USE OF INTERACTIVE TECHNOLOGIES IN THE PEDAGOGICAL INTERNSHIP FOR HIGHER EDUCATION STUDENTS

Abstract. The article substantiates the expediency of using interactive technologies in the organization of pedagogical practice of higher education holders of the degree of Doctor of Philosophy (on the example of the educational and scientific program "Educational Sciences"). The authors also identified the possibilities of pedagogical practice regarding the formation of professional competences in higher education holders of the degree of Doctor of Philosophy and their acquisition of program learning results thanks to the use of interactive technologies.

Pedagogical technology is interpreted as a direction of pedagogical science that investigates the most rational ways of learning, and as a system of methods, principles and regulators that are used in education, and as a real learning process.

It is noted the importance of not only the teacher's knowledge of the methodology, but also his ability to transform knowledge and skills, that is, to possess the technology of obtaining the planned result. An essential feature of pedagogical technology is the guarantee of the final result and the design of the educational process.

The authors consider interactive learning technology as a way of learning, based on the joint activity of all participants in the educational process, joint problem solving and modeling of problematic situations in activities, evaluation of the actions
of colleagues and their own. Attention is drawn to the acquisition of knowledge in a different form during interactive learning. Attention is also focused on the gradual formation of professional and pedagogical competences during pedagogical practice.

The authors suggest the use of one of the variants of the interactive technology of cooperative learning - the "group discussion" method during pedagogical practice. This method is integrated (complex), as it involves teaching on certain complex topics containing materials of related subjects. It is concluded that the method of "group discussion" is suitable for the purpose of the process of training future specialists - the development of independent professional thinking, communication skills and skills, which is important for the formation of professionalism.

**Keywords**: interactive technologies, pedagogical practice, students of higher education, learning outcomes, professional competences, group discussion.

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**ВИКОРИСТАННЯ ІНТЕРАКТИВНИХ ТЕХНОЛОГІЙ ПІД ЧАС ПЕДАГОГІЧНОЇ ПРАКТИКИ ЗДОБУВАЧІВ ВИЩОЇ ОСВІТИ**

**Анотація.** У статі обґрунтовується доцільність використання інтерактивних технологій в організації педагогічної практики здобувачів вищої освіти ступеня доктора філософії (на прикладі освітньо-наукової програми «Освітні науки»). Автори також визначили можливості педагогічної практики щодо формування у здобувачів вищої освіти ступеня доктора філософії професійних компетентностей та набуття ними програмних результатів навчання завдяки використанню інтерактивних технологій.

Педагогічна технологія трактується як напрямок педагогічної науки, що досліджує найраціональніші шляхи навчання, і як система способів, принципів і регуляторів, які застосовують у навчанні, і як реальний процес навчання.
Znazačaetsya важливість не лише знання методики педагогом, але й його уміння трансформувати знання і вміння, тобто володіти технологією отримання запланованого результату. Суттєвою особливістю педагогічної технології є гарантування кінцевого результату і projetoutuvannia навчального процесу.

Інтерактивну технологію навчання автори розглядають як спосіб пізнання, що базується на спільній діяльності всіх учасників освітнього процесу, спільному вирішенні проблем та моделюванню проблемних ситуацій у діяльності, оцінці дій колег і своїх власних. Звертається увага на набуття знанням іншої форми під час інтерактивного навчання. Також акцентується увага на поетапності формування професійно-педагогічних компетентностей під час педагогічної практики.

Авторами пропонується використання під час педагогічної практики одного із варіантів інтерактивної технології кооперативного навчання — методу «групового обговорення». Цей метод є інтегрованим (комплексним), оскільки передбачає здійснення навчання за певними темами-комплексами, що містять матеріали суміжних предметів. Робиться висновок про відповідність методу «групового обговорення» призначенню процесу підготовки майбутніх фахівців – розвитку самостійного професійного мислення, комунікативних умінь та навичок, що є важливим для формування професіоналізму.

Ключові слова: інтерактивні технології, педагогічна практика, здобувачі вищої освіти, результати навчання, професійні компетентності, групове обговорення.

**Formulation of problem.** An important and necessary component of the educational process at the third (educational and scientific) level of higher education is pedagogical internship. This pedagogical internship combines theoretical and practical aspects of training for PhD higher education students. On the other hand, it helps to form students’ creative attitude to future professional activities.

During the research and experimental work, we found a direct correlation between the effectiveness of training of higher education students and how well the forms and methods of teaching are selected, to what extent we can talk about the presence of pedagogical technology as a "teaching skill" in this process. It highlights the expediency of using interactive technologies in the organization of pedagogical internship for higher education students.

**Analysis of the latest research and publications.** Analysis of recent research and publications. Basing on the results of research and publications analysis, we conclude that modern domestic and foreign scholars are very interested in adult education and the peculiarities of providing educational services in educational and scientific programs.

The expediency of applying innovative technologies of pedagogical diagnostics as a means of improving the quality of training was emphasised by A. Marchenko, R. Pylniuk, K. Savchenko, L. Savchenko [1].
The work of S. Secker [2] is of great importance for our study, he emphasizes the importance of introducing innovations based on modern scientific research into pedagogical internship. The educational aspect of this issue is the focus of attention of such scientists as A. Halimov, D. Ishchenko, O. Stavytskyi. A considerable number of works are devoted to the issues of practical training of future specialists (A. Melnikov, O. Tohochynskyi).

The scientific concepts, conclusions and recommendations of the above and other scientific studies are of great value for clarifying the peculiarities of the organization and content of the educational process for students of the doctoral degree in general. The scientific provisions, conclusions and recommendations contained in the above and other scientific studies are of great value for clarifying the peculiarities of the organization and content of the educational process for PhD higher education students in general. However, the above-mentioned and other studies did not directly address the issue of the use of interactive technologies in the organization of pedagogical internship of higher education students of the doctoral degree.

**The purpose of the article.** The purpose of the article is to substantiate the expediency of using interactive technologies in the organization of pedagogical internship of PhD higher education students (on the example of the educational and scientific program "Educational Sciences").

The objectives of the study were also to determine the possibilities of pedagogical internship for the professional competencies’ formation of PhD higher education students and the acquisition of program learning outcomes through the use of interactive technologies.

**Research methods.** In the process of solving these tasks, the following empirical research methods were used: theoretical and methodological technique, interpretation of scientific data; methods of researching empirical data (questionnaires, testing, interviews, observation, conversation), study of documentation, generalization of independent characteristics. These methods were used to search for factual material.

The method of observation consisted in the direct perception of such a pedagogical phenomenon as the use of interactive technologies in the organization of pedagogical internship for PhD higher education students. We used observation not only as an independent method, but also in combination with other methods.

We implemented the survey method in the following forms: conversation, interview, questionnaire. This method was used as an auxiliary method of pedagogical research to clarify the conclusions obtained by other methods. We also used such research methods as comparison, evaluation (expert assessment, self-assessment), and the creation of professional situations. The comparison helped to identify the peculiarities of using different interactive methods in the pedagogical internship of PhD higher education students.
Presentation of the main material of the study. Pedagogical technology functions as a branch of pedagogical science that explores the most rational ways of learning, and as a system of methods, principles and regulations used in teaching, and as a real learning process. The need to develop pedagogical technologies arose in connection with the idea of managing the pedagogical process. It is not enough for a teacher to know the methodology, the teacher must be able to transform knowledge and skills, i.e. to have the technology to obtain the planned outcome. An essential feature of pedagogical technology is the guarantee of the final result and the projecting of the educational process.

In modern pedagogy, a number of teaching technologies have been developed that differ in their goals and methodological features. When teaching a particular discipline, teachers create their own author’s teaching technology. In this case, the pedagogical skill is to select the necessary content, apply the optimal teaching methods and tools in accordance with the program and educational goals. The term “interactive” means regular and active interaction of all participants in the process. Interactive technology involves the organization of such a pedagogical internship in which the PhD higher education student has a specific task, the implementation of which will be evaluated by the supervisor. As noted by O. Yankovych [3], interactive teaching technologies are based on the interaction of PhD higher education students with the learning environment, which serves as a sphere of experience; and the experience itself is the central source of educational knowledge. According to I. Melnychuk, interactive learning technology is understood as a joint process of cognition, where knowledge is extracted in joint activities through a dialogue between students and the teacher [4]. At the same time, M. Kadiemia considers interactive learning to be based on the psychology of human relationships and interactions [5, p. 214].

We consider interactive learning technology as a way of learning based on the joint activity of all participants in the educational process, joint problem solving and modeling of problematic situations in activities, assessment of the others’ and own actions. In the context of interactive learning, knowledge acquire a different form. On the one hand, we mean certain information, the peculiarity of which is that students receive it not in the form of a ready-made system from the teacher, but in the process of their own activity. On the other hand, in the process of interaction in the class with other participants of the learning process, the future specialists master the system of tested (proven) methods of activity in relation to themselves, colleagues, subordinates, learn various mechanisms of finding knowledge in individual and joint activities. Therefore, the acquired knowledge is at the same time a tool for their independent acquisition and for finding ways of their practical implementation.

The purpose of conducting pedagogical internship for PhD higher education students is their acquisition of practical pedagogical (educational and scientific and methodical) skills at a higher education institution (higher military educational
institution), as well as deepening of theoretical knowledge and practical skills in the specialty acquired during the assimilation of other components of the educational and scientific program, as well as from the experience of previous professional activity.

Conducting pedagogical internship in accordance with the educational-scientific program "Educational Sciences" ensures that higher education students acquire the following competencies:

- the ability to conduct scientific discussions with the wide scientific community and the public in a certain field of scientific and/or professional activity, to convince and influence other team members; initiation of innovative complex projects, leadership and complete autonomy during their implementation; social responsibility for the results of strategic decision-making; the ability to improve and develop own intellectual and general cultural level, the ability to generate new ideas (creativity); find compromise solutions and take responsibility for their implementation;
- mastering pedagogical and general scientific (philosophical) competencies aimed at forming a systematic scientific worldview, professional ethics and a general cultural outlook. Acquiring the ability for pedagogical activity; ability to build constructive interaction with students, implementation of the image component.

The tasks of pedagogical internship are:

- studying the organization of the educational process at a higher education institution;
- familiarization with the structure and content of pedagogical activity;
- mastering the methodology of training and conducting classes, organizing independent and individual work of students;
- familiarization with the peculiarities of the teacher's educational and methodical activity;
- defining psychological aspects of learning and creative pedagogical activity.

The organizers of the pedagogical internship of higher education students of the Doctor of Philosophy degree are the head of the scientific department and the head of the department to which the PhD student is assigned. The base for pedagogical internship is the department where the PhD student is assigned or another unit whose activities are related to the educational process.

According to the results of research (observations, surveys, study of documentation), PhD higher education students are, as a rule, specialists, most of whom have sufficient professional experience, but who do not have teaching experience. Therefore, during pedagogical internship, it is mandatory for PhD higher education students to attend classes conducted by the best methodologists, experienced teachers in order to familiarize themselves with various methods of teaching and activation of educational activities, various methods and techniques of assessment of educational activities at higher education institution, with the features of professional rhetoric, elements of pedagogical skill, as well as acquiring skills:
formulating learning, developmental and educational goals of class activities; planning and organizing pedagogical activities.

The total duration of pedagogical internship is 3 ECTS credits, 80% of the total time of pedagogical internship is educational and methodical work (preparation of lessons, methodical work, attendance of classes and analysis, conducting consultations, management of various types of student activities, training and scientific work). The development of methodological literacy of the future teacher in the complex conditions of the organization of educational activities in a higher education institution is of particular importance. The methodology substantiates the construction of pedagogical processes, develops and substantiates new pedagogical technologies of professional training, in which the purpose and principles of the educational system would be implemented, helps to master the chosen specialty.

The remaining 20% of the total time of pedagogical internship is assigned to teaching (conducting classes). Moreover, according to the governing documents, if the student had no experience in teaching before studying the educational and scientific program, he can be allowed to conduct classes independently only after successfully conducting a trial class.

We took into account the approach that the goal of interactive learning is the teacher's creation of learning conditions under which a PhD higher education student will discover, acquire knowledge and self-prepare for professional activity. This, according to O. Pometun, constitutes a fundamental difference between the goals of interactive technology and the goals of the traditional education system [6, p. 8].

We adhere to the scientific position that the effectiveness of the professional activity of a teacher at a higher education institution is determined by his active interaction with students, his implementation of appropriate psychological and pedagogical influences, which contribute to the high-quality mastering of modern professional knowledge, skills and abilities by students, as well as the formation of their personal qualities and attributes, necessary for future professional activity, social and public life.

We agree with scientists who draw attention to the great role of the professional vocation of future specialists in the educational process [7]. The professional vocation prompts PhD higher education studentsto use interactive technologies during pedagogical internship.

We also share the opinion of researchers about the expediency of using project technologies during pedagogical internship as one of the types of pedagogical technology based on the interaction of participants in the educational process [8–10].

Each institution creates its own database of the most frequently used interactive technologies, taking into account the specifics of the specialties for which this higher education institution trains specialists, teachers, a contingent of students, material and technical support, etc. According to the results of the study, it was found that higher education students show activity, diligence and independence while
studying. Due to the adult age, they are conscious and motivated, they take into account their own life, social, professional experience.

Pedagogical internship as an element of education, where the leading role belongs to the specialiststhemselves, must meet their educational needs and stimulate the growth of these needs. Therefore, in our opinion, it is worth taking into account the principles of andragogy as a theory of adult education. In particular, the andragogic approach involves the principle of mutual assistance during pedagogical practice.

We take into consideration the decision of the General Session of UNESCO in 1976, according to which "an adult is a person recognized as an adult by the society to which he/she belongs." We also take into account that today in the legislation "adult" is interpreted as "a person who is characterized by psychophysiological and social maturity, civil legal capacity, a certain level of education; who has achieved a certain social and professional competence, which is necessary to make vital decisions and plan the own life in the context of social development, to predict the results of own actions and to be responsible for these actions, as provided by social norms and values" [11, p. 38].

Based on the above, we are interested in the assimilation and use of interactive technologies by an adult specialist in the process of educational activity. In contrast to traditional pedagogy, interactive technologies assume a leading role in the learning process not of the one who teaches, but of the one who learns. The one who teaches only provides assistance in identifying and systematizing the personal experience of the latter. In such a case, the priority of pedagogical methods is replaced, which is especially valuable for PhD students. Instead of lecture methods, practical classes, usually of an experimental nature, discussions, business games, etc. are provided. We are talking about pedagogical internship as a kind of practical situation that is close to reality, when in the future activity the PhD student will be the one who teaches. Under such conditions, a feature of the educational and scientific program "Educational Sciences" is the combination of training of a scientist, a specialist-pedagogue and the formation of an educated person-citizen.

The general position of PhD student as active subjects of social activity is reflected in their attitude to pedagogical internship. The individual's desire for independent and responsible decision-making, for purposeful organization of activities gives the process of learning (practical training) the meaning of self-educational activity. In the context of our research, we note that pedagogical internship (both as a component of the educational and scientific program and as one of the forms of learning) cannot in any way replace self-education, but it contributes to it sufficiently. Taking into account the previously acquired professional experience, each PhD student can independently choose the forms and methods of education during pedagogical internship. The important factors of such a choice will be the following: the research topic of the PhD student; the specifics of the academic disciplines of the department, where the pedagogical internship takes place and
classes are conducted with students; the type of these activities; interdisciplinary connections, etc. From the point of view of andragogy, we believe that the department should ensure the freedom of such a choice for each PhD student.

Pedagogical internship of PhD higher education student under the educational and scientific program "Educational Sciences" within the framework of our study was conducted in the following forms:

conducting practical (laboratory, seminar) classes in accordance with the approved individual plan of pedagogical internship of a PhD student;
participation in the development of various types of educational and methodological support of the educational discipline;
preparation of business games, cases and materials for practical work, tests development;
checking test papers, abstracts;
attending classes of experienced teachers of special purposes disciplines, experts in the field of scientific research;
supervision of students' research work;
conducting consultations with students.

The formation of professional and pedagogical competences was carried out in stages in the process of pedagogical internship. This was determined by the content, scope and direction of pedagogical internship.

Taking into account the existence of two forms of interaction (prepared in advance and improvised), as well as the fact that during our research, in the role of the PhD higher education students, there are those who will directly provide knowledge to others in their future professional activities, we consider it appropriate to use such methods and forms of learning: figurative (visual examples, facts from the lives of famous people, students themselves, related to pedagogical phenomena, works of art, model situations); game (story role-playing, business, creative games, travel games, simulation games, quizzes, trainings "Land of Knowledge", "Smart Board"), technical (videodemonstration, radio and television programs, TV shows, feature and documentary films "In Broad Daylight", "Teacher"); joint creative work (joint creative work, exhibitions: "Library resources", "Pedagogical consultations using the Internet", creative festival, storiesdramatizing, oral journal, wall newspaper, flash newspaper, competition of students’ creative works on the topics: "Introduction to various specialties", "Pedagogical culture of students and ways of its implementation", "Academic integrity", "How not to become a victim of disinformation"), activities (organization of events, supervision of students who break discipline, speech with topical messages, participation in the work of the student council club etc.). It is known that all this leads to the encouragement of the participants of the educational process to activity and interaction.

Interactive technologies provide for a number of methods for teaching educational disciplines, one of which is the "group discussion" method. The method of preparing and conducting such a class is quite simple. Students of the study group
split in groups of 5-6 people. Each group receives a task - one of the educational questions according to the lesson plan - and begins its group discussion within 10-15 minutes. At the same time, students do not use textbooks, but can work with notes and textbook material. The PhD higher education student is in the role of a teacher. He helps students, if necessary, advises them on problematic issues. Students make notes if necessary. When the group discussion is over, one student from each group moves to the first desk and presents their thoughts based on the results of the group discussion in writing. At this time, the oral survey begins. One representative from each group (at the request of the students or at the teacher's request) answers the question that was discussed. A PhD higher education student carefully listens to the answer, the flow of his thoughts, notices the mistakes that the speaker makes during the answer, notes them down, because in the case of insignificant mistakes in the report, it is not recommended to interrupt the speaker. The rest of the students listen carefully, ready to complete the answer. After completing the answer, the PhD higher education student allows others, at their request, to supplement the speaker's answer, ask him additional questions, clarify the most important points in the content of the answer, to correct, if necessary, if the speaker made a mistake or was inaccurate while answering. After the student's answer, the PhD higher education student asks problematic questions and organizes a very active, continuous and with maximum attention discussion. When everybody could speak, PhD higher education student calls another student from the group, that discussed this question, according to the class journalist, to answer the unresolved aspects of the question.

According to one of the classifications of interactive learning technologies, the latter are divided into the following:

interactive cooperative learning technologies (work in pairs, work in small groups, "aquarium", "rotation");

interactive technologies of joint and group learning ("openwork saw", brainstorming, "microphone", unfinished sentences, analysis of situations, teaching-learning);

interactive situational modeling technologies (grouping of situations by roles, "pedagogical hearings", simulation games);

interactive technologies for processing debatable issues ("change position", discussion, debate, continuous scale of opinions).

According to the classification of innovative learning technologies proposed by V. Morozov, they are divided into projecting, laboratory and integrated ones [12, p. 37].

We suggested the use of one of the variants of the interactive technology of cooperative learning - the "group discussion" method during pedagogical internship. This method is integrated (complex), as it involves teaching on certain complex topics containing materials of related subjects. That is why the "group discussion" method is effective during the pedagogical internship of PhD higher education students, in particular for conducting classes in special purpose disciplines and
selective disciplines. By discussing problematic issues in these academic disciplines, PhD higher education students have the opportunity to interact with their students. Therefore, the use of the "group discussion" method corresponds to the purpose of the process of training future specialists - the development of independent professional thinking, communication skills, which is important for the formation of professionalism.

As evidenced by the results of the conducted survey, 79.4% of PhD higher education students believe that they acquired professional and pedagogical competences during pedagogical internship due to the implementation of the interactive technologies usage.

According to the results of the pedagogical internship, PhD higher education students acquire program learning results in accordance with the educational and scientific program "Educational Sciences":
- to use normative and legal, program and methodical documents defining work at a higher education institution; justify the need to make planned changes in scientific work and educational activity;
- to carry out effective communication in the educational environment; competently structure and present thoughts; determine the peculiarities of communication in the educational environment;
- manage the educational and cognitive activities of students with the help of information and communication educational technologies;
- generate, project and creatively apply new and known forms, methods and means of learning; develop innovative educational technologies, didactic tools to ensure an effective educational process; to implement innovative methods in the pedagogical process in order to create conditions for effective motivation for students to study;
- monitor, assess the effectiveness of modern innovative educational technologies and didactic teaching aids, evaluate the effectiveness of innovative processes in education; diagnose processes, situations and problems of professional activity;
- to master methods of interaction with the team and individual students. Manage the audience using verbal and non-verbal communication techniques;
- demonstrate pedagogical culture, ethical behavior of the teacher. Define, set and solve scientific tasks and problems in the field of pedagogy;
- rationally plan pedagogical activity, define its tasks, create optimal conditions for activity; realize the possibilities of self-management, self-education.

Assessment of the results of pedagogical internship of PhD higher education students at the department should take place at the same time as they acquire the specified competencies and complete a whole set of indicators that reflect their readiness and ability to perform the role of those who provide educational services at a higher education institution [13]. Based on the results of the pedagogical internship, a total assessment is issued, which includes an assessment of the
implementation of the pedagogical internship individual plan, reporting documentation, report defense.

**Conclusions.** Therefore, the use of interactive technologies in the organization of pedagogical internship of PhD higher education students (on the example of the educational and scientific program "Educational Sciences") requires systematic work, for which it is necessary, first of all, to revise the content of pedagogical internship in order to form their readiness to work in interactive learning conditions; secondly, to bring the educational process closer to the real requirements of the future professional activity of teachers. The expediency of using interactive technologies in the organization of pedagogical internship of PhD higher education students (on the example of the educational and scientific program "Educational Sciences") is determined by the specific features of this process and the demands made by society on the professional qualities of teaching specialists.

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