of nature, which were called a journey to the source of thought, etc. [14].

The teacher emphasized that the ability to speak correctly is a whole branch of educational work on which the spiritual life of the entire school team depends [19, p. 45–231]. He considered understanding the emotional nuances of the native word to be the beginning of arts, and the ability to read – the basis of a full-fledged intellectual life and the spiritual need of students.

So, in the native language, the thoughts and aspirations of the people expressed by it, in the treasures of Ukrainian and world literature, V. Sukhomlynskyi saw the powerful educational power of the mother and father tongue.

Knowing the idea of the Motherland, experiencing feelings of love, gratitude, admiration, anxiety, concern for its present and future, intransigence towards its enemies and readiness to give one's life for it (an honest, noble, free life is impossible without giving one's whole self to the Motherland), a person in during adolescence, he gets to know himself, asserts his dignity" [18, p. 467].

**Conclusion.** Accordingly, we can conclude that the years of study of V. Sukhomlynskyi were spent among nationally conscious teachers who sought to instill the best qualities in their students – love for Ukraine, for their native land, culture, history, etc.

Thus, the scientific-pedagogical concept developed by V. Sukhomlynskyi, in our opinion, counteracted the efforts of the communist-imperial state apparatus, aimed at the assimilation of the Ukrainian people, at erasing its inherent national characteristics. His bold statements about his native Motherland, language, human morality, and spiritual values alarmed "Great Russian" teachers, who subjected them to merciless

criticism and condemned the humanitarian system of education implemented in the Pavlyshka school as opposed to the Soviet system of education.

It is worth emphasizing that Vasyl Oleksandrovych struggled with the formal, in particular, formal-grammatical approach to teaching the native language at school, and especially in its elementary level, where such an approach is very harmful. With this, he continued the work started in the 50s, ahead of time, ingeniously predicting systemic, personal-activity, axiological, cultural approaches to the education of secondary school students, which are already mentioned in modern psychological and pedagogical research.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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*Received: August 20, 2022*  
*Approved: September 27, 2022*



# PEDAGOGICAL CONDITIONS FOR TRAINING FUTURE PHYSICAL EDUCATION TEACHERS FOR PROFESSIONAL ACTIVITY BASED ON A DIFFERENTIATED APPROACH: IMPLEMENTATION AND THEIR EFFECTIVENESS

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**Abstract.** *The article examines the peculiarities of the training of future teachers of physical culture based on the principles of a differentiated approach. The determination of the effectiveness of the implementation of pedagogical conditions for the training of future teachers of physical culture based on a differentiated approach was chosen as the aim of the research. Analysis, synthesis and modeling methods were used to study the state of research. The results of our research was carried out with the help of empirical methods: pedagogical observation, questionnaires, interviews, testing, the method of experimental evaluations. Mathematical statistics methods were used to process the research results. Factors influencing such a process have been determined, among which a significant role is assigned to pedagogical conditions. An analysis of various pedagogical conditions was carried out, among which the following were selected and adapted to the subject of the study: ensuring students' motivation for classes by using a differentiated approach in classes on preparation for sports and pedagogical activities; improvement of the content of sports and pedagogical activities based on the principle of a differentiated approach; the use of modern information technologies for the implementation of a differentiated approach in training classes for sports and pedagogical activities; the use of interactive forms and methods of learning in the educational process, which allow a wider application of a differentiated approach in preparation for sports and pedagogical activities. Each pedagogical condition was implemented in lectures and practical classes. The effectiveness of the components of the training of future physical culture teachers (motivational, activity and content) has been proven. Those components are consistent with the selected pedagogical conditions. In order for students to master the practical material, training, general development and exercises on devices were differentiated. Differentiated tests have been developed to determine the readiness of future teachers for sports and professional activities. An electronic course was developed, for which the SunRav BookOffice program was used.*

**Keywords:** *future teachers of physical culture, sports-pedagogical activity, differentiated approach, pedagogical conditions, modern technologies, forms and methods of education.*

**JEL Classification:** I28, I29, L83

**Formulas:** 0; **fig.:** 1; **tabl.:** 1; **bibl.:** 8

**Introduction.** The effectiveness of training future specialists depends on many factors. In the conditions of the new Ukrainian school, the requirements for teachers, the level of their professional training, and professional competence are increasing. This also applies to physical education teachers. Increased requirements are placed on them, since the physical health of the younger generation depends on their level of readiness. A physical education teacher must have the ability to distribute the physical load on each individual student, depending on his physical capabilities. And for this, the teacher must have knowledge of individualization and differentiation in the distribution of loads for each student. A differentiated approach creates conditions for an even distribution of loads during physical education lessons and extracurricular activities. The implementation of this approach allows you to cover the whole class with exercises, providing the opportunity for all students to participate in their

performance in accordance with their physical capabilities. In addition, the implementation of a differentiated approach relieves the moral stress of students, because they are sure that they will fulfill the exercises. This is the importance of a differentiated approach in the training of physical culture teachers, which, in combination with correctly selected pedagogical conditions, has a positive effect.

**Literature review.** The problem of high-quality training of specialists has always been in the field of view of scientists, among whom a significant contribution was made by pedagogues-scientists: M. Danylko, L. Zelenska, I. Zyazyun, N. Nychkalo, T. Osadcha, S. Sysoeva, L. Sushchenko, B. Shiyan and others.

Recent studies are aimed at finding new educational technologies for the training of specialists in humanitarian (I. Glazkova, A. Stareva, V. Bazurina, A. Akusok, O. Dubaseniuk), technical (L. Kostelna, E. Neroba, S. Litvinchuk), physical and mathematical (L. Breskin) profiles. The problem of training physical culture teachers was considered in detail in the works of O. Alekseev (use of the principle of individualization by physical culture teachers in working with students), I. Dubogai (general problems of training future physical culture teachers), G. Kondratska (formation of ethical culture), Yu. Moseichuk (ways to increase professional competence), E. Pavlyuk and O. Pavlyuk (innovative technologies) in the training of physical education teachers.

**Aims.** The determination of the effectiveness of the implementation of pedagogical conditions for the training of future teachers of physical culture based on a differentiated approach was chosen as the aim of the research.

**Methods.** Analysis, synthesis and modeling methods were used to study the state of research. The results of our research was carried out with the help of empirical methods: pedagogical observation, questionnaires, interviews, testing, the method of experimental evaluations. Mathematical statistics methods were used to process the research results.

**Results.** Based on the analysis of psychological and pedagogical literature, it was determined that pedagogical conditions have a significant influence on the effectiveness of training future specialists. Therefore, it was determined which pedagogical conditions would be effective for this process. The analysis of the conditions encountered in the research of scientists allowed us to identify those that can be adapted to the conditions of differentiation of the training of future teachers of physical education. The following conditions were chosen: ensuring students' motivation for classes by using a differentiated approach in classes on preparation for sports and pedagogical activities; improvement of the content of sports and pedagogical activities based on the principle of a differentiated approach; the use of modern information technologies for the implementation of a differentiated approach in training classes for sports and pedagogical activities; the use of interactive forms and methods of learning in the educational process, which allow a wider application of a differentiated approach in preparation for sports and pedagogical activities.

The effectiveness of the pedagogical process is determined by the final result. Let's consider how the selected pedagogical conditions were implemented and how effective they were.

Implementation of the first pedagogical condition. The issue of personal motivation in the process of professional training of students is considered in the works of A. Verbytskyi. [1], E. Ilyina [2], I. Kasyanenko [3], L. Romanyshina [4], O. Khorokholets [5] and others. Motivation is an important component of a future teacher's readiness to apply a differentiated approach.

According to E. Zakharina, the formation of the motivation of the future teacher of physical education requires: acquisition of knowledge, abilities, skills to perform their professional tasks; stimulation by teachers of creative organization of educational work, encouragement to perform independent work [6].

In the process of a formative experiment in EG, we tried to motivate students to take classes in sports-pedagogical activity (hereinafter SPD) by forming in them a positive attitude towards the chosen profession. During the training, guided by the principle of consciousness and activity, the educational material was explained, including each considered issue regarding its importance for the future pedagogical activity of the teacher. Much attention was paid to the internal (aspiration to be a physical education teacher, a sense of satisfaction from the chosen profession) and external (lectures, practical classes when studying the disciplines: anatomy, physiology, biomechanics, theory and methods, sports games, athletics) activities.

Separately, students' motivation was formed through the use of incentives and encouragements for performing more complex creative tasks.

The implementation of the second pedagogical condition refers to the improvement of the content of SPD based on the principle of differentiated education. For example, in gymnastics classes, it was carried out by filling it with tasks that allowed each student to progress in relation to the requirements set before him by the academic discipline, as well as in terms of his professional growth.

Students completed tasks by testing. In accordance with the topics of the theoretical block, we developed 250 test tasks on the material of gymnastics, which were divided by levels of difficulty, which allowed students to choose tasks according to their level of knowledge at the time of writing the modular control or test. In order to better master the educational material, we developed a manual on the theory of gymnastics from which students could gain relevant knowledge.

In order for students to master the practical material, training, general development and exercises on devices were differentiated.

Training exercises:

– to differentiate tasks for identified subgroups according to the existing level: "low", "medium", "high":

1. Performing the task in a subgroup of 3-4 students.
2. Performing the task in a subgroup of 6-8 people
3. Performing the task in a group (grade 1 - for the ability to tell, 2 - for the ability to conduct, 3 - for the ability to teach).

– the following sequence of study of the formation exercises section is proposed: formation techniques on the spot, lining up and re-lining, moving, opening and closing.

General developmental exercises:

– to differentiate tasks for identified subgroups according to the existing level: "low", "medium", "high":

1. Performing the task in pairs (4-5 repetitions).

2. Performing the task on a subgroup.

3. Performing the task in a group (grade 1 - for the ability to show and tell, 2 - for the ability to conduct, 3 - for the ability to correct mistakes.

– the following sequence of studying the methods of general developmental exercises is proposed: separate, separate-stream, stream, pass-through, game, etc. During the performance, use exercises: with a gymnastic stick, a ball, with a change of places in rows and columns, with a bench, on a bench, near the gymnastic wall, on the gymnastic wall, in pairs, complexes for different age groups with objects and without objects.

Exercises on devices:

– to differentiate tasks for identified subgroups according to the existing level: "low", "medium", "high":

1. for the technique of performing exercises on gymnastic equipment,

2. for assistance and insurance in the process of performing gymnastic exercises,

3. for knowledge of the methodology of teaching exercises.

– the following study sequence is offered: Performance technique and teaching method of basic elements on gymnastic devices. Mastering the basic methods of assistance and insurance. Methods of teaching the elements of the Comprehensive program of physical education of secondary schools in grades 1-11. Compilation of approximate training combinations on gymnastic devices.

Implementation of the third pedagogical condition. At the current stage of education development, the informatization of society has caused a sharp increase in the use of modern information technologies in education. New ways of obtaining information and knowledge are emerging. In the future, the specific weight of the ways of such perception of information, including educational information, will steadily grow. There are objective grounds for the formation of scientific and educational activities of higher educational institutions with the mandatory use of modern information technologies [1].

In the process of creating an electronic course, we used the SunRav BookOffice program. The software shell consists of two parts that can work independently of each other.

SunRav BookEditor – a program for creating and editing books with a built-in spell check system, allows you to create links from anywhere to book sections, to other books, to tests, to Internet pages or to any other documents. It is possible to open links in pop-up windows, the appearance of which can be customized to your liking. With its help, you can create electronic books, manuals, dictionaries, encyclopedias and store them in various formats. A convenient and simple editor for work will allow you to comfortably organize educational and methodological activities [6].

With the help of SunRav TestOfficePro, knowledge testing in educational disciplines was organized and conducted, as well as for educational purposes. The program is easy to use, has a simple interface and a wide variety of test tasks, in which

you can change the type of answer, limit the time of the answer, the value of the question in points. It is also possible to use pictures and video materials of different formats in the tests.

Currently, there are programs in the educational space that allow you to combine various types of tasks and make the learning process convenient for teachers, easy and accessible for students. At the Ternopil National Pedagogical University named after V. Hnatyuk the Moodle software is used. It precisely performs these functions and was created for a full-fledged interactive educational and methodological complex.

Summarizing the above, we note that the use of information technologies significantly improves the educational process of students, makes it more interesting, and education itself becomes more accessible. But in our opinion, the use of advanced educational technologies should be harmoniously combined with practical training in sports disciplines. And only under this condition is it possible to achieve the maximum result from the educational process, namely the formation of a future teacher of physical education.

Implementation of the fourth pedagogical condition. Interactive learning is a special form of organizing cognitive activity that has a specific, foreseeable goal - the creation of comfortable learning conditions under which each student feels successful, intellectual ability [7].

Interactive training in physical education, in particular in the cycle of sports and pedagogical disciplines, involves the formation of new experience for students through their direct practical involvement in classes. Having a certain level of knowledge and experience, they skillfully perform tasks, separate educational functions of the teacher, thereby teaching and learning themselves. This solution of educational tasks contributes to students' motivation for classes, their creative and personal growth.

To divide interactive technologies into groups, we will use the classification according to O. Pometun and L. Pyrozhenko [7], which, depending on the purpose of the lesson and the forms of organization of educational activities, divide them into four groups:

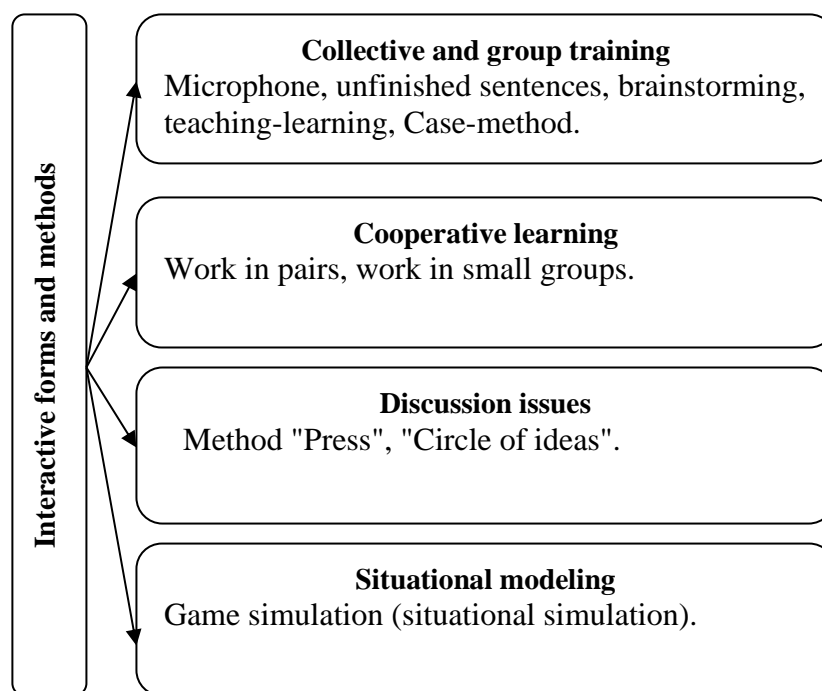
- interactive technologies of cooperative learning;
- interactive technologies of collective and group learning;
- situational modeling technology;
- technologies for processing debatable issues.

In accordance with this distribution, we offer the following forms of introduction of interactive technologies into the educational process of training a future teacher of physical culture from SPD (Fig. 1).

In the conditions of interactive training of students with special needs, we used a problem-based lecture to implement the theoretical block of questions.

The form of interactive learning "Circle of ideas" is effective in the process of solving acute controversial issues. This form allows you to create a list of ideas for solving a specific task, involving all participants in the discussion.

Such methods of collective and group training as: "Microphone", "Brainstorming" were used in the practical classes. This gave each student a chance to say something quickly, taking turns answering a question or expressing an opinion or position.



**Figure 1. Forms and methods of training used in the process of training future teachers of physical culture from SPD**

*Source: developed by the author*

Our research has shown that this method can be used to sum up the material studied, to activate students at the beginning of the lesson.

In practical classes, solving the issue of educational practice, we used the method "Work in small groups", "Teaching-learning". For their implementation, the students were given a list of tasks that they had to complete preliminary preparation in the form of a study card. Each of them in the practical session performed their task on the part of the group performing the role of a teacher, in this way the process of mutual learning was carried out, which in turn contributed to a better understanding of the educational material and their motivation to study.

The implementation of interactive learning in lecture classes in the process of training future teachers of physical culture with SPD contributes to the fact that the student rethinks the process of acquiring knowledge from the fact that he should be provided with ready-made knowledge to the understanding that he should acquire it by his own efforts. The use of forms of interactive learning in practical classes with SPD activates the thinking of students, increases the effectiveness of training not only due to the increase in the amount of educational material transmitted, but also due to the depth and speed of its perception, ensures high results of education and training of students, promotes self-improvement of future specialists physical culture.

**Results.** In order to check the effectiveness of pedagogical conditions, a pedagogical experiment was conducted. Students were divided into control and experimental groups. Students of the control group studied according to the standard method. Students of the experimental group studied according to the experimental group.

The pedagogical experiment involving 362 students was conducted on the basis of Ternopil National Pedagogical University named after V. Hnatyuk, Kremenets Regional Humanitarian and Pedagogical Academy named after Taras Shevchenko, Prykarpattia National University named after V. Stefanyk, Lviv State University of Physical Education and Sports.

At the ascertainment stage of the research, the initial level of the formation of competencies was determined in both groups, which showed that they are approximately the same in terms of theoretical, practical and physical indicators.

The diagnosis of the results of our research was carried out with the help of empirical methods: pedagogical observation, questionnaires, interviews, testing, the method of experimental evaluations (experts were teachers of higher education institutions with more than 10 years of experience). Mathematical statistics methods were used to process the research results.

Readiness for professional sports activity was determined by motivational, activity, content components. After analyzing the results, we combined them and placed them, as the result of the analysis (Table.1).

**Table 1. Final assessment of students' readiness for professional and sports activities (on the ECTS scale)**

ECTS scale	National scale	Number of students (CG)	Number of students (EG)
A	Perfect	2 (3%)	7 (11%)
B	Very good	3 (5%)	4 (6%)
C	Good	7 (11%)	18 (29%)
D	Mediocre	17 (27%)	20 (32%)
E	Satisfactorily	20 (31%)	10 (16%)
FX	Unsatisfied with the opportunity reassembly	15 (23%)	4 (6%)
X	Unsatisfactory with mandatory repeat course	0 (0%)	0 (0%)
Total number of students		64	63

A comparison of the given data allows us to say that after the end of the training course the students of the experimental group found themselves at a qualitatively higher level than their fellow students, whose training took place according to the old methodology. This, in turn, gives us the right to claim that the students of the experimental group have better qualitative and quantitative indicators of the formation of readiness for professional activity.

**Conclusions.** Thus, the conducted studies showed that the implementation of pedagogical conditions based on a differentiated approach has a positive effect on the effectiveness of training future physical education teachers for professional activities. Further research will be aimed at individualizing the training of future teachers with secondary school students.

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**4 Received: August 26, 2022**  
**Approved: September 28, 2022**



## FORMATION OF LOCAL STUDIES COMPETENCE OF THE FUTURE GEOGRAPHY TEACHER USING METHODOLOGICAL APPROACHES

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**Abstract.** *The article describes the methodological approaches to the formation of the local linguistic competence of the future geography teacher in the course of local history tourism. Methodological approaches to the formation of the local linguistic competence of the future geography teacher in the process of local and tourist work, such as activity, system, personal, technological, are determined. Generally, methodological approaches to the formation of local lore play a role to the development of students' positive motivation in professional activity, cognitive abilities, ability to quickly and easily enrich their knowledge through the conscious use of information flows related to current issues and knowledge in the orientation of the educational process. Formation of local lore should be aimed at mastering students' personal traits that ensure personality-oriented and harmonious development. It is noted that fundamentally new approaches to the political, economic and social progress of the state, insufficient development of local lore and tourism as an effective means of personality formation, acquaintance with the natural and urban environment make the necessity of significant changes in the future geography teachers' professional training. All this actualizes new approaches to vocational training, and in particular, the future geography teacher in the field of tourism. In the course of the conducted research, we have concluded that methodological approaches of formation of local lore competence in the process of future geography teacher's training are one of the main components for scientific substantiation of effective vocational training. The theoretical principles of determining methodological approaches to the formation of the professional and regional competence of the future geography teacher are described.*

**Keywords:** *local lore, future geography teacher, methodological approach, activity approach, systematic approach, personal approach, technological approach, student-geographer.*

**JEL Classification:** I28, I29

**Formulas:** 0; **fig.:** 1; **tabl.:** 0; **bibl.:** 23

**Introduction.** In modern pedagogical literature, there are different approaches to the apparatus of forming the competence of the future teacher of geography. Various criteria and indicators of students' developed local knowledge competence are proposed, including: academic success, strength of learning, ability to perform tasks of a problematic nature; theoretical knowledge of educational disciplines, content of cognitive activity, independence of students; operational activity during the performance of creative works, a change in the ratio between local history activities organized by the teacher and performed by students during research work.

In our opinion, the formation of defined criteria and indicators is possible under the condition of a clear outline of methodological approaches to the formation of local knowledge competence of the future geography teacher in the process of local knowledge and tourism work, which determine the practical orientation of the content of the training of geographer students with the mandatory provision of the unity of its theory and practice.

**Literature Review.** The theoretical principles of determining the methodological approaches to the formation of the professional and local knowledge competence of the future geography teacher are highlighted in the publications of scientists, namely: O. Bondarenko (Formation of the readiness of students of natural and geographical faculties of pedagogical universities to work with local history students); S. Honcharenko (Pedagogical studies: methodological advice to young scientists); I. Dychkivska (Innovative pedagogical technologies); D. Lyuta (Methodological approaches in shaping the readiness of future tourism specialists for professional activity); N. Pysmenna (Personally oriented approach in the context of humanising the educational process); O. Timets (Formation of the professional competence of the future teacher of geography in the process of professional training); O. Yakovleva, N. Yakovleva (Pedagogical concept: methodological aspects of construction); and others.

I. Dychkivska emphasises: in order to teach children to be a system operator, it is not necessary to single out certain activities or lessons, it is enough to include elements of the system approach in stages, in fragments, during the study of any topic [13, p. 143]. In her writings, N. Pismenna examines the scientific and theoretical foundations of the implementation of a person-oriented approach in the educational process, which makes it possible to formulate a number of important positions that influence the implementation of a person-oriented approach in the practice of higher education [18, p. 252].

According to O. Timets, the professional competence of the future teacher of geography is an integral characteristic of the personal development of the future teacher and his mastery of professional activity, which is connected with the ability to meaningfully assimilate a complex of knowledge, skills and methods of activity in geography [21, c. 46].

D. Luta in his scientific work points to methodological approaches that are interconnected with the regional competence of the future geography teacher, namely: systemic, competence, functional [16, p. 139].

The analysis of the works shows that the process of formation of the local knowledge competence of the future geography teacher should be based on clearly defined methodological approaches, the main of which, in our opinion, are activity, system, personal and technological.

**Aims.** Elucidation of methodological approaches to the formation of local history competence of the future geography teacher in the process of local history and tourism work.

**Methods.** In the methodology, there are different approaches: ethnopedagogical approach (determines that education and upbringing must be carried out taking into account the national traditions and mentality of the people, its culture, national-ethnic

rituals, customs, habits); anthropological approach (presupposes the systematic use of data from all human sciences, the structure and implementation of the pedagogical process, taking into account the integral nature of a person); axiological approach (allows to study phenomena from the point of view of identifying their possibilities to satisfy human needs, solve the task of humanising society) [15, p. 15]. However, in our research, we rely on such generally recognized methodological approaches as: activity, system, personal, technological.

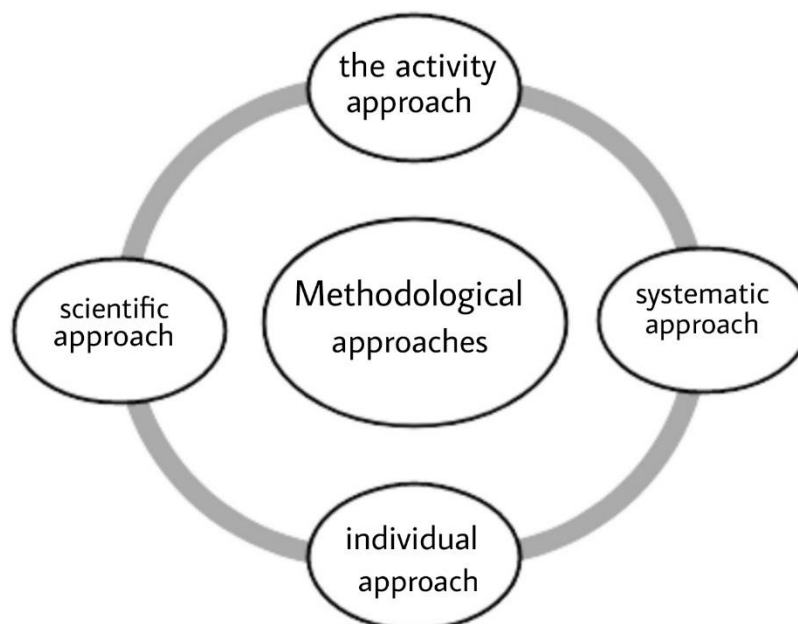
**Results.** Improving the preparation of a future geography teacher for local history and tourism work based on the competence approach involves the formation of positive motivation, providing students-geographers with subject knowledge and research local history and tourism skills, personal qualities (components of competence) of the organiser of local history and tourism work. The future teacher of geography must master not only the set of necessary special knowledge of local history and tourism, as well as theoretical local history information, which involves the development of geographical thinking, knowledge of conceptual provisions of local history and tourism work, features of its psychological-pedagogical, developmental and technological support.

Positive trends in the development of school geographic education, the experience of professional training of future geography teachers in foreign countries influence the change of educational orientations in Ukraine, contribute to the resolution of contradictions between teacher training and the labor market, enable the formation of personal competence taking into account historical, cultural and national characteristics [7, p. 301].

Increasing the effectiveness of local history and tourism work is possible through the improvement of traditional and the search for new forms and methods of organisation, the expansion and optimal combination of teaching methods, technologies, methodological approaches, the use of complexes of technical and didactic tools that would ensure the relationship of classroom and group forms [19, with. 6].

The activation of the practical activities of the local history and tourism direction of the future geography teacher is conditioned by the need to master the optimal methods of organising psychological-pedagogical, educational and developmental activities, local history knowledge and skills, skills in the practical implementation of local history and tourism work, reflection of one's capabilities in overcoming difficulties on the way to achieving the desired result.

The formation of the local history competence of the future geography teacher in the process of local history and tourism work is possible if scientifically balanced methodological approaches are followed. As you know, a scientific approach is a set of techniques, methods of influencing someone, studying something. In education, this is a category that reflects the worldview, views, and social guidelines of subjects of education, which contributes to the systematic organisation of the educational process. In our opinion, activity, system, personal and technological approaches are the main ones in the formation of local knowledge competence of the future geography teacher (Pic. 1).



**Figure 1. Methodological approaches to the formation of local history competence of the future geography teacher in the process of local history and tourism work**

*Source: developed by the authors*

The activity approach is fundamental as a whole system of activity, in particular educational, in the process of which a person learns the experience of previous generations in the unity of material and mental; the real process of independent human interaction with the world (G. Atanov [2] and others). V. Goncharov analyses learning and cognition in a tangential form with the obligatory reflection of the subject on his own educational activity, knowledge of means and methods of activity, acquisition of learning skills [12, c. 172].

Cognitive activity, the creative nature of which contributes to the development of this personality trait, is the main factor in the formation of local knowledge competence of future geography teachers. It is in educational and cognitive activity that the interaction, interdependence and structural unity of all components of local knowledge competence is revealed. The specially organized positive nature of local history and tourism work and cognitive local history tasks change the educational process, contributing to the process of learning.

**Discussion.** Thus, the use of the basic principles of the activity approach is aimed at the future teacher of geography taking into account the individual and psychological characteristics of students, their interests, mastering practical skills with the help of creative exercises, problem situations, free communication in the conditions of a tourist trip.

The formation of local knowledge competence of a geographer student takes place in the process of educational activities, since the knowledge of geographical facts and patterns that arise in the territory of one's native land, the ability to independently acquire and apply knowledge contribute to the formation of mental actions that turn into knowledge, skills, and abilities. A similar position is advocated by G. Atanov,

recognising that the activity approach is the main one in education in general and in cognitive processes [2]. Knowledge itself, as an element of activity, is the basis of the process of assimilation of knowledge and skills, which are an important component of the local knowledge competence of future geography teachers.

From the point of view of the activity approach, local knowledge competence is a complex form of behaviour and educational activity of a student, which is prompted by various needs that dominate depending on changes in the educational environment. The formation of local knowledge competence of future geography teachers requires a reorientation of the traditional goal of education (assimilation of knowledge, skills and abilities) to the goal of which is aimed at the development of the internal and external self-organization of a student-geographer in search of information about his native land, transforming it into knowledge, skills, and abilities that possess individual cognitive experience. The role of the teacher is essential, as he contributes to the clarity of the formulation of the goal of education, the main tasks; develops a plan and projects local history cognitive tasks, offers forms and methods and methodical support; implements control.

The growing role of the local history and tourism work of future geography teachers is due to the fact that in modern institutions of higher pedagogical education special attention is paid to it, there are changes in the methodological system of conducting local history and tourism research at school, the constant expansion of the scope of application of local history information and the organization of tourist promotions in education [9, p. 18].

The analysis of works on local history and tourism proves that the majority of scientific research is based on a leading activity approach. Forming the local knowledge competence of a student-geographer as an element of his personality characteristics is not limited to the subject-activity aspect of pedagogical work. Given the changes in the educational paradigm to person-oriented learning, knowledge, abilities and skills will be interpreted not as a goal or result of the pedagogical process, but as a means of personality development, revealing one's own inner potential to acquire individual cognitive experience of local history and tourism work.

Paying special attention to the process of knowledge (to study various phenomena and processes of the native land in their interrelationship and interdependence; to build a clear system of local history and tourism knowledge, abilities and skills) contributed to the identification of the fundamental system approach to the educational process. The system approach as a direction of educational methodology involves the formation and disclosure of the integrity of pedagogical objects, the identification of interrelationships and interdependencies in them (V. Bondar [5], Yu. Shabanova [23], etc.). Yu. Shabanova characterizes it as a direction of research methodology, which consists in the analysis of the object as a whole set of elements in a set of relations and connections between them, that is, it qualifies the object as a system. A system is a set of elements that are in relations and connections with each other and form a certain integrity, unity [23, p. 14].

The formation of local knowledge competence should be aimed at students' mastery of personal traits that ensure personally-oriented and harmonious

development. In this regard, another important approach to the formation of local history competence of geographer students in the process of local history and tourism work is the personal approach, which is understood as the consistent attitude of the teacher to the pupil, both to the individual and to the subject of educational interaction. Characterising the individual as a subject of activity that independently determines the type and form of this activity, G. Ball [3], I. Bech [4], N. Pysmenna [15] and others recommend taking into account the individual abilities, inclinations, originality of each personality, as an individual endowed with unique natural data, experience and component parts of competence, a social order for the training of specialists.

The task of professional training of the future teacher of geography consists in the development of individuality, taking into account the social requirements and requests for the development of his qualities, this involves the centering of training on the student as a person. The teacher's role is changing: he takes into account the student's interests and level of knowledge, accordingly outlines the educational goal, the rhythm of the educational process. O. Bondarenko, points out that local history work serves as a means of implementing urgent educational tasks, because in the conditions of person-oriented education it has a powerful potential for comprehensive harmonious development of the student's personality [6, p. 31]. S. Honcharenko, analysing the works of A. Maslow, R. May, K. Rogers, and V. Frankel, notes that full-fledged education is possible only when the school is a laboratory for discovering the unique "I" of each child [11, c. 243]. Among the conceptual directions of the implementation of a personal approach to the training of a future teacher of geography, it is worth highlighting the formation of beliefs in the value plan, professional and value orientations that determine his attitude to local history and tourism work, when the choice of values is determined by the processes of cognition, recognition, assimilation and comparison of them with individual direction of desires and life goals. The personal approach is based on teachers taking into account the individual characteristics and abilities of students and promoting their further development. At the same time, the future teacher of geography is oriented to the study and development of the student's personal qualities, his organisational qualities, consideration of educational goals and tasks, help in overcoming shortcomings, difficulties, mistakes, use of means and methods of pedagogical influence; help them draw up their own plans for self-realisation, motivation for self-education as mandatory components of improving local history and tourism training. Focusing attention on the individual characteristics of students is an important indicator of the professional skills of a future geography teacher during the formation of local knowledge competence.

In the last thirty years, a technological approach in education has been widely developed, which involves the study, development and application of the principles of optimizing the educational process based on the latest achievements of science and technology. The implementation of the technological approach was supported by such scientists as: A. Aleksyuk [1], I. Dychkivska [13], O. Kobernyk [14] and others. According to scientists, the features of this process are related to the purposeful combination of students' creativity and self-management, the development of interest,

a positive emotional attitude to the process of acquiring knowledge and skills. This is facilitated by the construction of training according to the principles of technology, the use of non-standard, innovative teaching methods in classes. Geographer students should be given the opportunity to reveal their inner creative potential through local history and tourism work.

O. Pereyaslavskaya interprets the technology of organising the educational process of students as "a pedagogical process characterised by subordination of all elements of the educational process to a single goal; the presence of a clear, consistent technological chain of teacher and student actions aimed at solving target tasks; the presence of mandatory diagnostic procedures that contain criteria, indicators and tools for measuring activity results; orientation of the entire learning process to obtaining results; reproducibility of pedagogical technologies" [17, p. 42]. In order to choose the optimal technologies for the formation of local knowledge competence of geographer students based on the established principles of didactics, it is necessary to select various forms, methods and means of their implementation; strategies, priorities, systems of interaction, teaching tactics and the style of work of the teacher with the student. The technology of the educational process combines educational problems related to the analysis of educational material and the organisation of the educational activities of the teacher and the student. O. Timets [21], O. Topuzov [22] and others emphasised the significance of the teacher's use of pedagogical technologies. Local history and tourism work based on a technological approach is characterised by purposefulness, clear diagnosis of learning effectiveness indicators at all stages, individualises the pace of cognitive tasks, increases the effectiveness of self-control and self-correction of local history research, makes it possible to obtain the planned result with minimal expenditure of time and money, reproducibility of the process in the natural conditions of the tourist hike.

The implementation of the identified approaches provided for the orientation of the educational process of applying local history and tourism within the future profile of a specialist, the use of local history cognitive tasks, formation of a stock of terms from local history and tourism issues, activation of material about the native region, organisation of competitive events of a professional nature. According to S. Honcharenko, the analysis of the content of modern didactic knowledge proves that the constructive function of didactics corresponds to its principles - the norms of didactic behavior, the observance of which will enable the teacher to acquaint students with the basics of systematic knowledge about the world, develop their cognitive interests and abilities, shape their worldview, and also involve in self-education [10, p. 102–103].

The result of the professional training of future geography teachers for local history and tourism work is the formation of their professional competence based on the competence approach in education. This approach to the training of a future teacher is a methodological program focused on the predicted achievement of a high-quality educational result, the generation of promising ideas and factors under the influence of which it is formed, on the study of regional aspects of pedagogical activity, development, implementation of creative ideas and pedagogical technologies [8].

Fundamentally new approaches to the political, economic and social progress of the state, the insufficient development of local history and tourism as an effective means of personality formation, familiarization with the natural and urbanized environment motivate the expediency of significant changes in the professional training of future geography teachers for local history and tourism work. All this actualizes new approaches to professional training, and in particular, the future teacher of geography to local history and tourism work.

**Conclusion.** In the course of the conducted research, we came to the conclusion that methodological approaches to the formation of local knowledge competence in the process of training a future teacher of geography are one of the main components for the scientific justification of effective professional training. We have analyzed departmental, systemic, personal, and technological approaches. The result of the professional training of future geography teachers for local history and tourism work is the formation of their professional competence based on the competence approach in education.

We see the prospects for further research in the optimization of the formation of regional knowledge competence of geography teachers during the improvement of their professional qualifications.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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***Received: August 28, 2022***

***Approved: September 28, 2022***

# ***Pedagogy and Education Management Review***

*Issue 3 (9), 2022*

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*Printed by: Scientific Centre of Innovative Researches OÜ, Ida-Viru maakond, Lügánuse vald, Püssi linn,  
Viru tn 8-33, 43221, Estonia*

*Number of copies: 300*

*First printing: September 30, 2022*

*Distributed worldwide by Scientific Center of Innovative Researches OÜ - [office@scnchub.com](mailto:office@scnchub.com)*

*Full text available online at <https://scnchub.com/>*

*DOI: 10.36690/2733-2039-2022-3*