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IMPLEMENTATION OF SIMULATION DURING THE FORMATION OF PROFESSIONAL COMPETENCE OF FUTURE PRESCHOOL TEACHERS BASED ON THE USE OF INTERACTIVE TECHNOLOGIES

The article summarizes and systematizes information on the formation of professional competence of future preschool teachers based on the use of interactive technologies. There are presented the characteristics of the interactive technologies' advantages in the future preschool teachers' professional training. There are highlighted the main advantages of using pedagogical modeling, based on the generalization of scientific views. It is characterized the essence of the structural-functional model. There are revealed content of the principles which are the basis of the model (humanization of professional training of future preschool teachers; individualization of education; innovation and child-centeredness; dialogization).

Key words: professional competence, future preschool teachers, interactive technologies, modeling, structural-functional model, principles of modeling.

Introduction. The professional competence and readiness for improvement and self-education are the greatest human capitals in the 21st century. Preschool teacher is the first pedagogical specialist who is on the child's educational path. Quite often, the further educational activity of the individual depends on the teacher of the preschool education institution (Shter, 2001). A modern preschool institution needs innovative preschool teachers who are able to think creatively and solve non-standard professional tasks and effectively perform their professional duties. "A modern preschool teacher is a professional who orients himself in scientific achievements, in the innovations of psychological and pedagogical science. He is the one who possesses various technologies for the development, education and training of children. And also he is capable of self-development, self-improvement, self-modeling and self-projection in various spheres of life, including in the professional" (Gagarina, 2010, p. 241). Given the above facts, future preschool teachers who will work in preschool institutions should acquire the appropriate level of professional competence during their studies.

It was established that A. Bohush, L. Zdanevych, V. Chaika and others investigated theoretical issues of professional training of future teachers of preschool education institutions. It is disclosed the content of the future preschool teachers' readiness to implement professional activities in the articles of T. Atroshchenko, Z. Onyshkova, O. Pysarchuk, K. Shcherbakova and

others. It is revealed the potential of innovative technologies in the professional training of future preschool teachers during their studies in higher education institutions in the publications of N. Kichuk, S. Sysoieva, N. Ustynova and others. Let us emphasize that the potential of pedagogical modeling for the formation of students' professional competence of specialty 012 "Preschool education" has not been properly studied. The means of interactive technologies are not fully used in the professional training of future preschool teachers. We believe that the use of pedagogical modeling and the implementation of interactive technologies in the educational process will make it possible to significantly increase the level of competitiveness of future preschool teachers.

Analysis of relevant research. We emphasize that the traditional system of forming the professional competence of future preschool teachers has positive properties. However, in the context of modern requirements, it is advisable to introduce innovative approaches that will bring knowledge into line with the needs of preschool institutions. Professional competence involves "a set of knowledge and skills necessary for effective professional activity" (Professional education. Dictionary, 2000, p. 102). During the education process, the future preschool teacher must acquire thorough knowledge and productive technologies. He/she must also have practical skills for the high-quality implementation of his/her duties.

Currently, preschool education is considered as an educational period where general educational and general cultural skills are formed, as well as the development of key competencies of preschool children (Pechenko, 2008). A teacher who works with preschoolers should be an example for them. We share V. Chaika's views that the figure of the preschool teacher "is the most important educational tool. The preschool teacher influences them with all the qualities of his personality, all his/her behavior" (Chaika, 2019, p. 139).

It should be noted that over the past 5 years in preschool education, it has been updated the content of the interaction in the system "preschool teacher – child of preschool age". In view of the significant renewal, the basis for the formation of professional competence of future preschool teacher should be new learning technologies and innovative forms and methods (Chekan, 2015, p. 13). It is precisely these aspects that we explored in our publication.

Research methods: To achieve the goal, the following research methods were used: theoretical (structural and comparative analysis of

scientific literature; comparison of different views on the problem of formation of professional competence; systematization to determine the potential of pedagogical modeling; generalization of information to characterize the possibilities of using interactive technologies for the formation of professional competence of future preschool teacher. The scientific research organized by us was methodological in nature. In the practical sphere, we carried out: a methodological analysis of the content of the scientific terms “professional competence”, “interactive technologies”, “modeling the professional competence of future preschool teacher”; an analysis of practical activities related to the use of interactive technologies during the formation of the appropriate level of professional competence of future preschool teachers.

The research aim is to study the essence of the modeling process the professional competence of future teachers of preschool education institutions. The aim is also in the practical study of the potential of interactive technologies in the professional training of students of the specialty 012 “Preschool Education”.

Results. In the context of our research, we will briefly consider the potential of interactive technologies in the professional activities of preschool teacher. It was found that the teacher can use game technologies for the purpose of mental, moral, aesthetic and physical development. “Different in form and content, games introduce the child to the circle of real life phenomena. They ensure the assimilation of the social experience of adults, form a certain system of knowledge, abilities, skills, methods of action, moral norms and rules of behavior” (Manzhelii, 2012, p. 52). In particular, interactive games teach preschool children to be responsible for their actions. Game activity significantly enriches the child’s sensory experience. This activity also ensures the development of perception. It creates interest in solving mental tasks, promotes the development of voluntary attention. Speech development occurs in preschoolers on the basis of participation in game activities (Artemova, 2002).

In view of the above mentioned facts, the future preschool teacher should also learn using interactive technologies during training. In particular, it was based on the advice that it is appropriate to use interactive technologies in classroom, individual and independent work. In particular, the following have a significant positive effect: “didactic game, modeling, discussion, presentation, analysis of professional situations, case method, training, computer testing” (Chaika, 2019, 153).

Let's dwell on the actualization of the potential of interactive technologies for the formation of professional competence of future preschool teachers. It was found that based on the use of interactive technologies, the future preschool teacher will be able to perform his/her functional duties more vividly and efficiently. The author proves that on the basis of the interactive technologies' use in the educational process of higher education institutions, it is possible to "form professionally significant qualities of the future preschool teacher's personality, the appropriate conceptuality, panoramic view of professional thinking" (Honchar, 2013, p. 136). In this context, we consider the special course "Forming the readiness of future preschool teacher to use interactive technologies" developed by N. Honchar. This course is aimed at solving such tasks as: familiarizing students with the essence of interactive technologies and their classification; study of the methodology of conducting didactic, educational, developmental and socializing interactive technologies in preschool institutions; research of effective ways to establish pedagogical guidance using interactive technologies when working with preschoolers.

From a methodological point of view, interactive technologies have a positive impact on the development of professional thinking, the formation of the value-emotional sphere and creative forces in students of the specialty 012 "Preschool Education". That is, the success of the educator's professional activity is directly dependent on his/her understanding of the peculiarities of the organization of the pedagogical process in the preschool education institution. It also depends on the formation of ideas about the age and individual characteristics of children's development, creative inclinations and abilities, knowledge of methods and technologies of innovative preschool education.

The importance of interactive technologies in the training of future preschool teacher is evidenced by numerous scientific studies. Thus, K. Krutii and L. Myshkina emphasize the expediency of updating the educational space of a preschool institution and filling it with pedagogical innovations. We are impressed by O. Pysarchuk views on the need for thorough mastery of pedagogical innovations; students need to familiarize themselves with game technologies (classification of games, stages of games, selection and use of games in classes) (Pysarchuk, 2019, p. 165).

From a practical point of view, we took into account the wishes of scientists for the implementation of interactive technologies during the formation of the professional competence of future preschool teachers. We

took into account the following that “education should be built in such a way that various communication functions are implemented: informative, regulatory, emotional – influential, evaluative, reflecting different types of communication” (Tsobrova, Posdavichenko, 2002, p. 199).

We relied on the use of pedagogical modeling, investigating the formation of professional competence of future preschool teachers by means of interactive game technologies. In the scientific field, a system of symbolic standards for the study of pedagogical processes is created on the basis of pedagogical modeling. It was studied with the help of modeling based on standards and symbols that effective ways of forming the professional competence of students of specialty 012 “Preschool Education”. Pedagogical modeling is based on the equivalence of one object to another. It allows transferring information from an analogy from a model to a real prototype. That is, modeling is a theoretical way of reflecting the form of existence, structure and composition of the functioning or development of a pedagogical object through the definition of the composition and internal connections. They provide the possibility of qualitative dynamics. In our understanding, modeling stimulates scientific thinking based on symbolic analogy. From a practical point of view, pedagogical modeling involves the development of a model as a result of scientific activity.

We consider the model as a generalized graphic scheme, which is the result of an abstract generalization of theoretical knowledge and the author’s practical experience in the formation of future preschool teachers’ professional competence. This formation is based on the use of interactive technologies. During the development of the model, the following *requirements* were taken into account:

- it should contain a hypothesis about the unfolding of the pedagogical process and help in the knowledge of the studied phenomenon;
- it is necessary to take into account the dependence of the content of the model on the features of the modeled object and on the goal set by the modeling subject;
- it is necessary to take a balanced approach to the combination of the components of the model in order to combine and compare them into a single whole;
- it is worth emphasizing the combination of the present and the future during the model’s development.

In the methodological plane, we listened to the advice of practicing scientists, that the model should contain the goal, stages of formation of

the studied construct, pedagogical conditions, criteria and levels of preparation of future preschool teachers and reflect the researched process (Rohachko-Ostrovska, 2018). We also took into account our own desire to form students' ability to "go beyond" the boundaries of everyday practice; to see, realize, evaluate and solve various problems of professional activity in a preschool institution, consider difficulties as an incentive for further development.

Spectrum of fundamental psychological and pedagogical principles was determined based on the interpretation of the scientific works of S. Havryliuk, N. Havrysh, and T. Ponimanska. These principles should be used as a basis for the development of a structural-functional model of the formation preschool teachers' professional competence by means of interactive technologies. Namely, the *principles of: humanization of professional training of future preschool teachers were attributed to such fundamental methodological principles; individualization of education; innovativeness and child-centeredness; dialogization.*

Let's consider the selected principles more thoroughly. Thus, the principle of humanization of professional training of future preschool teacher involves the introduction of ideas of humanistic pedagogy. It is aimed at forming students of the specialty 012 "Preschool Education" the ability to understand themselves and others, to be aware of the real professional situation. The humanistic paradigm should be the basis of the educational process during the formation of future preschool teachers' professional competence. We share the position of T. Ponimanska in that the preschool teacher faces the task of establishing values. In the conditions of a global ecological and spiritual crisis, humanism acquires the meaning of "a categorical imperative to preserve life on Earth and man as a spiritual personality" (Ponimanska, 2004, p. 287). Based on the principle of humanization of professional training, the formation of professional competence will be based on values, tolerance and tact in relationships. This principle is directly based on communicative culture, creativity and self-criticism.

In a practical aspect, during the implementation of the principle of humanization of professional training, we listened to the advice of scientists that humanistic values in the content of teacher training should be presented the following levels: at the general pedagogical level and at the level of developing specific personally oriented educational technologies. First of all, we focused on restructuring the content of the training of future preschool teacher on the basis of the formation of humanistic values. Secondly, this

training should be based on the development of specific practical skills to humanize the pedagogical process in a preschool institution.

The principle of individualization of education for students of specialty 012 Preschool education aims to take into account not only the individual characteristics of future specialists, but also their scientific interests and abilities. As well as, it aimed at the creation of appropriate conditions for the development and manifestation of creative talents. This principle enables future preschool teachers to work purposefully on accumulating their own experience to implement creative behavior in their future professional activities. This principle is based on effective pedagogical communication and a system of pedagogical values. These principles and values are appropriate for fulfilling the professional duties of an educator in preschool education institutions.

During the simulation of the process of formation of future preschool teachers' professional competence, we assign an important role to the principle of innovation and child-centeredness. This principle places the main emphasis on the fact that the highest value for future preschool teacher should be the child. From a psychological-pedagogical point of view, this principle is aimed at forming in students the ability to provide qualified psychological-pedagogical support for the development of preschool children. Thus, during their studies, students should master the skills of creating an effective developmental and sensory environment and learn to use it to develop the creative abilities of pupils of preschool education institutions.

Using the principle of dialogization during the formation of professional competence of future preschool teachers allows establishing effective joint creative activity of the teacher and students. As well as it allows organizing effective equal interpersonal communication on the basis of trust and partnership. This kind of communication is achieved under the condition of active use of interactive technologies in the educational process of students of specialty 012 "Preschool Education". This principle proclaims dialogue as the most democratic form of conducting classes and the shortest way to achieve effective feedback during the organization of the educational process aimed at the formation of professional competence. We believe that on the basis of dialogization, it is possible to establish equal subject-subject relationships between students and the teacher. These relations are manifested in balanced communication, empathy and reflection, stimulate the activity and creativity of future educators and stimulate them to self-realization and self-development.

We believe that the implementation of a structural-functional model of professional competence formation in future preschool teachers, which is based on the use of interactive technologies, will be beneficial in two main areas. First, it will contribute to stimulating interest in future professional activities; secondly, it will have a positive effect on the education of a positive attitude towards the profession.

In our view, the use of a certain range of methodological principles in the structural-functional model ensures knowledge, activity, and motivational readiness, contributes to the formation of creativity and prompts future preschool teachers to reflect. Their practical implementation will strengthen the practical orientation of education. It will emphasize the role of experience in solving life and professional problems. Based on the implementation of the author's model in the educational process, students get the opportunity to realize their own aspirations and gain social experience during their studies. In the methodological plane, we will have the opportunity to set real tasks for each student during the formation of professional competence and check his readiness for future independent activities in a preschool institution.

Conclusions and prospects for further research. In our vision, in the process of future preschool teachers' professional training, there should be a "smart" synthesis of interactive technologies and the traditional educational process. These activities will ensure the proper level of formation of all indicators of professional competence. The use of interactive technologies will have a positive effect on the development and improvement of the professional thinking of students of the specialty 012 "Preschool Education". Based on the generalization of the specialists' work, it was established that the use of pedagogical modeling and the development of a structural-functional model will optimize the process of forming the professional competence of future preschool teachers with the use of interactive technologies. It will simplify structural-logical connections, and will make it possible to avoid random elements in the educational process that are not are of significant importance.

In our subsequent articles, we will focus on the results obtained from the implementation of the model of formation of professional competence of future teachers of preschool education institutions by means of interactive game technologies in the educational process. We will also check them for validity and reliability using the methods of mathematical statistics.

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АНОТАЦІЯ

Бобирєва Олена. Впровадження моделювання під час формування фахової компетентності майбутніх вихователів на основі використання засобів інтерактивних технологій.

У статті узагальнено та систематизовано інформацію про формування фахової компетентності майбутніх вихователів на основі використання засобів інтерактивних технологій. Мета статті полягає у дослідженні сутності процесу моделювання фахової компетентності майбутніх вихователів закладів дошкільної освіти та практичному вивченню потенціалу інтерактивних технологій у фаховій підготовці майбутніх вихователів. Для досягнення мети використано такі методи дослідження: теоретичні (структурно-порівняльний аналіз наукової літератури; зіставлення різних поглядів на проблему формування фахової компетентності; систематизація для визначення потенціалу педагогічного моделювання; узагальнення інформації для характеристики можливостей використання засобів інтерактивних технологій для формування фахової компетентності майбутніх вихователів закладів дошкільної освіти. Організоване нами наукове дослідження носило методологічний характер. У практичній площині нами було здійснено: методологічний аналіз змісту наукових термінів «фахова компетентність», «інтерактивні технології», «моделювання фахової компетентності майбутніх вихователів». здійснено аналіз практичної діяльності щодо використання інтерактивних технологій під час формування належного рівня фахової компетентності майбутніх вихователів закладів дошкільної освіти. У статті представлено характеристику переваг інтерактивних технологій у професійній підготовці майбутніх вихователів. На основі узагальнення наукових поглядів висвітлено основні переваги використання педагогічного моделювання, охарактеризовано сутність структурно-функціональної моделі. Розкрито зміст принципів (гуманізації професійної підготовки майбутніх вихователів; індивідуалізації навчання; інноваційності й дитиноцентризму; діалогізації), які покладені в основу моделі.

Ключові слова: фахова компетентність, майбутні вихователі, інтерактивні технології, моделювання, структурно-функціональна модель принципи моделювання.



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