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The first issue contains articles by scientists from different countries, prepared on the basis of their scientific work. It is designed for university teachers, graduate students, undergraduates, practitioners in pedagogy and education management.

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GENERAL PEDAGOGY AND HISTORY OF PEDAGOGY

DEVELOPMENT OF PRIVATE EDUCATION IN UKRAINE: SECOND HALF OF XIX-EARLY XX CENTURY

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Abstract*. The article reveals the leading factors in the development of private education in Ukraine in the second half of the XIX - early XX century. It was found that the second half of XIX - early XX century becomes a period not only of social, scientific, national revival, but also a period of rapid development of private education. The purpose of the article is to reveal the leading factors in the development of private education in Ukraine in the second half of the XIX - early XX century. The historical-logical method made it possible to determine the socio-political and social features of social development and their impact on the development of private education in Ukraine in this historical period; constructive-genetic method made it possible to determine the socio-historical and cultural-pedagogical prerequisites for the development of private education in Ukraine in the second half of the XIX - early XX century and others. The leading area of implementation of pedagogical innovations in this period was a private school, which was explained by the strict legal regulation of the state educational system and at the same time the lack of real steps by the government to modernize it. The key innovations of the pedagogical concept in the innovative activities of a private institution were: the priority of the pupil's personality, the integration of family and school, increasing the requirements for the teacher, who must act as the personification of an active and creative personality. It is established that the leading factors in the development of private education in Ukraine in the second half of the XIX - early XX century were: the presence of legislative regulation of private education; establishment of public-state character of organizational bases of their activity; manifestation of public initiative in the opening of private educational institutions; taking into account in the organizational and substantive aspects of the activities of private schools the social and economic needs of the country's development.*

Keywords: *private education, private educational institutions, public initiatives.*

JEL Classification: JEL I0; I20

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Introduction. The changing of socio-economic and political conditions in our country have led to the emergence of semi-public and private educational institutions, which are currently at the stage of active search for ways to solve problems posed to them by students, their parents, society as a whole. In the National Strategy for the Development of Education in Ukraine for the period up to 2021, one of the strategic directions of education reform should be the creation of institutions of various types and forms of ownership, including non-governmental (private) educational institutions.

The success of education reform largely depends on the full and effective use of those positive achievements, which are based primarily on national and regional pedagogical experience. In this regard, the appeal to the experience of the past, in particular the period of the second half of the XIX - early XX century, when there

were important educational reforms that contributed to the spread of private schools, is relevant.

Literature review. Various aspects of private schooling,in the modern context, were covered in the scientific work of Y. Agapov, O. Druganova, N. Kolyada, N. Seiko, S. Roenko, L. Rusakova, N. Pobirchenko, and others. The authors of scientific research tried to trace the history of private education in modern Ukraine, outlined the network of educational institutions and substantiated the reasons for the spread of different types of schools, revealed the features of private education in some regions of Ukraine in the second half of XIX - early XX century. Analysis of the state of research of this problem shows that the history of private education in Ukraine is represented by a small number of scientific investigations. The holistic genesis of the development of private education in Ukraine in the period under study has not yet been adequately covered in historiography.

Ams. The purpose of the article is to reveal the leading factors in the development of private education in Ukraine in the second half of the XIX - early XX century.

Methods. The historical-logical method made it possible to determine the socio-political and social features of social development and their impact on the development of private education in Ukraine in this historical period; constructive-genetic method made it possible to determine the socio-historical and cultural-pedagogical prerequisites for the development of private education in Ukraine in the second half of the XIX - early XX century and others.

Results. Ukraine did not have its own statehood, and most of the Ukrainian lands were part of the Russian Empire in the XIX - early XX centuries. The system of education in general and private in particular in Ukraine during this period retained the main trends in the development of education in the Russian Empire, and the study of private education on the background of all-Russian processes made it possible to identify features that acted as specific features that are inextricably linked with unique nature and originality of education in Ukraine.

The understanding the reasons for the maturation of the reform of the education system, the growth of the socio-pedagogical movement for its renewal gives an analysis of the state of school education in the second half of the XIX century. (1802–1804; 1856–1864), which created a new paradigm of school education, contributed to its intensive democratic development [2, p. 19].

We emphasize that the school reforms of the second half of the 50-60's of the XIX century became a turning point in the further development of domestic education, the most important achievements of domestic education are: the proclamation of extracurricular education, that is general education for all classes, its acquisition in classical (with the study of two ancient and Latin) and real gymnasiums with 7 years of study; introduction of a new type of incomplete secondary education, its acquisition in the gymnasium with a 4-year term of study; granting the right to open gymnasiums to public organizations and individuals; proclamation of accessibility of public schools (parish, church-parish, county, Sunday) for all social

statuses, their opening by public organizations, private persons; approval of the development of women's education.

Reforms of the 60's and 70's of the XIX century intensified the process of development and expansion of the network of educational institutions in the territory of the Russian Empire. These transformations have radically changed the administrative and judicial system, made education more accessible to the common people.

Since the late 60's of the XIX century private general educational institutions are actively developing, the best of which are entitled to be called private classical gymnasiums, but the fee in such educational institutions significantly exceeds the fee in public.

The activities of all private schools were built in accordance with the "Regulations on Private Educational Institutions" (1868). According to the "Regulations", all private educational institutions were divided into three categories:

- high or first grade schools - had at least six classes;
- second category - not less than three classes;
- third category - one-class and two-class schools.

Every class had one year to study at least. That is, the schools of the first category corresponded to state secondary schools, the second - city and county schools, the third - primary schools [3, p. 33–37]. Compulsory subjects in these institutions were the Law of God and the Russian language, the choice of other subjects was not regulated, but had to be approved by the Trustee of the educational district [7, p. 1–4].

Working on ministerial programs, private gymnasiums, progymnasiums and schools were brought closer to public educational institutions, but differed in the methods of teaching general subjects and the individual approach to each student.

The end of the XIX - beginning of the XX century entered the modern history of Ukraine as a period of radical change in society: there were active social processes caused by the rapid development of industry, science, changes in education. The educational movement intensified, educational thought developed, the network of primary and secondary schools expanded, new types of educational institutions were opened, teachers initiated new content, methods and forms of work in them, women's education was officially introduced [9, p. 130–131].

A feature of the imperial education system was the jurisdiction of educational institutions not only in the Ministry of Education and Science, but also in various other departments and ministries, where children of industrial and commercial status were educated. The national school developed as a component of the general imperial system of education, reflected the general reform processes [2, p. 22].

In addition, schools were divided into public and departmental, public and private. These schools differed both in the possibility of public and private influence on the organization of their educational process, and in the sources of funding.

The reform of school education was based on the social and pedagogical movement and the reform of the traditional school, which did not meet the new economic and political conditions of the state. The need for economic development,

criticism of the current system of school education in society and pedagogy, foreign experience and intensive development of reform pedagogy in Europe and the United States have set the Ministry of Education the task of school reform □2, p. 24–25□.

In this regard, the Minister of Education I. Delyanov in 1883 submitted a report to the State Council, which justified the need for full benefits for students of private schools, which are used by students of public institutions. The Minister justified his position by the fact that public educational institutions are not able to meet the ever-growing needs [8].

Along with the benefits of military service, the Minister proposed a number of conditions that should equalize educational institutions, in particular:

- that students who take the exam for 6th grade study in the institution for at least three years, and for 4th grade - at least two years;
- that examinations in grades 4 and 6 be conducted in the presence of school district representatives and in accordance with the rules established for government gymnasiums;
- that these rights are respected if the courses of 4th and 6th grades coincide with the courses of such classes of government gymnasiums;
- that these rights be enjoyed only by gymnasiums whose teachers have the right to teach in government gymnasiums.

An important point of the Minister's requirements was the clause on the supervision of the reliability of the owners of private gymnasiums with all the consequences on the basis of the relevant paragraphs of the statute.

The growth of public need for educated people, the corresponding state policy towards private educational institutions contributed to their development and increase in the number.

In the period 80-90s of the XIX century the public initiative to open private educational institutions is actively beginning to develop. Most often, the initiative to open such institutions belonged to the public (local governments, aristocratic or merchant class, societies) or individuals. They began to petition for the arrangement of the institution, permission to open it. Then the state took a share in its financing. The state's dictates on the organization of the educational process in the institution were often directly proportional to the state share of funding. Although it also depended on the type of educational institution [4, p. 103].

The private initiative not only closed the gaps that existed, but also developed and implemented new, innovative pedagogical ideas that were embodied in existing structures. The state gave a personal and full-fledged initiative to the idea of creating appropriate educational institutions that developed and supported new areas of education [16, p. 9].

Usually, private educational institutions based their activities on the ideas of progressive domestic and foreign pedagogy, introduced into the educational process such forms and methods of work that are not used in public institutions. In these schools tried to create an atmosphere of attention and respect for the student, a system of trusting relations between educators and pupils, abolished punishment, evaluation, practiced a system of material incentives. The educational process was built in order

to best develop the abilities of students. For this purpose, the teaching of music, singing, arts, dance, gymnastics, handicrafts, etc. was introduced. Such forms as excursions, public lectures for students, literary and musical evenings, etc. were introduced into the practice of educational work. That is, the student, his interests, preferences, needs were placed in the center of the educational process. Most of these private schools have contributed much to the development of theory and practice of domestic pedagogical science [14, p. 123].

Private educational institutions in the late XIX century. became widespread in the Russian Empire, including Ukraine. By the end of 1890, the number of private educational institutions had grown to 69 (in the Kyiv educational district), including 6 women in the first category; second category - 2 men, 9 women and 1 for children of both sexes. Most institutions were of the third category (4 male, 9 female and 38 for children of both sexes), the first category was represented by 6 female. 24 of them had boarding houses, 1 - craft department [8, p. 9].

In order to regulate the laws of the government and the education department on the rights and responsibilities of persons working in the sphere of private education, and to facilitate their activities in 1893 was published The Collection of Laws, which included decrees issued from 1828 to 1879. [15].

Private schools were established in accordance with the "Complete Collection of Laws of the Russian Empire" (1893), which reflects the general provisions and regulations of private schools to assist and assist the government in public education [12, p. 3713]. According to the documents, the majority of private educational institutions functioned in large cities of the Ukraine in that time - Kyiv, Kharkiv, Odessa, and their number was insignificant in the counties. According to the regulations governing the opening of such institutions, they could be of two types: only for training or for training and education at the same time [12, p. 3734].

It was emphasized that joint education of boys and girls is possible only if the latter is more than 11 years old. In boarding houses at educational institutions joint maintenance of girls and boys was forbidden [4, p. 104].

Private educational institutions were divided into three categories: schools of higher or first category, which had at least 6 classes; second category - not less than 3-4 classes; third - two-class and one-class schools. At least one year was allotted for the training course of each class [12, p. 3715].

A private school could only be established with the consent of the school authorities. The founder had to submit a petition, which was accompanied by a plan with a detailed explanation of the purpose and objectives of the institution. It was necessary to substantiate: expediency of creation of this educational institution; type of schools; curriculum and training programs; quantitative composition of teachers and students; characteristics of the training room [5, p. 108].

The founder of a private school was fully responsible for hiring teachers who had the right to work in these positions. Men and women who were citizens of the empire were allowed to establish a private educational institution. In each case, the permit was accompanied by a check of the moral qualities and reliability of the

founder (usually accompanied by a certificate from the police station at the place of residence of the founder).

The founder of a private educational institution was free to select academic disciplines. The "state component of education" consisted of: the Law of God and the Russian language. And where the program provided for the study of history and geography, the study of Russian history and Russian geography was mandatory. The curriculum of each private school had to be approved by the trustee of the educational district [12, p. 3720].

At the legislative level, the rights and responsibilities of the founder of a private educational institution were defined - the founder decided on logistics, hired and fired teachers, and had the right to receive state awards. Thus, the Order of St. Stanislaus was awarded to persons who maintained a private school, boarding house without the help of the treasury or had 10 years of experience of impeccable work [12, p. 3722].

Zemsky institutions, societies, and individuals who received permission to open a school were free, in the selection of teaching staff, as noted earlier At the same time, when entering a private school of the I and II category it was necessary to have the permission of the trustee of the educational district, and to the school of the III category - the director of the provincial school or gymnasium, in the county - the supervisor of the county school. Teachers who taught in the three senior classes of the first grade school had to have higher education. Persons with the title of home teacher were allowed to teach in junior classes. Finally, primary school teachers could work in private schools of the III category [12, p. 3774].

Inspections were quite common in the activities of private educational institutions. The purpose of which, even if they were appointed "for the slightest reason, was to humiliate in public opinion and in the eyes of the government a private school, as if not worthy of the trust of the government" [14], p. 166].

At the end of each school year, all private institutions conducted public examinations, which were attended by representatives of local government. Graduates of private gymnasiums had the right to enter universities on a general basis.

Control over private educational institutions was entrusted, as already mentioned, to the local school and gymnasium management. It would be logical to assume that the controlling bodies were guided by the same principles on which the life of the public school or gymnasium was built. Thus, the criteria for the effectiveness of the teaching staff of the gymnasium were: the state of labor discipline; scientific work; methods of teaching subjects.

It is important that a significant impact on the development of education, including private in the early twentieth century. carried out by the Ministry headed by P. Bogolepov. Thus, the Ministry of Education and Science during the time of P. Bogolepov focused on reforming secondary school education [2, p. 31]. In the mid-1900s, the minister set up a commission chaired by the trustee of the Caucasus educational district of K. Yanovsky, that prepared a project for the reform of the secondary school called the Charter of Gymnasiums and Progymnasiums (1901),

according to which gymnasiums and real schools were preserved. Gymnasiums were divided into two types: with two ancient languages and with one - Latin.

With regard to private education, this project gave the right to «societies, estates and individuals to open educational institutions at their own expense with some deviations in the organization of the educational part. Subject to certain conditions of subordination to the Minister of Education and the trustee of the district, these schools may be granted certain rights such as in the state gymnasiums. The total number of weekly lessons in gymnasiums with two ancient languages is set at 225, subject to the teaching of two new languages; with one new one - 206, while in the gymnasium with Latin only 202 lessons. The course of the subjects of the gymnasium with ancient languages does not include either science or cosmography: both classical languages are given 75 hours (42 + 33)»[8, p. 12].

The imperial government, responding to socio-political changes, the demands of the pedagogical community for the development of school education, was forced to continue educational transformations. Let's analyze the course, directions and consequences of state reform in the sphere of private education.

In the early twentieth century. Private educational institutions, in contrast to the state school, began to create new educational institutions - "free schools", "family schools", "experimental" - which used foreign and national experience of joint education and upbringing of boys and girls, introduction of labor and physical education, children's self-government. and organization of extracurricular activities, communication between school and family, individualization of education, etc. [14, p. 153].

In addition, several more circulars were adopted - "On the question of which private educational institutions can be called private gymnasiums or progymnasiums" (1906) [7, p. 29]; "About permission to open the eighth additional class at private women's gymnasiums" (1907) [7, p. 28–29]; "Regarding the opening of preparatory classes at private women's schools with courses of gymnasiums and progymnasiums" (1906) [7, p. 31]; "On the issue of permitting the opening and maintenance of private educational institutions by persons who do not have an established educational qualification" (1907) [7, p. 42–43]; "On the application to private women's gymnasiums and progymnasiums of the general provisions on women's gymnasiums and progymnasiums" (1907) [7, p. 142–143]; "Law on private educational institutions, classes and courses of the Ministry of Public Education, not enjoying the rights of government educational institutions" (1914) [8] and others. These documents contributed to the intensification of the opening throughout the Russian Empire, in county towns and cities and even in the villages of various private schools. Among the population very popular were 4-grade city schools, progymnasiums, as well as gymnasiums and commercial schools [14], p. 156].

An important event in 1913 was the signing by the State Council of a bill on private educational institutions, which was approved by the Third State Duma. An innovative provision of the project was the granting of the right to the founders of educational institutions to establish the language of instruction [9, p. 39].

However, due to socio-political circumstances, namely the authoritarian nature of imperial society, the use of autocratic reforms to curb social tensions in 1904-1914, the fruitful ideas of ministerial and alternative projects were not implemented, but prepared the ground for the development of MES led by P. Ignatiev theoretical foundations of school education reform of 1914–1916 and influenced the further development of education in Ukraine [2, p. 61].

Discussion. The second half of the XIX - early XX century. becomes a period not only of social, scientific, national revival, but also a period of rapid development of private education. The leading area of implementation of pedagogical innovations in this period was a private school, which was explained by the strict legal regulation of the state educational system and, at the same time, the lack of real steps by the government to modernize it. The share of non-state educational institutions of various types in Ukraine was quite significant and accounted for almost half of the total. Graduates of private educational institutions, as a rule, had the same rights as graduates of the corresponding types of public educational institutions. At the same time, it had a large space for pedagogical research. These institutions provided more opportunities for society in the realization of their educational ideals, and created conditions for students to continue their success. The key innovations of the pedagogical concept in the innovative activities of a private institution were: the priority of the pupil's personality, the integration of family and school, increasing the requirements for the teacher, who must act as the personification of an active and creative personality.

Result. All in all, it is established that the leading factors in the development of private education in Ukraine in the second half of the XIX - early XX century were: the presence of legislation on private education; establishment of public-state character of organizational bases of their activity; manifestation of public initiative in the opening of private educational institutions; taking into account in the organizational and substantive aspects of the activities of private schools of the social and economic needs of the country's development.

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THE ROLE OF EDUCATIONAL SOCIETIES IN THE DEVELOPMENT OF EDUCATION IN ELISAVETGRAD REGION: SECOND HALF OF XIX– EARLY XX CENTURY

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Abstract. *The article reveals the role of educational societies of Yelisavetgrad region in the development of education in the region in the second half of the XIX – early XX century. The purpose of the article is to reveal the role of educational societies of Yelisavetgrad region in the development of education in the region in the second half of the XIX – early XX century. The publication uses a historical-retrospective method, which allows for a retrospective analysis of the history of educational societies of Yelisavetgrad region in the period under study and highlight their contribution to the development of education in the region. It was found that a significant contribution to the development of educational processes in the Yelisavetgrad region in this period was made by educational societies opened on the initiative of progressive public figures of the city. Among the greatest achievements of Yelisavetgrad charity in providing various segments of the population with both basic and special knowledge is the rich and diverse activity of the Yelisavetgrad Society for Literacy and Crafts, which on a charitable basis carried out large-scale educational, pedagogical and educational work: progressive literature, conducted significant educational and organizational and advocacy work among the population and students of educational institutions, organized theater performances, concerts, art exhibitions. Through the efforts of the society, a home for young homeless children, the first kindergartens, a free public library-reading room and a public library were opened in the city.*

Active educational and propaganda activities of the members of the society played a leading role in the spread of education among various segments of the population, contributed to the development of schooling in the region. N. Braker, P. Ryabkov, M. Fedorovsky, V. Khartsiev and others made a significant contribution to reviving the work of the society.

Keywords: *cultural and educational societies, Yelisavetgrad society of literacy and handicrafts, educational activity, public initiatives, educational institutions.*

JEL Classification: JEL I0; I20

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Introduction. The second half of the XIX - early XX century in the Ukrainian lands of the Russian Empire is intensifying charitable, philanthropic movement, due to the development of capitalist relations and the formation of the entrepreneurial stratum, which was the social force that potentially provided material conditions for philanthropy and philanthropy. The second half of the 19th and the beginning of the 20th centuries was a period of creation and rapid development of a large number of public associations, organizations and societies, which played a role in all spheres of public life of the country. These organizations were created to address issues of educational, pedagogical, educational nature.

One of the characteristic features of the social and pedagogical movement in the Yelisavetgrad region in the second half of the XIX century was the creation of cultural and educational societies. Due to the democratization of society during this period, various societies emerged, which aimed to provide education to the common people of the region and were the bearers of a new, pedagogical ideology. One such

association was the Yelisavetgrad Society for the Promotion of Literacy and Crafts, one of the leading societies in the Russian Empire during the study period.

Literature review. The source base of the study was the annual reports, constituent documents of the Yelisavetgrad Society for the Dissemination of Literacy and Crafts, which are stored in the State Archives of Kirovohrad region. Also significant scientific and historical information is contained in the works of public figures of the pre-revolutionary period N. Braker [4], P. Ryabkova [8].

A significant role in the actualization of the research problem was played by the works of local lore of modern researchers O. Akimkin [1], V. Boska [3], I. Bosa [2], O. Trybutska [9], O. Filonenko [10; 11], L. Filoretova [12] and others, in which the authors, analyzing the educational activities of members of the Yelisavetgrad Society for Literacy and Crafts, also note the place and role of M. Fedorovsky in the development of educational institutions and public education system in Yelisavetgrad region. At the same time, the pedagogical and public-educational activity of the Yelisavetgrad Society for the Dissemination of Literacy and Crafts and its members, which carried out large-scale educational, pedagogical and educational work on a charitable basis, contributed to the establishment of educational institutions.

The relevance of the chosen topic is exacerbated by the contradictions between the accumulated theoretical ideas and experience of public education and pedagogical activities of members of the Yelisavetgrad Society for Literacy and Crafts and the lack of their scientific understanding, generalization and systematization for creative use by modern teachers.

Aims. The purpose of the article is to reveal the role of educational societies of Yelisavetgrad region in the development of education in the region in the second half of the XIX – early XX century.

Methods. The publication uses a historical-retrospective method, which allows for a retrospective analysis of the history of educational societies of Yelisavetgrad region in the period under study and highlight their contribution to the development of education in the region.

Results. Among the greatest achievements of Yelisavetgrad charity in providing the common people with both basic and special knowledge is the rich and diverse activity of the Yelisavetgrad Society for the Dissemination of Literacy and Crafts, which was founded in 1873 on the initiative of public and cultural figure and teacher M. Fedorovsky. This aspect combined around him a significant part of the city's intelligentsia and as a result of its activities was one of the most successful in the Russian Empire [2]. Note that the above society in terms of its activities was one of the most successful in the Russian Empire.

The society carried out large-scale educational, pedagogical and educational work on a charitable basis: it promoted the establishment of educational institutions, organized Sunday readings of progressive literature, conducted significant educational and organizational and propaganda work among the population and students, organized theater performances, concerts and art. Through the efforts of the society, a shelter for homeless children, the first kindergartens (1913; 1915), a free

public library-reading room (1895) and a public library (1899) were opened in the city.

The Yelisavetgrad Free Crafts and Literacy School (1867) was under the auspices of the Society for the Dissemination of Literacy and Crafts. with other primary schools it was much better in teaching and other aspects, and craft departments made it generally exceptional among the city or government county schools of that time. [10, p. 89].

In the report on the state of the Yelisavetgrad free craft and literate school for 1884/1885. It was reported that the school had 2 departments - women's and men's, which were located at different addresses: for girls - on the corner of st. Prison and Vokzalna, and for the boys - on the corner of Perspektyvna and Oleksiyivska streets. Each building had its own teachers. At that time, the school had 12 teachers who taught 180 students at that time. [7, p. 54].

The school had only 4 classes, also preparatory classes for older and younger children. They were taught to read and write by the sound method in preparatory classes. In the first class they studied the Law of God, Russian language, arithmetic; in the second class (except the above) geography; in the third - Russian language, Russian history and geometry. All students were engaged in gymnastics and church singing. Subjects such as geography, physics, technology of metals and wood, science, information on the law were studied only in a special men's department.

In the men's department they studied carpentry and turning, in the women's department they taught sewing and knitting. Craft training began at the age of 12. In 1886, the men's and women's classrooms were merged and the theoretical course was taught together, with separate classes only in the workrooms.

On January 13, 1905, a special men's department and a training workshop were reopened at the Yelisavetgrad Free Crafts and Literacy School. The main task of the special department was to train leaders for training craft departments, which were opened in the villages to raise the material well-being of the population.

Children of all walks of life from the age of 12 to 14 were admitted to the special men's department after taking exams according to the program of the city's primary public schools. Children who completed an educational course in a free craft and literacy school, as well as in urban elementary schools, parish schools and one-class Jewish schools were admitted to the first grade without exams and upon admission took only a competitive exam in Russian language and arithmetic on a common basis. with entrants who have received home primary education.

The term of study was 5 years, of which 4 years were classes in classrooms and workshops, and in the fifth year only practical classes were held. For the first four years, students practiced from 8 to 12 a.m hours in classrooms, and from 14 to 18 p.m were engaged in the workshops of the school. In the classes taught: the Law of God, Russian language, arithmetic, geometry, national history, geography, mechanics, physics, technology of metals and wood, science, children were given a basic knowledge of the law. Teaching subjects took place in accordance with the programs developed by the executive committee [7, p. 59–62].

In the training workshops, children were taught various crafts: carpentry, turning, wood carving, metalwork and blacksmithing. The teaching of these crafts had a practical direction and involved the inculcation of skills and abilities in a particular craft.

After completion of a full five-year course in a special department, graduates had the right to take exams, after which they successfully passed the title of primary school teacher.

Gifted, but poor students were enrolled in full-time education at the expense of the Yelisavetgrad Society for the Dissemination of Literacy and Crafts or were awarded a scholarship.

A school council was established, which met at least once a month to address issues related to the educational part The council compiled subject programs and divided the study of subjects into classes, appointed transfer and final exams, awarded prizes to the best students, compiled annual reports on learning outcomes.

According to numerous archival documents, the Yelisavetgrad Free Craft and Literacy School was the only such craft and literacy school in terms of its type, programs, and teaching skills, not only in Yelisavetgrad, but also in the entire Russian Empire [10, p. 68].

An analysis of the sources shows that the Yelisavetgrad Society for the Dissemination of Literacy and Crafts contributed to the development of handicrafts in the region. In addition to the care of the craft and literacy school, it was engaged in the organization of artel of artisants, the arrangement of warehouses with materials and sales of their products. The financial organization of the artels activities became more important role - loan and savings branches were created for them. The activities of the society were aimed not only at the quantitative expansion of this industry, but also at qualitative changes in it through the publication of books on handicrafts and by exhibiting the products of artisans at various exhibitions [8, p. 6].

A large part of the local intellectuals was a member of the society. Active educational and propaganda activities of the members of the society played a leading role in the spread of education among various segments of the population, contributed to the development of schooling in the region. N. Braker, P. Ryabkov, M. Fedorovsky, and others made a significant contribution to reviving the work of the society.

One of the brightest representatives of the society was its founder Mykola Fedorovich Fedorovsky. Well-known public figure, ethnographer, archaeologist Pavel Zakharovich Ryabkov, analyzing the work of the Yelisavetgrad Society for the Dissemination of Literacy and Crafts, noted that the intensity of educational activities of the society largely depends on its composition, the influence of individuals on the society and its members, between them a special place gave to Fedorovsky: "Mykola Fedorovich, being infinitely devoted to the cause, devoting himself to the craft and literate school, sought to expand the activities of society, to raise its viability; ... with the entrance of M. Fedorovsky from society, his decline becomes especially noticeable "[8, p. 20].

"The first Ukrainian figure of our city", a man of "indefatigable energy, broad initiative and strong liberty, who did not want to reckon with any obstacles" - wrote about Mykola Fedorovich his contemporaries [4, p. 3].

Prominent pages were inscribed in the national history and founded by M. Fedorovsky free Yelisavetgrad Crafts and Literacy School (1867), Yelisavetgrad Society for the Dissemination of Literacy and Crafts (1873), and other societies: «Self-help for diseases», «The whole Slavic musical circle for the spiritual uplift of the people», «Society for the publication of useful and cheap books for the Ukrainian people» (books were published in Ukrainian), branches of which were opened in other cities [4, p. 46].

The work published by P. Ryabkov on the occasion of the 25th anniversary of the society "A Brief Historical Essay of the Elisavetgrad Society for the Dissemination of Literacy and Crafts" is devoted to the achievements of the society in the sphere of education (1873–1898) [8]. He emphasizes in this work that "only with the assistance of all the Yelisavetgrad intelligentsia and its active support is it possible for the society to work for the benefit of the people's education. I hope that such indifference is not temporary "[8, p. 42].

It should be noted that the society's activity in the public circles caused a rather ambiguous reaction and was criticized in some places. P. Ryabkov, who was its active member for many years, wrote: "The purpose of the society is charity and enlightenment of the people. We will do this necessary and important work, as much as we have enough strength, despite the difficulties, overcoming obstacles "[8, p. 18].

From P. Ryabkov's report we learn that there were both periods of ups and downs in the company's activities. The period of the society's activity from 1878 to 1882 can be called a period of decline and inactivity. The council of the society was not even convened to consider and approve the reports and elect the officials of the Yelisavetgrad Crafts and Literacy School, which was taken care of by the society. In fact, the school functioned independently. However, the activity of the society was resumed in 1882 , but nothing significant was done from 1882 to 1886, none of the initiatives was implemented. Describing the activities of the society during this period, P. Ryabkov said: "This time is one of the gloomy pages in the life of the society, which indicates the low social activity of the Yelisavetgrad intelligentsia of that time, which allowed the decline of society, a single light phenomenon on a dark background of provincial life ..." [8, p. 22].

And only 1894 can be called the year of the real resumption of the society, as P. Ryabkov himself writes: "Since then, the revival of the society begins, it is gaining new strength, and, to the great surprise of the people of Yelisavetgrad, goes to active life "[8, p. 33]. The results of the company's work are beginning to be published in the press.

Active educational work and educational activities were carried out by a member of the society - memoirist, local historian, publicist, teacher Natalia Arkadyevna Braker [11, p. 279].

We learn from archival sources that N. Braker insisted on in-depth development of the theory and practice of public kindergarten in Yelisavetgrad, as the first and

necessary degree of public education. At the general meeting of the Yelisavetgrad Society for Literacy and Crafts (1912) the educator made a thorough report, which aimed to acquaint members of the society with the basic principles of organization and activities of the Kyiv Society of Kindergartens: "We must take into account the experience of organizing kindergartens which opened its first kindergarten in 1902, and on January 1, 1911 already had two kindergartens, a school for babysitters, a specialty store and a magazine "Preschool education" dedicated to preschool education of children"[5, p. 10].

N. Braker emphasized the necessity to create a permanent special section in the society, which would consider all pedagogical issues, develop programs of public education and upbringing: "To this purpose, it is necessary to involve teachers of various educational institutions, especially since the issue of opening in Yelisavetgrad kindergartens were greeted by the pedagogical community quite favorably "[5, p. 10].

N. Braker emphasized the necessity to involve the public of the city in the organization of public kindergartens and to draw attention of the parents to the urgency to give children the right education that ensures the comprehensive development of the child from an early age. According to her, the organization of kindergarten could be greatly helped by teachers of secondary schools, who in the process of learning and in extracurricular activities encouraged their students to create various products, handouts, collections, which could then serve as material for subject conversations in kindergarten. Natalia Arkadyevna noted that "it is enough to awaken only in children's hearts compassion for other children and it will find a thousand manifestations" [5, p. 11].

N. Braker's proposal was supported and soon a special commission was set up in the Yelisavetgrad Society for the Dissemination of Literacy and Crafts, and she herself became its head.

In addition to extensive educational activities, an important place in society was given to art. From the beginning of the Society's establishment, an Art Section was created, the activity of which was aimed at promoting all kinds of art, which was to promote the development of artistic taste among the general population both in the city and in the region [6, p. 52]. There were art courses at the Society, where members of the section held various classes and gave lectures on art history to all comers. The activity was also manifested in the organization of a wide range of cultural events, among which the most significant was the organization of various exhibitions [6, p. 6]. Thus, the Society for the Dissemination of Literacy and Crafts was the initiator and organizer of the first art exhibitions in the city. During this period, the activities of members of the society, who were the direct organizers of the exhibitions and who managed to attract to the exhibition almost all the artistic treasures of Yelisavetgrad, were able to give it an educational direction [3].

Members of the art section of the Society for the Dissemination of Literacy and Crafts also organized Handicraft Departments at the Yelisavetgrad Agricultural Exhibitions, where they exhibited the best samples of products in this field and at the same time tried to support the existence of handicrafts, whose activities were threatened with extinction. These departments were usually organized by members of

the art section of the Society, leading local artists-teachers: S. Danyshevsky, I. Zolotarevsky, G. Zusman, F. Kozachynsky, A. Nurenberg, O. Osmerkin, P. Soroka, A. Uzlovskaya and others. When selecting exhibits for the exhibition, they took into account that the presented products could interest the residents of the region and use their further needs, and participation in the exhibition of a master craftsman would be a kind of school for him, where he had the opportunity to get acquainted with other products. examples to evaluate and compare with your own [2]. These exhibitions were staffed by commissions of experienced specialists who determined the quality of the product and pointed out the shortcomings in its production, also gave advice regarding to eliminate them. Thus, the attention of artisans was drawn to the most perfect examples in handicrafts, which contributed to the growth of their professionalism, which in turn affected the quality of industry in the region [6, p. 53]. Sometimes these exhibitions were almost the only opportunity to draw attention to the achievements in this sphere as part of the culture of that time.

At one of such exhibitions the products of the Kompaniivka Art and Craft School of Embroidery and Weaving were presented: towels, napkins, tablecloths, etc. products, and as noted in the press, these works were distinguished by taste, elegance and original drawings [7, p. 3].

Discussion. Opened on the initiative of progressive public figures of the city, the Yelisavetgrad Society for the Dissemination of Literacy and Crafts has played a significant role in the development of vocational education, literacy, science, culture and art in the region.

It became the first public organization to form the city's art center, the Art Section, which included leading local artists and artists from other cities. There were art courses at the section, where practical classes were held and lectures on art were given. The activity of the Art Section was manifested in the organization of various cultural events, among which the most widespread were various exhibitions, which contributed to the development of artistic taste among the general population both in the city and in the region as a whole [2, p. 149].

Result. A significant contribution to the development of educational processes in the region in the second half of the XIX – early XX century was made by educational societies opened on the initiative of progressive public figures of the city. Among the greatest achievements of Yelisavetgrad charity in providing various segments of the population with both basic and special knowledge, the rich and diverse activity of the Yelisavetgrad Society for Literacy and Crafts, which on a charitable basis carried out large-scale educational, pedagogical and educational work: it contributed to the establishment of the educational institutions, it organized Sunday literature reading of progressive literature, it conducted significant educational and organizational and advocacy work among the population and students of educational institutions, organized theater performances, concerts, art exhibitions. Through the efforts of the society, a home for young homeless children, the first kindergartens, a free public library-reading room and a public library were opened in the city.

Active educational and propaganda activities of the members of the society played a leading role in the spread of education among various segments of the population, contributed to the development of schooling in the region. N. Braker, P. Ryabkov, M. Fedorovsky, V. Khartsiev and others made a significant contribution to reviving the work of the society.

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THE ORGANIZATION OF MEDICAL EDUCATION IN ELISAVETGRAD REGION IN THE SECOND HALF OF THE XIX CENTURY

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Abstract. *The article reveals the history of the origin and organization of educational institutions for the training of medical workers in Elisavetgrad region in the second half of the XIX century. It was found that the history of medical education was a prominent page in the history of Elisavetgrad region of the pre-revolutionary period. In medical schools, in particular in the Elisavetgrad Medical and Surgical School (1787-1797), which was one of the best medical institutions in the Russian Empire and the first higher medical school in the empire of the historical period, which used original approaches to the educational process, effectively solved educational problems. The aims of the article are to reveal the history of the origin and organization of educational institutions for the training of medical workers in Elisavetgrad region in the second half of the XIX century. The publication uses a historical-retrospective method, which allows a retrospective analysis of the history of Elisavetgrad Medical and Surgical School in the study period and highlights its contribution to the development of medical education in the region. Historiographical review of the problem revealed that there are currently no scientific studies that would systematically and fully analyze the historiography of medical education in Elisavetgrad in the period under study, so the development of medical education in the second half of the nineteenth century needs further study. Analysis and systematization of research on this issue has further development. The accumulated experience of regional medical education in the outlined historical period can be useful at the stage of revival and development of medical education in Ukraine.*

Keywords: *medical education, Elisavetgrad region, medical educational institutions, Elisavetgrad medical-surgical school.*

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Introduction. The modern formation of medical education requires the study of the historical experience of its implementation in different regions of Ukraine, including period of the second half of the XIX century. The study of the history of regional education provides an opportunity to study the existing historical experience of medical education, to predict the main trends of its development in the future, the study of such development in this period will enrich modern science with knowledge about the mechanisms of modernization of medical education.

The relevance of the chosen topic is enhanced by the presence of contradictions between the experience of medical education in Elisavetgrad region in the historical period and the insufficient level of its scientific understanding, generalization and systematization for creative use in modern conditions.

Literature review. During the present period, the interest of scientists in the system of medical education and in the peculiarities of the development of certain medical schools in Ukraine in the second half of the XIX century has significantly increased, as evidenced by the works of modern scientists S. Verkhratsky [2], O. Golyachenko [3], M Kushik [4], V. Pliushch [7] and others. Researchers are trying to assess more objectively the achievements in the field of medical education, due to the

openness of archives and the availability of new sources. It is obvious that the current level of development of the methodology of historical and pedagogical sciences has allowed modern researchers to more fully and qualitatively present the experience gained over a period of time.

However, the genesis of medical education in Elisavetgrad region of the studied period is represented by a small number of scientific investigations of V. Bosko [1], P. Sydorenko [8], S. Prysyazhniuk [8]. The holistic history of the development of medical education in the region of the second half of the XIX century has not yet been properly covered in historiography.

Aims. The aims of the article are to reveal the history of the origin and organization of educational institutions for the training of medical workers in Elisavetgrad region in the second half of the XIX century.

Methods. The publication uses a historical-retrospective method, which allows a retrospective analysis of the history of Elisavetgrad Medical and Surgical School in the study period and highlights its contribution to the development of medical education in the region.

Results. The development of medical education in Elisavetgrad region in the second half of the XIX century was determined by various regional factors, which were also based on national educational reforms, the need to train qualified medical workers and others. The development of the educational medical sphere in Elisavetgrad region took place almost simultaneously with the relentless and rapid development of the region after the founding of the fortress of St. Elizabeth.

The growth of the army, the increase in the urban population, industrial workers, and the general epidemic distress in the country required adequate medical care, including for trained workers. Hospitals are becoming centers where doctors and paramedics are trained. In fact, these institutions in essence were the first higher medical schools in Russia at that time. The hospitals at which they were opened were called general.

As a result of the school reform of 1864, a unified system of primary education was introduced in the Russian Empire, the management of public schools was transferred to county and provincial school councils, and the maintenance of educational institutions became the responsibility of the local population and zemstvo. However, these changes were not rapid, as they were determined primarily by social-economic conditions and autocratic policy in the field of education, and the proclaimed idea of universal education did not change in practice the class nature of education. The reforms of the 60's and 70's intensified the process of development and expansion of educational institutions network in the territory of the Russian Empire [6, p. 54]. The year 1861 became fateful for the Russian Empire in general, and for Ukraine in its composition in particular. It is the starting point in the development of Elisavetgrad: in 1861 the city was transferred to the civil department, and soon (1865) was restored to the status of a county center.

Note that in Elisavetgrad district of Kherson province the first hospital was founded in 1777, the first doctor of the battalion D. Vovchanetskyi named it in honor

of St. Elizabeth. The hospital was designed for 200 beds. Later, a large Elisavetgrad hospital was established here.

The events of the Russian-Turkish War of 1877–1878 led to the establishment of medical courses in the city, as a hospital for wounded soldiers was located in Elisavetgrad, which was cared for by the famous surgeon and organizer of education M. Pirogov. The leaders of the Elisavetgrad branch of the Red Cross Society opened courses for sister of charity at the hospital in zemstvo, where practical classes were conducted by local and military doctors. Graduates of such classes helped medical workers in military hospitals, infirmary, sanitary units [9].

In 1788–1797, one of the first medical schools in Ukraine, the Medical and Surgical School, existed in Elisavetgrad. During the whole period of its existence, 247 students and 10 volunteers studied here. V. Dominicius taught chemistry, physics and medical practice for the first five years, and O. Zviryakov taught chemistry, botany, pathology and therapy for the last two years; anatomist E. Mukhin and surgeon D. Volchanetsky also worked in it [5, p. 84], during the Crimean War (1853–1856), M. Pirogov, a prominent scientist and the founder of military field surgery, worked for some time in the military infirmary near the fortress [5, p. 84]. In fact, it was the first higher medical education in the Russian Empire at that time.

By the order of G. Potemkin as the inspector of the hospital and schools was appointed V. Shariy, and he managed the school before its closure. The inspector was respected among the residents of Elisavetgrad because he allowed to dispense prescription drugs from a hospital pharmacy and to consult patients.

Initially, the Elisavetgrad Medical and Surgical School was headed directly by G. Potemkin, after his death by General M. Kakhovsky, and from 1793 by O. Suvorov. It should be noted that both G. Potemkin and O. Suvorov were very interested in the creation of this school, because it was to train doctors for the army on the Russian-Turkish front. The Ukrainian community, for its part, was also interested in the development of this school, because, firstly, it was a long-standing dream of the Ukrainian elite to have their own higher education institution in Ukraine, and secondly, young people were more enthusiastic about studying in Elisavetgrad than to distant and foreign St. Petersburg and Moscow.

All students of the school were mostly from Ukraine, including students of Kyiv-Mohyla Academy, Kharkiv, Chernihiv and Pereyaslav schools and Ekaterinoslav, Belgorod and Uman seminaries. According to their social composition, the students were mostly children of doctors, clergy, Cossacks and small gentry. Ethnicity was dominated by Ukrainians, but there were also Russians, Poles, and Moldovans. Students lived in private apartments or settlements - Kovalivka, Bykiv and Zamlynkivsk. The largest enrollment took place in 1791, when 47 students were enrolled, and in 1794, when 84 students were admitted (for example, no more than 20 students were admitted to Moscow and St. Petersburg medical and surgical schools annually).

Elisavetgrad Medical and Surgical School was organized on the model of other medical institutions in the Russian Empire. The main requirement for entering school was knowledge of Latin, which at that time was the international language of science.

In accordance with the general provisions of the hospital, from 1735 a period of study from 5 to 10 years was established in hospital schools. By order of the Medical Office of July 4, 1754, seven years of study were established equally for all schools. But usually this time was not observed. All students who study well, after two or three years of study and exam as a future doctor, received the title of doctor, and after one or two years - the title of doctor. Even later, in 1795, every student who studied for three years and passed the exam, received the title of paramedic, after the fourth year of training candidate of surgery [8, p. 54].

The first three courses taught the following subjects: Mathematics, Physics, Chemistry, Botany, Anatomy, Physiology, Medical material, Formulation, Pathology, Therapy, Surgery and sectional course. In the fourth year only Surgery and Obstetrics were studied deeply.

The fifth year of study was devoted to patient care, rotation in the so-called clinical departments and practical exercises. At the same time, students need to perform at least four basic operations on the body and prepare at least two anatomical preparations.

It should be noted that the anatomy studied not only from textbooks and atlases, as often happened in foreign universities, but also must guide the section of dead or killed. Each hospital organized anatomical museums and worked as a so-called master drawing that had redraw the nature of anatomical preparations. In addition to general anatomy students studied also pathological anatomy. This was created by a section of deaths in the hospital, which in turn significantly improves the diagnosis of diseases. From this point of view an interesting thing is a guide for physician hospitals, dated 1753. Overall, during the existence of school teachers and students were conducted 550 autopsies, and that given the fact that in those days in Europe never performed such a procedure.

Along with students studied anatomy principles of forensic medicine and physiology taught anatomy, or simultaneously with, or as a separate discipline. Detailed attention to the study of so-called Materia Medica, of course, which included: Botany, Pharmacology, Pharmacognosy and Formation. It is important that this subject is taught not only in theory but also practical exercises conducted in hospital pharmacy and botanical garden.

Special attention was paid to the study of Surgery and Desmurgy. Surgery was studied primarily on the carcasses, whereby each student had to make a number of operations. There was the obligatory presence with operations and participate in rounds of patients. Desmurgy students studied first at phantoms, and made dressings for patients. Interestingly, the Ukrainian doctors, scientists and J. N. Karpynskyy-Sapolovych were some of the best sets of operational work. Obstetrics studied both phantoms and practical exercises. Other clinical disciplines, such as eye, leather, mental and nervous diseases, taught not only in theory, as was common in most foreign universities, but also directly studied in patients as the hospital had a large clinical database. Of course, much attention was paid also to the study of internal medicine of person. From 1735, according to the "General Regulations on Hospitals", staffs were created, which included the positions of chief physician, junior or so-

called lecture physician and a number of physicians. In addition to the head teacher and the junior doctor, there were also doctors and operators. Students had to listen to lectures of various clinical disciplines, conduct exercises, record medical history.

In particular, in Elisavetgrad Medical and Surgical School both theoretical and practical research was conducted very quickly. Each day, students listened to seven hours of lectures and worked at the patient's bedside for four hours. Theoretical research, according to archival materials, was conducted according to the following schedule: from 10 to 12 hours of acquaintance with diseases, in the afternoon from 2 to 4 hours - treatment with drugs, from 7 to about 10 hours of anatomy and surgery. Also during training regularly tested students' knowledge. For example, there were tests weekly, monthly, three-month and year-end was held so-called final general exam. In general exams members of the Medical Board, divisional doctors, and other distinguished guests often attended. At the annual general exam all doctors and doctors working in the hospital attended, and each of the participants could ask the student who passed an examination [8, p. 65].

Students of Elisavetgrad medical-surgical school as students of other medical and surgical schools of Empire, used textbooks in Latin, German and Russian. Interestingly, most medical textbooks have been translated into Russian or Latin by Ukrainian scientists and physicians. Thus, the Ukrainian scientist N. Karpynskyy was the first in the Empire who composed the pharmacopoeia (1778), and N. Maksimovic-Ambodik composed medical Latin-Russian dictionary, medical and surgical pathological dictionary, six-language textbook on obstetrics and 4-part book "Doctor’s materials."

The first teachers of Elisavetgrad Medical and surgical schools were: Senior hospital doctor P. Kolb, who received education in the Moscow Hospital School and was a teacher in Petersburg hospital. In 1789 he received his medical degree and taught anatomy, physiology, surgery and so-called " Doctor’s materials", as he wrote in his letter addressed to the Chief Medical College A. Vasilyeva. Mr. Kolb was a teacher at the school from 1789 till the day of its liquidation. Dr. V.Dominitsiyus taught Medicine - a course that included: pharmacognosy, pharmacology, pharmacy, and later botany and medical practice. He worked since the organization of the school till 1793, then he was transferred to the Black Sea Fleet. Then Dr. I.Kerner continued teaching and gave up teaching due to illness. Suvorov then turned to the medical board to send a teacher, and Dr. Ostap Zviryaka was appointed to this place, which began work in July 1794, and taught chemistry, medical practice.

Graduates Elisavetgrad medical-surgical school initially received appointment to the army units that were deployed in southern Ukraine and the Black Sea Fleet. Subsequently destination geography graduates increased. They worked in Belarus, the Baltic States, in Kamchatka.

The school was famous for its graduates, among whom the most famous E. Mukhin, O. Zviryaka, D. Volchanetsky, S. Nemirov and A. Chorba, A. Bystroglazov, because they all belonged to prominent Ukrainian doctors and contributed not only to the development of Elisavetgrad medical and surgical school, but also to Ukrainian medicine in general [1, p. 57].

Elisavetgrad Medical and Surgical School existed for 10 years, from the beginning of 1787 to the middle of 1797. The school had 247 students and 10 volunteers. Thus, future doctors and 153 doctors learned at the school. During the XVIII century 2000 doctors were educated in the empire. So we can say that every eighth state doctor was educated at the Elisavetgrad Medical and Surgical School. At the time of closing, 95 students and 9 volunteers were enrolled who wanted to take future exams for doctors. Thus, there was no question about the lack of people willing to study there. But the war ended, and the central government of the Russian Empire was not interested in maintaining higher medical education in Ukraine. In a report addressed to the Medical Board, school inspector P. Sharoy clearly demonstrated the need for the continued existence of the school. But, despite the existence of a successful institution for 10 years, these facts do not convince the central government and Paul I adopted a report on the liquidation of the institution on June 13, 1797. Students were sent to the Moscow and St. Petersburg Medical and Surgical Schools [8, p. 70].

Discussion. Thus, the history of medical education was a significant page in the history of Elisavetgrad region of the pre-revolutionary period. In medical schools, in particular in the Elisavetgrad Medical and Surgical School (1787-1797), which was one of the best medical institutions in the Russian Empire and the first higher medical school in the empire of the historical period, which used original approaches to the educational process, effectively solved educational problems.

Conclusions. The historiographical review of the researched problem allowed to establish that currently there are no such scientific researches where the historiography of development of medical education of Elisavetgrad region of the studied period would be systematically and fully analyzed, therefore the question of development of medical education of the region in the second half of the XIX century needs further study.

The accumulated experience of regional medical education in the outlined historical period can be useful at the stage of revival and development of medical education in Ukraine.

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CHAPTER 2
INNOVATIONS IN THE MANAGEMENT OF EDUCATIONAL INSTITUTIONS

COGNITIVE MODELING IN THE MANAGEMENT OF EDUCATIONAL INSTITUTIONS

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Abstract*. The article substantiates the possibility of using cognitive analysis for strategic management of educational institutions. The aim of article is to study of the problem of choosing the factors influencing the quality of education. Accounting for the assumption that complex and poorly structured management decision-making tasks can be formalized by constructing cognitive maps that allow them to model changes in results. The main method used in article is semantic analysis of the main to understand the subject area. The main features of cognitive modeling are considered. The main definitions are introduced. The cognitive system is seen as a decision support system. The cognitive map is considered as the basic cognitive model.*

Keywords: *cognitive model, educational institutions, cognitive map, management, decision making, modeling, university.*

JEL Classification: JEL I0; I20

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Introduction. The difficult living conditions of the 3rd millennium "will largely be related to the knowledge that allows us to survive in extreme conditions" taking into account socio-cultural specifics and identifying "system-forming factors that determine our own educational practice, the same that can allow man with our type of sociality to live in moderation, in harmony with himself and the world of nature "[5].

Modern development of society requires a new system of education - innovative learning, which would form in students the ability to strategically determine the future, responsibility for it, self-belief and their professional abilities to influence this future.

Universities play an important role in the development of the economy, the state, civil society, providing the knowledge, skills, ideas and basic research needed by any country to ensure economic, social, political development and growth. Almost all universities see their mission and role in being centers of education, science and culture.

The processes of modernization that take place in the higher education system require scientific understanding, systematic research and long-term modeling of the educational process in higher education institutions.

The essence of university models is not in the denial of any of the functions of the university, but in the predominant development of one of the activities that becomes the basis for this university.

The organization of effective management and optimization of the educational process are the most important tasks facing the administration of different levels of higher education institutions.

Direct experiments on such a real system are possible in practice, but undesirable. For socio-economic, political and other complex systems, a "natural" experiment on a "living" system is costly, impossible or unacceptable (dangerous). An experiment on the system model is required.

Literature Review. The method of modeling is the subject of wide use in modern scientific and pedagogical research (V. Grinyova. O. Dubasenyuk, N. Nychkalo, S. Sysoeva, V. Chernilevsky, etc.), in particular modeling of the professional profile of the future teacher (V. Bespalko, N. Kuzmina , A. Markova, V. Slastyonin), training of future teachers (O. Budnyk, N. Gluzman, O. Savchenko, L. Khomych, etc.) as a method of cognition, which aims to reflect the holistic process of professional training of future professionals and its design (O. Yaroshynska, L. Vygotsky, J. Gibson, V. Yasvin, V. Manuilov, V. Rubtsiv, etc.). Modeling (Englishmodelling, simulation, German modellieren, modellierung, simulation) is a method of studying phenomena and processes based on changing a specific object of research (original) to another similar to it (model). Modeling in a broad sense is a special cognitive process, a method of theoretical practical indirect cognition, when the subject instead of the direct object of cognition chooses or creates a similar auxiliary object - a substitute (model), explores it, and transfers the information to real subject of study [14, p. 17].

Aims. The aim of article is to study of the problem of choosing the factors influencing the quality of education. Accounting for the assumption that complex and poorly structured management decision-making tasks can be formalized by constructing cognitive maps that allow them to model changes in results.

Methods. The main method used in article is semantic analysis of the main to understand the subject area.

Results. Creating models of pedagogical processes and phenomena on a scientific basis is the subject of such a direction of pedagogical knowledge as "Pedagogical design", defining the general principles of pedagogical design, namely: a) the principle of sequence of transitions from theoretical to normative model, and from the latter to specific activity programs; b) the principle of conformity of the means offered at each stage of designing, to the pedagogical purposes and conditions of realization of process which is investigated [6]. The main requirement for the model is its "adequacy, that is compliance with reality, the essential properties of the object" [4]. The defining principle of modeling is to preserve the structural and functional correspondence between the model and the modeled object. To the basic methodological principles of pedagogical modeling scientists [9] include the following: the principle of purposefulness and subordination to the goal; hierarchical interdependence and coherence; the reality of performance; specificity; predictability; feedback on the status of the achieved result; functional and logical structuring of the system; contradictions (unity of intuitive-semantic and formal methods of studying

the object); clarity; certainty; objectivity; conceptual unity of axiomatic and semantic-existential aspects; information sufficiency.

This problem is solved by simulation methods.

Cognitive analysis is one of the most powerful tools for the study of poorly structured environments, helping to understand existing problems, identify contradictions and qualitative analysis of the processes occurring in these environments. The essence of cognitive modeling as an element of cognitive analysis is to simplify the reflection of the most complex problems and trends in the system, the study of possible scenarios of crisis situations and ways and conditions to overcome them.

The methodology of cognitive modeling, designed to analyze and make decisions in poorly defined situations, was proposed by Axelrod [3]. It is based on modeling the subjective perceptions of experts about the situation and includes: methodology for structuring the situation; model of representation of knowledge of the expert, in the form of a sign digraph (F, W), where F - a set of factors of a situation, W - a set of causal relations between factors of a situation; methods of situation analysis.

Currently, the methodology of cognitive modeling is developing in the direction of improving the apparatus of analysis and modeling of the situation. Here are proposed models for forecasting the situation [3; 10; 12]; methods for solving inverse problems [10]. However, the existing methodology of structuring the situation and the model of presentation of expert knowledge does not allow to analyze complex situations. Creating large models involving dozens or hundreds of factors requires the development of another model to represent knowledge of the situation, a methodology for structuring poorly defined complex situations, methods for explaining and interpreting modeling results, and supporting decision generation.

The purpose of cognitive modeling is to form and refine the hypothesis of the functioning of the object under study, which is considered as a complex system consisting of individual elements and subsystems interconnected.

Stages of cognitive modeling:

- identification of factors that characterize the situation, system, environment.

For example, the essence of the problem "Training" can be formulated in factors "Educational service", "Non-payment of educational services", "Revenues of higher education", "Demographic status", "Number of students", "Costs for the organization of the educational process" and others. ;

- Identifying the links between the factors. Determining the direction of influences and interactions between factors, for example, "Number of applicants" affects the "Income of higher education";

- determining the nature of the impact (positive, negative). For example, increasing (decreasing) the factor "Number of students" increases (decreases) "Costs for the organization of the educational process" - a positive impact; and increasing (decreasing) the factor "Non-payment of educational services" reduces (increases) "Revenues of higher education" - a negative impact. At this stage, a cognitive map is built in the form of an oriented graph;

- determining the level of influence of factors on each other (weak, strong). At this stage, the cognitive model in the form of a functional graph is finally built [13].

Discussion. The educational process can be considered as one of the ways to manage the cognitive activity of students, which has a specially organized structure. Therefore, modeling issues for the learning process are important in creating new teaching methods: "In the study of the learning process modeling allows you to analyze the learning process in parts, elements; reveal the inner essence and conditionality of facts and phenomena of learning; apply schematization and generalization; suggest ways to search and verification of research indicators; select, summarize and evaluate the data of experience and experiment; check the criteria of objectivity of evaluation; specify methods, forms and techniques of educational work and experiment; test and refine hypotheses and adjust data on the subject of research"[1, p. 93].

To build a model it is necessary to: identify significant factors that may affect the results of solving the problem; select those that can be described quantitatively; combine factors on common grounds; establish quantitative and qualitative relationships between the elements of the educational process.

The factors that determine the course of the educational process in a given model, we include the following: problem formulation; determination of strategy and tactics of organization of educational process, reflecting the concept of procedural-cognitive approach; study of students' cognitive abilities in order to develop individual educational strategies; defining the goals of cognitive learning; identification of the basic principles underlying cognitive learning with its activity nature.

Conclusions. The cognitive model we develop is a model that implies the processing of information into semantic components of professional consciousness, the transformation of knowledge into ways of action. From the point of view of the development of cognition is associated with changes in the nature of thinking that occur in an orderly manner.

One of the common tools of cognitive modeling is the cognitive map. Cognitive map is a graphical representation of causal relationships between concepts, factors, indicators, parameters that interact with systems and their blocks [2]. Cognitive map allows you to give a comprehensive assessment of the situation, to determine the causal links between the parameters of the system, as well as the impact of parameters on the situation as a whole.

The classical cognitive map is a sign-oriented graph:

$$G=<V, E>, \quad (1)$$

Where $V = \{v_i \epsilon V, i = 1,2,3 .., k\}$ are the vertices of the cognitive map, presented in the form of many factors, goals or events; $E = \{e_i \epsilon E, i = 1,2,3 .., k\}$ - arcs of the cognitive map, many relationships that show the influence of factors, goals or events on each other [7].

Cognitive maps are most often considered to model cognitive (cognitive) processes associated with the acquisition, representation and processing of information about the environment, during which the subject is not a passive observer, but actively interacts with the environment.

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CHAPTER 3
THEORY AND METHODS OF VOCATIONAL EDUCATION

TRAINING FUTURE PRIMARY SCHOOL TEACHERS FOR ECONOMIC UPBRINGING OF PUPILS IN THE CONTEXT OF GLOBALIZATION PROCESSES

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Abstract. *The paper focuses on one of the issues of training highly qualified specialists of the modern school that is training future primary school teachers for the economic upbringing of younger pupils in the context of globalization processes. The author emphasizes the significant gap between the real state of affairs in general secondary education, higher education institution and today's challenges, as well as the lack of coordination between them which does not allow one to provide the economic component of professional teacher training. The article aims to justify pedagogical conditions and means ensuring effective training of prospective primary school teachers for economic education of pupils. The systemic-functional method allowed one to identify the areas in the training of prospective primary school teachers for economic education and the systemic-structural method to identify and justify practical recommendations. The study and generalization of pedagogical experience became possible due to the empirical method. Primary school teachers play an essential role in solving this particular issue. Their purposeful training depends on the quality of training and upbringing of young people, as well as full inclusion in life and effective work under modern conditions of social development. Thus, one can conclude that professional training of future primary school teachers is not focused on the development of economic knowledge in younger pupils. In this case, economic self-study presented to younger pupils based on their life experience is likely to have negative results since it does not offer pupils different approaches to solving this or that issue. The introduction of primary school counselling, didactic and economics in the curricula for training future primary school teachers should have a positive impact on their expertise and ability to provide quality education and upbringing of pupils.*

Keywords: *economic education, economic upbringing, training of primary school teachers, economic literacy, integrated course, self-study, younger pupils, students.*

JEL Classification: JEL I0; I20

Formulas: 0; fig.: 0; tabl.: 0; bibl.: 6

Introduction. Today's world is facing globalization that is a new stage and era of comprehensive integration of humanity in a single space of information and communication, and the entire planet's transformation into a common economic market. Globalization places high demands on the competitiveness of the nation's economy, which is not limited to the country's ability to achieve and maintain high rates of economic growth. Furthermore, the emphasis is no longer so much on material goods and services as on human intellectual potential. The country's economic level and competitive position in the world mainly depend on human capital. The educational system contributes to solving this particular problem since

it is the school that prepares human resources as the main factor in ensuring a competitive economy. Knowledge, innovations and ways of its practical application act as a source of profit more and more often these days. A new type of economic development urges various workers to change their profession several times during their lives and constantly improve their skills. The educational sector significantly overlaps with the economic one in the information society, and educational activity becomes the most important component of its economic development and a factor in overcoming backwardness. Thus, one of the priority areas in educational development is economic education in schools. In Ukrainian schools, the study of economics is becoming rather popular, and various forms of additional socio-economic education are developing. Integrating economic education in the school curriculum helps the future generation to develop economic thinking and economic culture, as well as ensure greater social mobility compared to previous generations.

One can solve this problem only through developing the corresponding curriculum and syllabi and preparing teachers who have theoretical and practical knowledge of economics, as well as teaching methods of economic education. World experience convincingly proves that the foundations of business skills, economic literacy and culture of individual behaviour in a market economy are laid in childhood.

Literature review. There are some studies on economic education of children at schools reflecting individual aspects of the problem under study (O. Padalka, N. Pobirchenko, I. Sasova, O. Shpak). N. Pobirchenko elaborates programmes for developing entrepreneurial inclinations of primary school children, cultivating economic thinking in preschool and school-age children and prepares textbooks and economics notebooks for primary school. In his works, O. Padalka emphasizes the need for economic education throughout schooling.

Aims. The article aims to justify pedagogical conditions and means ensuring effective training of prospective primary school teachers for economic education of pupils.

Methods. The systemic-functional method allowed one to identify the areas in the training of prospective primary school teachers for economic education and the systemic-structural method to identify and justify practical recommendations. The study and generalization of pedagogical experience became possible due to the empirical method.

Results. It is vital to develop economic consciousness and thinking and be economically wise. Such qualities as entrepreneurship, responsibility, organization and thrift are of great importance. Economic education as a socially valuable quality allows using time rationally, creates conditions of interest in highly productive and efficient work, helps to calculate the family budget correctly and run the household rationally. Therefore, it is essential to cultivate economic culture as an integral part of universal culture from the first years of school [1, p. 30].

Primary school teachers play a special role in solving this particular problem. Indeed, the quality of youth education, as well as young people's inclusion in life and professional performance under modern conditions of social development, depend on their professionalism.

In the context of Ukrainian pedagogy, many scientific works deal with the problem of economic education in primary school. It is since most primary schools do not allocate study time to economics (neither in the context of other subjects, nor as a separate subject), and the level of pupils' economic education does not meet modern requirements. Such a discrepancy dates back to the Soviet era when it was essential to nurture a careful (economical) attitude towards household items since the country's economy was always stable and only growing. It is obvious that such "growth" was the first reason for the destruction of the former empire, and individuals who did not learn economic literacy at school in the 1990s were forced, in a best-case scenario, to buy and sell to make small quick profits.

Concerning Ukrainian schools, these years are of much interest to educators-researchers, who offer different approaches to obtaining at least basic economic knowledge at various levels of school education. N. Pobirchenko offers the programme, titled "Developing Inclinations towards Entrepreneurial Activity in Primary School Pupils" (1995) [6]; "Designing Continuity in the Development of Economic Thinking in Preschool and School-Age Children" (1999) [5], as well textbooks, called "Economics Copybook. Grades 1-3" (1998) [4], "Economics for Children "(1999) [3] and others. O. Padalka highlights the need for economic education throughout schooling [1].

The early 21st century brought new theoretical developments (V. Didukh, O. Padalka, I. Sasova, O. Shpak, N. Slobodianiuk). However, the experiment conducted in some schools did not become widespread in Ukraine and rather provoked new attempts and, consequently, a new vision of this particular problem. The so-called "economic and pedagogical" chaos in Ukrainian schools of the early 21st century only proves that the cultivation of economic culture in pupils is spontaneous, and the lack of economics in the primary school education standard gave rise to several author's programmes, most of which did not meet didactic requirements and had nothing to do with "economics/fundamentals of economic knowledge". That is why economic education in urban and rural schools is different under such conditions. Urban teachers try to organize extracurricular activities and involve representatives of financial institutions in them, arrange trips for students to these institutions, whereas rural schools embody economic education in a casual-pragmatic way, namely, "grow – sell – earn money". Thus, they integrate economic education into home economics and might even include it in the latter. Such measures do not contribute to young people's understanding of the specifics of the economic life of an individual, family, team, country. Therefore, it is essential to train a new specialist who can provide pupils with economic knowledge independently or in the context of a certain school subject to solve this problem. This, the training of prospective primary school teachers for

economic education of schoolchildren is one of the most important problems in the modern system of teacher education [2, p. 18].

Unfortunately, much less attention is paid to the problem of such specialists' training. This is despite the fact that, in 1991, O. Padalka defended a special study, titled "Preparing Pedagogy Students for Economic Education of Schoolchildren" [2]. The author focuses mainly on the training of prospective teachers for economic education of middle and high school pupils. However, for more than twenty-five years the researcher's conclusion about the state of higher education has remained relevant. He indicates, "the educational process in higher education institutions does not fully realize the integrity and functional relationships between labour and economic training of pupils. The content of programmes and teaching aids violate the principle of integrity. Besides, they unsystematically distribute or even lack the material related to the organization of productive labour or the development of economic relations and demonstrate insufficiently sustained continuity in economic education for all years of study in pedagogical universities" [2, p. 4].

The observation of the educational process in modern pedagogical universities suggests that the main objectives of primary school teachers, which primarily lie in adjusting professional readiness for economic education to modern requirements of teacher training and whose implementation can ensure the effectiveness of pedagogical guidance of pupils' economic education are as follows:

a) to understand the basics of economic knowledge;

b) to use methodologies of economic education, which involves comprehending its aim, objectives and content, applying methods of economic education and knowing about the main areas and forms of its organization;

c) to study and identify the level of economic education;

d) to be able to consolidate efforts of teachers, parents, the public, the media;

e) to solve problems of economic education in the system of secondary school, taking into account age, gender and individual characteristics.

However, the analysis of syllabi shows the lack of special economic disciplines or integrated economic-mathematical or pedagogical courses [6, p. 34].

It was essential to clarify some aspects of the problem under study. Therefore, the author of the article conducted a survey of students from Primary Education Faculty at Pavlo Tychyna Uman State Pedagogical University. The survey includes the following questions:

1. Do you think economic education is necessary for primary school?
2. At what age should one start economic education?
3. Do you have enough knowledge and skills to provide economic education?
4. Is economic self-education important for primary school teachers?
5. What do you think the economic education of primary school children should include?

The obtained results were not entirely expected. Concerning Question 1, 34.3% of students do not see the need to study economics in primary school since

younger pupils cannot quite understand economic principles. Most of the answers are rather general, which does not reveal the importance of implementing this area of education regarding primary school pupils' personal development. At the same time, 52.8% of students suggest starting economic education in the 5th grade (given there was a transition to another age range, some kind of maturation occurred). As for Question 3, 78.6% of students admit that they have enough knowledge to provide primary school children with economic education. Still, they are not ready to engage in economic self-education since it is not the main area of secondary education.

Interestingly, 21.7% of students consider it appropriate to start economic education in primary school. It does not have to be in-depth knowledge of economics. It could be a system of classroom topics and extracurricular activities, during which younger pupils can find out about famous people who have reached such heights through the construction of an economic strategy in an accessible form. Besides, students offer to include fairy tales (both folk and literary) in the course.

One should pay specific attention to the proposal of students to introduce a special practice-oriented course on economic literacy, which can provide each child with the opportunity to understand such concepts as money, family finances, family budget management. The course should include different types of research and creative activities, as well as life simulation games.

The main goal of economic education for primary school children is to develop basic economic knowledge required in practice. The aim of the course is realized by tackling the following objectives:

– to develop pupils' views on the economy as a sphere of human activity related to needs and incomes;

– to master the simplest techniques of economic choice;

– to master basic economic calculations;

– to cultivate thrift, precision and responsibility for the task;

– to teach to bring the case to an end;

– to use various resources rationally;

– to take care of personal, family, school and other property [1, p. 31].

Discussion. Students believe that providing younger pupils with economic education develops their abilities to plan, organize, control, save time and use rational methods of educational and extracurricular activities. The basis of these skills is manifested in self-organization and self-regulation. The unity of all the components (knowledge, attention allocation and switch, perception skills, thinking, self-control) in the structure of these abilities is determined by the interaction between goals (some ideas about possible final results of activities) and conditions. Pupils will gain an impression of various concepts of the economic sphere, including labour, products, goods, services, property, wealth, culture, economy, household, utilities, thrift, school, family needs, family budget. Moreover, students state that it should become possible to offer different options

depending on the economic conditions of the region where they will work after graduation [4, p. 37].

Also, one should pay particular attention to the logic of interdisciplinary relations. Students claim that economic knowledge is most closely related to such subjects as Mathematics and "Ukraine and I". At the same time, the knowledge of any subject which might later transform into deep scientific knowledge can be a commodity. It is through this prism that it is easier to explain the economic component of the lives of Bill Gates, Steve Jobs and others to younger pupils.

Conclusion. Thus, the training of prospective primary school teachers is not focused on the development of economic knowledge in primary school pupils. In this case, economic self-education, interpreted through teachers' life experience and presented to younger pupils in such a way, will rather have negative consequences since it does not offer pupils different approaches to solving a particular issue. Consequently, it is important to introduce a course integrating the psychology of primary school pupils, didactic and economics in training programmes of prospective primary school teachers. It will positively affect their professionalism and ability to provide quality education.

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IMPLEMENTATION OF CROSS-CURRICULAR INTEGRATION IN THE PROFESSIONAL TRAINING OF FUTURE TEACHERS OF PHYSICAL CULTURE

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Abstract*. The article examines the effectiveness of interdisciplinary integration in the training of future physical education teachers. The purpose of the article is to test the effectiveness of interdisciplinary integration in the training of future teachers of physical education. Research methodology includes: empirical methods: observations, questionnaires, pedagogical experiment is for checking the effectiveness of interdisciplinary integration in the training of future teachers of physical education; methods of mathematical statistics are for processing the results of experimental work. Analysis of the effectiveness of the implementation of interdisciplinary integration in the training of future teachers of physical education is based on a certain system of standards: pedagogical orientation, independence and professional maturity, which we used to diagnose their development by those activities that included students of the experimental group.*

After analyzing the data, it was found that students of the control and experimental groups have significant differences on such scales as: awareness, decision-making, planning and communication; as well as a positive trend on the scales: mnemonic, volitional and mental. According to the study, it can be said that future physical education teachers of the experimental group are more knowledgeable and confident in choosing their profession, they more rationally and adequately assess the situation and plan their future more thoughtfully than students in the control group.

Keywords*: integration, interdisciplinary integration, professional training, future teachers of physical education.*

JEL Classification: JEL I0; I20

Formulas: 0; fig.: 1; tabl.: 3; bibl.: 7

Introduction. The principle of integration is one of the most important principles of development of modern educational systems. This principle is innovative, calls for a radical restructuring of the learning process, based on the synthesis of educational areas, which involves obtaining a holistic educational product that ensures the formation of integral personality traits of the learners, his harmonious entry into society, development of professional competencies.

Literature review. Considering ways to implement an integrated approach in the educational process of higher education, scientists suggest different ways to solve this problem. First of all, it applies to semantic integration: the creation of integrated courses, integration of subjects, their components - knowledge, skills (L. I. Balashov [1], M. M. Berulava [2], O. O. Galitskyh [3]). There is a large amount of literature on the problems of "practical synthesis" - the combination and using of various techniques, methods, ways of education and training (V. I. Zagvyazinsky [4], V. D. Semyonov [7], etc. However, today the university faces a fundamentally new task - to create an integrated model of education of future teachers in higher education in order to program a specialist who has the skills and professional mobility, responds quickly to changes in practice and research, is able to demand and

use the device of each a separate discipline in integration with others as a way of solving tasks (problems) in cognitive and professional activities.

The concept of integration in pedagogy is polysemantic and, according to the research of E. N. Puzankova and N. V. Bochkova, can mean "a way to identify, introduce and construct hierarchical relationships between elements of pedagogical systems; a way of building pedagogical models; way , leading the system to integrity, the way to reveal patterns in pedagogical phenomena, processes and systems, the path to a holistic, comprehensive study of pedagogical phenomena and processes "[6, p. 12].

The integration process involves planning special classes on topics that are common to several subjects that can be taught by different teachers. In the process of training future teachers of physical culture in a pedagogical institution of higher education opens wide opportunities for horizontal integration. On the basis of interdisciplinary connections, integrated classes are built, which are characterized by significant and diverse opportunities. Here is the unification of knowledge, the ability to transfer knowledge from one field to another. It acts as a stimulator of cognitive activity of students, develops the need for a systematic approach to the object of knowledge. Combining scientific knowledge from different disciplines, integration frees up learning time, that can be used for the full implementation of differentiation in education [5, p. 21].

Aims. The purpose of the article is to test the effectiveness of interdisciplinary integration in the training of future teachers of physical education.

Methods. Empirical: observations, questionnaires, pedagogical experiment is for checking the effectiveness of interdisciplinary integration in the training of future teachers of physical education; methods of mathematical statistics are for processing the results of experimental work.

Results. The analysis of the effectiveness of the implementation of interdisciplinary integration in the training of future teachers of physical education is based on our defined system of criteria: pedagogical orientation, independence and professional maturity, which we used to diagnose their development in those activities that included students of the experimental group.

Involvement of students in the independent is modeling of integrative connections, first of all, was carried out by the possibilities of the game method. The level of students' independence has changed the most significantly. The assessment of the development of the criterion of "independence" was based on the method of A. A. Rean and V. O. Yakunin and the test of G. S. Prigin. Using the method of diagnosing learning motivation, we identified the main groups of motives and determined their average level (table 1).

The analysis of this table allows us to conclude that in the motivational structure of students of the expert group the leading place is occupied by motives related to professional self-realization. These motives for students are those that actually work and motivate action, because they are related to close professional goals. But the awareness of these goals needs to be supported by procedural motivation, which is accompanied by the emotional attitude of students to the training process.

Table 1

The diagnosis of learning motivation

Groups of motives	Control group		Experimental group	
	Medium point	**Grade**	**Medium point**	**Grade**
Communicative motives	3,32	4	3,69	3
Motives of avoidance	4,55	1	0,57	7
Motives of prestige	2,84	6	3,15	6
Professional motives	2,83	7	5,99	1
Motives of creative self-realization	3,17	5	5,68	2
Educational-cognitive motives	3,45	3	3,57	5
Social motives	3,49	2	3,6	4

In order to diagnose the style of educational activities of future teachers of physical culture and assign them to the group of "autonomous" or "dependent", we used a special test questionnaire G. S. Prigin. We consider this diagnostic technique to be well-founded, it has high validity (content validity and validity of criteria) and reliability. The method diagnoses both main types of students: "autonomous" and "dependent", and also allocates the third group - "indeterminate" students.

For each match of the answer the subject is given 1 point. Students who scored 11 points or more, we referred to the group of "autonomous". Students who scored 7 points or lower, we classified as "addicted". With regard to students who scored 8, 9, 10 points, a definite conclusion cannot be drawn. The results of research on the phenomenon of "autonomy / dependence" in educational activities are shown in table 2.

Table 2

Autonomy / dependence in educational activities

Sample	Number of students, %		
	"autonomy"	"dependence"	"indeterminate"
Control group	5,5	65	29,5
Experimental group	50	24	26

The fact that 26% belong to the "indeterminate" cannot be called positive. It is noteworthy that a high percentage of students who belong to the type of "autonomous" - 50%.

The study of the influence of independent modeling of integrative relations was also conducted with the help of the questionnaire "Professional readiness" by A. P. Chernyavskaya. According to the data obtained, in the experimental group, the readiness on all scales studied as a whole increased. The average value of the autonomy index increased from 13.13 ± 3.27 to 15.27 ± 2.60; the average value of awareness increased from 13.47 ± 2.61 to 15.53 ± 1.96; the average value of the decision-making indicator increased from 13.40 ± 1.99 to 15.73 ± 1.44; the average value of planning increased from 14.00 ± 1.07 to 15.33 ± 0.99; the average value of

the emotional attitude to the professional self-determination - from 14.07 ± 1.87 to 16.27 ± 1.58; the average value of the general professional readiness of the subjects increased from 68.07 ± 6.08 to 78.33 ± 5.66. We assessed the statistical significance of the identified differences using the T-standart of Wilcoxon. In the control group, readiness indicators on all studied scales of professional readiness have not changed.

The whole system of traditional pedagogy is focused on subject-object interaction (student - only the object of action), on strict and direct management, on directive methods of teaching and education, which ultimately leads to the formation of the dependent type of students. The formation of a particular style of educational activity has a multifactorial conditionality: it depends on the characteristics of the student's personality, abilities and so on. But we consider the pedagogical factor to be extremely important.

Investigating the impact of self-modeling of integrative relationships, which was carried out by the possibilities of the game method, we found that its use contributes to: the growth of cognitive activity, the development of responsibility in cognitive activity. In the experimental group there is a steady tendency to plan cognitive actions. Creating a situation of success with the help of the game method influenced the growth of a positive emotional background. One of the important indicators of this is the spread of active expression of cognitive interest of students in their free time.

According to the results of diagnostic measurements of the greatest development due to the influences of the special course "Psychological and pedagogical practice" developed and implemented by us, which aims to develop understanding of high social significance of pedagogical profession and increase psychological and pedagogical readiness for professional activity, the criterion "pedagogical orientation" showed. It should be noted that during the implementation of this course, the experimental group was widely introduced into the educational process vertical and horizontal integration based on inter- and intra-subject connections.

The results of our work on the degree of influence of each of the above positions on the pedagogical orientation of the future physical education teacher allowed us to draw the following conclusions: special course - more affects the motivational and value sphere of personality by meeting the needs of self-affirmation, self-expression, forms initial experience of professional and social activity ; integration classes dominate over all others in terms of the level of influence on the development of motivational and value spheres, on pedagogical attitudes to pedagogical activity, on the development of consciousness and self- consciousness, formation of pedagogical experience, internalization of which leads to higher level of social activity and responsibility. .

Now let's turn to the results obtained by the method of "Morphological test of life values". Values on the scales of this questionnaire are given in table 3. This technique is called "Morphological test of life values" based on the goals and objectives of the study - to determine the motivational and value structure of personality. The main diagnostic construct of this technique are terminal values. By

the term "value" we mean the attitude of the subject to the phenomenon, fact of life, object and subject, and its recognition as one that is of vital importance.

The list of life values includes:

- self-development, that is knowledge of their own individual characteristics, constant development of their abilities and other personal characteristics;
- spiritual satisfaction, that is guidance of moral principles, the predominance of spiritual needs over material ones;
- creativity, that is the realization of their creative potential, the desire to change the surrounding reality;
- active social contacts, that is the establishment of favorable relations in various spheres of social interaction, the expansion of their interpersonal ties, the realization of their social role;
- own prestige, that is gaining their recognition in society by imitating certain social requirements;
- high financial status, that is recourse to the factors of material well-being as the main meaning of existence;
- achievement, that is setting and solving certain life tasks as the main life factors;
- preservation of one's own individuality, that is the predominance of one's own thoughts, views, beliefs over the generally accepted ones, protection of one's uniqueness and independence.

Table 3

Significance of manifestations of thermal values according to the method: "Morphological test of life values"

Scale	Expert group (average value)	Control group (average value)
Self-development	53,1	37
Spiritual satisfaction	33,7	44,9
Creativity	41	39
Active social connections	52,1	32,5
Own prestige	33,5	52,7
High financial position	36	54,4
Achievement	50	49
Preservation of own individuality	38,1	28

From the table we see that the highest value is observed on the scale of self-development. High scores on this scale mean that people strive to learn about their individual characteristics, to the constant development of their abilities and other personal characteristics. It also demonstrates a responsible attitude to one's responsibilities and a display of competence in matters.

The next important factor for our subjects is active social contacts, that is the establishment of favorable relations in various spheres of social interaction, the expansion of their interpersonal relationships, the realization of their social role. For such people, as a rule, all aspects of human relationships are important, they are often convinced that the most valuable thing in life is the opportunity to communicate and interact with other people.

From the group of pragmatic values, high importance was acquired only on the scale of achievement, that is the formulation and solution of certain life tasks as the main life factors. Such people, as a rule, carefully plan their lives, setting specific goals at each stage and believe that the main thing is to achieve these goals.

One of the powerful means of developing the studied readiness, as we have already noted, is to involve students in project activities.

As a result of the study of professional maturity, significant differences in the studied indicators were revealed in students according to the method of "Professional readiness" of A. P. Chernyavska (Fig. 1).

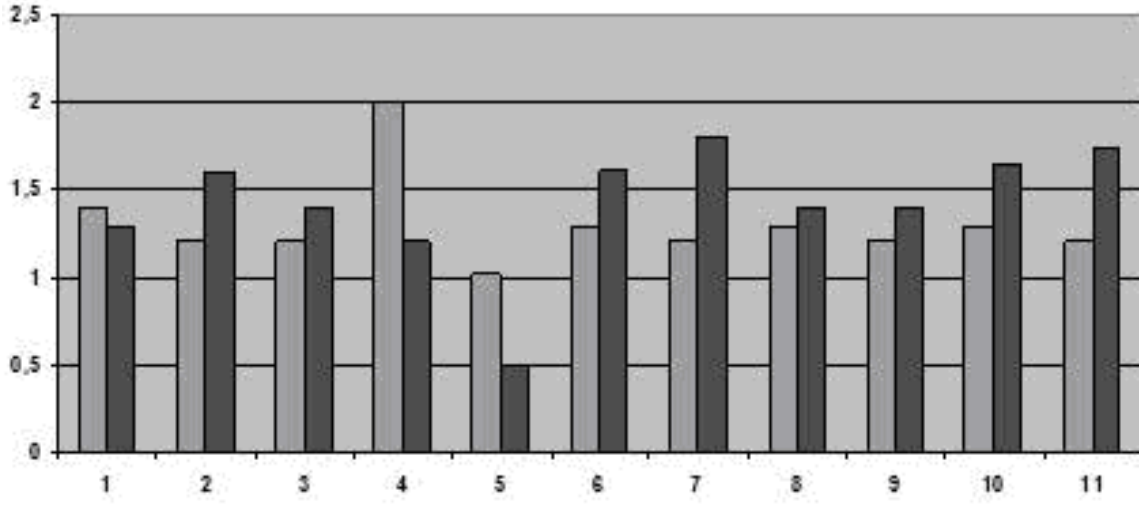

Fig. 1. The level of development of the components of "professional readiness"

According to the study of the manifestation of the corresponding components, we can see that the students of the experimental group are characterized by a high level autonomy, that is independence in choosing the field of professional activity, while awareness and willingness to make decisions are expressed at a high level. Career planning and the emotional attitude to choosing a profession are also presented at a high level.

Discussion. After processing the mathematical dictates, obtained from the results of the study of the control and experimental groups, using the nonparametric test Mann-Whitney for independent samples, the following results were obtained.

Significant differences were found on the following scales:

- awareness (U = 153,5000, p = 0,002037): the ability to have a positive attitude to all types of work, the ability to distinguish between professions, as well as to identify the basic requirements of the profession to man;

- decision-making (U = 211.5000, p = 0.050041): the ability to make informed, rational decisions (this is a special type of human activity aimed at choosing a way to achieve the goal, the process of choosing one or more options for action from many others);

- planning (U = 138.5000, p = 0.000736): this is a process that is a coordinated activity to choose ways to achieve the goal, based on the adopted strategy or

technology of the activity; the order and sequence of its execution is planned in advance; implementation of any program;

- communicative (U = 195.5000, p = 0.023206): this is the process of interaction between people, during which interpersonal relationships arise, manifest and are formed. Communicativeness involves the exchange of thoughts, feelings, experiences, and therefore these skills are very important in society. Some professions have obliged to pay more attention to them, because in certain activities the main method of work is communication.

We also follow the trend on the following scales:

- mnemonic (U = 220,0000, p = 0,072701): there are actions that are implemented in the learning process, include the following operations: orientation in the semantic structure material, dismemberment and grouping of semantic elements, establishing links between structural units of the text, recoding verbal information into figurative, consolidation of memorized material, as a whole and in parts;

- mental (U = 216.5000, p = 0.062517): this is a process that provides answers to such questions that cannot be solved by direct, sensory reflection. Thanks to thinking, a person correctly navigates in the world around him, using previously obtained generalizations in a new, specific situation.

After analyzing the obtained data, it was found that the students of the experimental group are more dominated by the ability to make more informed and considered decisions, they plan their future professional life more rationally. Students in the experimental group are more communicative than students in the control group.

Results. In conclusion, the students of the control and experimental groups were found to have significant differences on such scales as: awareness, decision-making, planning and communication; as well as a positive trend on the scales: mnemonic, volitional and mental. According to the study, it can be said that future teachers of physical education of the experimental group are more knowledgeable and confident in choosing their profession, they more rationally and adequately assess the situation and plan their future more thoughtfully than students in the control group.

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STRUCTURE OF THE CONCEPT: INFORMATION CULTURE OF THE FUTURE TEACHER OF CHEMISTRY

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Abstract. *The article considers the preconditions for the emergence of the phenomenon and the concept of "information culture". The purpose of article is to identify the main components of the information culture of the individual, and to analyze their relationship. The author used the methods of logical comparison, systematization and generalization, which allowed to achieve the goal of the study and draw conclusions. The high rates of scientific and technological progress, the expansion of cognitive activity of people, the emergence of new sciences, the rapid change of not only production but also social technologies, the dynamism of modern society - all these aspects became the basis for significant growth of information resources. The factors of changing the attitude to the concept of "information culture" in chronological order are given. Distinctive and similar features in the views and attitudes to the "information culture" of scientists "East" and "West" are considered. The main approaches to the definition of "information culture" are highlighted. The views of scientists on the components of information culture are listed. The expediency and importance of using the activity approach to the formation of information culture are given. The main components of information culture of personality are singled out. A brief analysis of the interaction of each component is given.*

Keywords: *information competence, computer literacy, activity approach, culturological approach, professional education, information worldview, information activity.*

JEL Classification: JEL I0; I20

Formulas: 0; fig.: 0; tabl.: 0; bibl.: 11

Introduction. We live in the surrounding flow of information now. It has become so much lately that our brain is not able to keep it in our operative menory for long. And indeed, the consumption of information has increased greatly compared to a person who lived 30 years ago. Although it used to be popular to read books and newspapers, scientists claim that modern people get many times more information without reading books. This is due to a change in the environment, namely the information. There are many more sources of information (especially the development of the Internet and everything related to it) and their availability to the masses. Also, new information and computer technologies are evolving every year, for example, there will soon be Starlink (Ilon Mask's global Wi-Fi), which will affect the lives of many. Even our ordinary smartphone can provide, along with the Internet, more information than in some libraries, and we just have it in our pockets. Many people think that the world is ruled by the one who has more money, but this is quite true, because the world is ruled by the one who has "information" in his hands. Through the same smartphones, many companies sell our personal data to advertising companies or pass it to special services. Now it is vital to be able to use modern sources of information, to use for their own purposes. And many, unfortunately, do not know how to look properly, even teenagers and young men, not to mention the elderly. Therefore, our study is relevant, because the development of information culture is able to solve these problems and meet the demands of society.

Literary review. Considered the work of domestic and foreign scientists (N. I. Hendina, K. Voikhanskaya, B. Smirnova, E. Shapiro, V. M. Monakhov, A. O. Kuznetsov, S. A. Beshenkov, O. M. Saltovsky, Mark Hoffman, A. D. Hall, R. I. Fagin). Despite the considerable amount of research related to the understanding of the concept of "information culture" and its components, many issues remain open for further development.

Aims. The purpose of article is to identify the main components of the information culture of the individual, and to analyze their relationship.

Methods. The author used the methods of logical comparison, systematization and generalization, which allowed to achieve the goal of the study and draw conclusions.

Results. The high rates of scientific and technological progress, the expansion of cognitive activity of people, the emergence of new sciences, the rapid change of not only production but also social technologies, the dynamism of modern society - all these aspects became the basis for significant growth of information resources. Their feature is that, unlike all other resources, over time they do not decrease, but on the contrary, they are characterized by growth and accumulation of volumes. Therefore, in the sphere of education, the issue of information overload of students and the need to find radical means to improve the efficiency and security of information in the development of educational programs in general and vocational education [3].

The term "information culture of the individual" appeared in the first half of the 1970s. The term "information culture" first appeared in the scientific literature in 1971 (G. Vorobyov, He drew attention to the generalized use of information and compliance with certain norms of information behavior, warning society that in the absence of appropriate norms information behavior will violate the modes of work in society and will create information "vacuums" and "essences", but the author did not formulate a definition of "information culture") [10].

This term began to be used by bibliographers, librarians, bibliologists. They understood "information culture" as library and bibliographic literacy - a set of knowledge, skills and abilities of the reader that provide effective information activities: based on knowledge of the range of existing information products, services and rules of library using, the ability to find in bibliographic manuals, catalogs and files documents, ability to use opportunities of interlibrary and international library subscription. Issues of information culture were covered in the articles of bibliographers K. Voikhanska and B. Smirnova ("Librarians and readers on information culture" 1974) and E. Shapiro ("About ways to reduce the uncertainty of information requests" 1975). As a result, the idea of information culture as a sphere of existence associated with the functioning of information in society and the formation of informational qualities of the individual began to be considered; as a scientific direction and sphere of activity. Library and bibliographic literacy can be formed in the process of information and bibliographic activities of students included in the educational activities [9].

In Western literature, the term "information culture" introduced the concepts of "information literacy" and the corresponding term "Information Literacy". The phrase "information literacy" first appeared in the press in a report born in 1974, written from the National Commission on Libraries and Informatics by Paul Zurkowski, who was the president of the Association of the Software and Information Industry. Zurkowski used this phrase to describe the "techniques and skills" mastered by information literates "to use a wide range of information tools, as well as primary sources in shaping information solutions to their problems." A significant contribution to the development of this concept was made by the American Library Association, in the interpretation of which an information-literate person can be called a person who is able to identify, place, evaluate information and use it most effectively [2]. As we can see, the level of understanding of the essence of the phenomenon of information culture in Western and Eastern science was expressed in different terms, but were introduced by people-bibliographers. In soviet literature there was more emphasis on the ability to possess information within the library, and in foreign literature such a restriction was not found, and the use of various information sources was emphasized.

Then, the concept of "information culture" in the 80-90s of the twentieth century. acquires a categorical status and is used in a broad special scientific and philosophical context, especially in the publications of A. Rakitov, E. Semenyuk. Attempts were made to draw the attention of the scientific community to the phenomenon of "information culture" as a rational and effective organization of intellectual activity of the individual, as well as to diagnose the level of formation of information culture of the individual. Introduction of new forms of information presentation (databases, e-books, e-magazines, newspapers, etc.), rapid development of computer information processing technologies, the emergence of automated libraries with electronic catalogs - all this has brought to the fore in the field of finding effective ways and means of working with information, the concepts of algorithmic culture and computer literacy.

The term "computer literacy" was introduced by Andrew R. Molnar in 1978, just a few months before the term first appeared in the headline of the New York Times. Several authors have tried to define it, but there was no consensus that all students should know about computers. Some believed that it was any knowledge and skills that the average citizen should know about computers, while others attributed the ability to program. And some courses partially included elements of programming at that time [1].

An article of 1985 published in the Journal of Higher Education defines computer literacy as "a collection of knowledge and skills that ordinary educated people need to work with computers in order to function effectively at work and in private life in society." The article also highlights several key skills that are part of this new literacy, including word processing, the ability to use spreadsheet programs, and the ability to use a computer to search and share information [4].

In our domestic scientific thought in this period includes the concept of "algorithmic culture" considered in the works of V. M. Monakhova,

A. O. Kuznetsova. S. A. Beshenkova, O. M. Saltovsky. Algorithmic culture of students means a set of specific ability to build algorithms for computational, technological and other types of processes, programming in algorithmic languages of a particular level, knowledge of the structure and principles of microprocessor systems, their means of communication with the environment.

The term "computer literacy", borrowed from abroad, began to be used by V. Militarev, E. Smirnov, I. Yagl in publications to denote another concept - "information culture". Computer literacy was understood as:

- ability to effectively use computer technology in all areas of human activity;
- ability to read, write, draw, search for information using a computer;
- use of input devices (keyboard, various sensors of temperature, pressure, air pollution, etc.) and information output (printers, displays, analog-to-digital and digital-to-analog converters),
- ability to apply microprocessor technology in various fields of science and production, knowledge of the capabilities of computers and methods of solving problems with their help.

Approaches have been developed to the formation of not only computer literacy, but computer culture, say some domestic scientists, A. Ershov and V. Monakhov in computer culture included, in addition to computer literacy, skills of competent statement of problems arising in practice, skills of their formalized description, skills of skilled use of basic types of information systems (and general-purpose application packages) to solve practical problems with their help, the ability to correctly interpret the results of solving simple practical problems using a computer and apply these results in real life [7]. Despite this, it is clear that views on computer literacy did not differ radically between "west" and "east", as it all came down to the ability to use the computer for their own purposes.

During the development of the theory of information culture, its circle of specialists began to include representatives of such sciences as semiotics, linguistics, sociology, psychology, pedagogy, culturology, aesthetics, and others.

As a result, in the 90's the point of view on the need to comprehend and generalize the accumulated knowledge of the theory of information culture in a new scientific discipline - information culturology, the theoretical foundations of which are laid in the works of Professor M. G Vokhrysheva [11]. Another factor in the new stage of understanding the concept of "information culture" was the emergence of the Internet in these years of a common information space -.

Scientists are trying to interpret the essence of information culture in the traditions and using the conceptual apparatus of "their" science, generates a number of approaches.

Within the information approach, most researchers of this phenomenon include a set of knowledge, skills and abilities to search, transmit, select, store, analyze and use information, that is everything is a part of information activities aimed at meeting the need for information. I. G. Khangeldiyeva notes that information culture is "a qualitative characteristic of human life in the sphere of receiving, transmitting, storing and using information, where the priority is universal spiritual values."

Proponents of the information approach believe that the information culture of the individual should be studied and formed,first of all, in the context of skills and abilities to independently build professional and any other knowledge that the modern level of society needs.

The culturological approach (O. A Orlova, A. Y. Flier, S. M. Olenev, N. I. Gendina and others) is directed on knowledge of it as the subject of culture defining socially -information program and the direction of its life, being a universal characteristic of sociocultural activity of the person. From the point of view of the culturological approach, information culture forms the orientation of the individual, first of all worldviews, cultural needs and value orientations of the individual in relation to information, and also cultural immunity consisting in information self-defense of intellect. This approach was also used by S. D. Karakozov. He argues that the information culture of the individual is an integral part of the basic culture of the individual as a systemic characteristic of man, which allows him to effectively participate in all types of work with information - obtaining, accumulating, encoding and processing of any kind of information. It includes literacy and competence in understanding the nature of information processes and relations, humanistically oriented information value-semantic sphere (aspirations, interests, worldview, value orientations), developed information reflection, also creativity in information behavior and social -information activity. Information culture is closely intertwined with many other types of cultures: economic, political, legal, moral, environmental, religious, etc., in culturological terms, and it is an integral part of them, a "cross-cutting" aspect that permeates culture in total. Information culture is considered as a way of human life in the information society, as part of the process of forming the culture of mankind from the standpoint of the culturological approach. [8].

The historical approach to understanding information culture is most fully represented in the works of K. K. Colin, A. I. Rakitova, E. P. Semenyuk and others. This approach emphasizes the analysis of the genesis of information culture, reveals its specific historical and social conditionality and, as a result, attempts are made to form a historical model of information culture, which "must combine the time factor and the list of components of information culture."

The pedagogical approach to understanding is defined as a set of rules of human behavior in the information society, ways and norms of communication with artificial intelligence systems, dialogue in human-machine systems "hybrid intelligence", use of telematics, global and local information and computer networks. It includes the ability of people to realize and master the information picture of the world as a system of symbols and signs, direct and feedback information links, to navigate freely in the information society.

Psychological and pedagogical approach (E. P. Belinskaya, G. A. Bordovsky, E. N. Bondarevskaya, Y. M. Babayeva, A. G. Voiskunsky, V. V. Serikov, I. S. Yakimanskaya and others) in the formation of information culture to take into account individual and age characteristics of the individual, the degree of its information activity, computer literacy in order to ensure professional self-realization. Information culture is considered by researchers as a person's ability to participate in

information processes, as an integral concept based on the synthesis of audiovisual, logical, conceptual and terminological, communication and network varieties of cultures, on the system of moral and ethical norms and rules.

Sociological approach: information culture is a term used to denote the achieved level of organization of information processes, the degree of satisfaction of people in information communication, the level of efficiency of creation, collection, storage, processing, transmission, presentation and use of information. consequences of decisions. According to a number of modern scientists (N. I. Kolkov, I. L. Skipor, G. A. Starodubova, A. V. Urazova and others) the concept of "information culture" includes:

- ability to use modern means of extraction, processing and systematization of knowledge;
- understanding the nature and role of information processes in nature and society;
- skills of application of the information approach in the analysis of objects and the phenomena in a society;
- ability to work with different sources of information;
- mastery of the basics of analytical and synthetic information processing and others.

According to scientists of the socio-cultural approach (M. A. Ariarsky, Y. A. Akunin, E. I. Grigoriev, I. A. Gerasimov, N. N. Yaroshenko, A. P. Markov and others) the concept of "information culture personality "consists of:

- harmonization of the spiritual world of the individual in the process of mastering socially significant information;
- in the ability to social adaptation in dynamically changing economic, political, cultural conditions;
- in the independence of interpretation of the received information;
- in developed critical thinking;
- in the choice of socio-cultural activities in the information society, as part of the formation of personal culture.

The systems approach (L. von Bertalanffy, E. G. Yudin, I. V. Blauberg, V. M. Sadovsky, A. D. Hall, R. I. Fagin, and others) reflects the general connection and mutual conditionality of phenomena and processes of the surrounding socio-cultural reality, focuses on the study of phenomena as systems that have a certain structure and specific patterns of functioning.

The above approach is designed to consider relatively independent components of information culture not in isolation, but in the relationship and dynamics, which allows to identify integrative system properties and qualitative characteristics of this concept, to provide a holistic view of the phenomenon of information culture as a dialectical unity of material and spiritual culture as a manifestation of information needs of certain social groups of people, as a process of implementation of information and communication technologies that open opportunities for personal and professional development. The functional structural components of the concept of "information culture" are: basic information structures that determine the processes of interaction between the subsystems of culture; orientational information structures that characterize the relationship between culture and personality [9].

The activity approach to information culture developed in recent years and presented in the publications of N. R. Nurmeeva, N. A. Vodopyanova, K. R. Ovchinnikova and others, which allows to reveal and characterize its functional and substantive side in the conditions of reproduction and transformation of human existence. Within the framework of this approach, culture appears as a general form of human activity for the reproduction and renewal of social life and, at the same time, a way of organizing this activity, its products and results. In turn, information culture, as the most important component of the general culture of man and society, is considered as the total amount of all previous experience of human activity in the field of obtaining and using information, presented in a generalized form [6].

As we see, there are many approaches, but most of them are theoretical character, and to form an information culture is possible only in the activity (which is the basis of the activity approach). It is necessary to analyze the structure of information culture and identify the impact of activities on its components to verify this. Since there is no single definition of the concept of "information culture", it is logical that the views of scientists on the structure of information culture of the individual will be different.

Vokhrysheva M. G identifies the following components: information competence; communicative competence; value orientations; information worldview. Sygovtsev G. S believes that the components of information culture of the individual are: information activities; information hygiene; information worldview. And according to Drannikova G. V - this is an informational style of thinking; information activities; information worldview [5].

Discussion. Analyzing it, we can say that most scientists include in the structure of information culture of the individual information activities and information worldview. This is confirmed by the study of Khaibulaev M. H, where the results of a survey of scientists and students, which components of information culture most often identified: information activities, information worldview, communicative competence and information competence. And this is not surprising, because these components naturally follow from the essence of the phenomenon of "information culture". After all, one of the main tasks of information culture is to prepare people for life in the conditions of informatization. This preparedness is expressed in the skills and abilities that are manifested and formed just in the course of information activities, and the rational use of activities in combination with information and communication technologies forms information competence. During such practical contact with information (due to our psychology, because we have feelings and emotions) we have a reaction to the processed information, which is manifested in the formation of values and views, which is the basis of information worldview. And communicative competence is not only important for the proper using of information and communication technologies (which are necessary for information activities), but also a key element of human interaction, which is an important factor in the development of information culture of society. Such an information society in turn affects the information culture of an individual (especially the requirements for this culture), precisely because we are all social creatures.

Therefore, the components of information culture are interconnected and mutually influence each other, not only at the level of the individual, but also society.

Conclusions. So, given that the concept of information culture is multifaceted, the definition of this concept depends on the goals and nature of the author's research. Considering the approaches, we came to the conclusion that the vector of development and formation of information culture is aimed at information activities now (the process during which a person transforms and learns about the cultural environment), that is the dominance of the activity approach. After all, the activity approach can be used in the formation of almost all components of information culture specialist psychological and pedagogical education, as information competencies are formed exclusively in the course of creativity of the students, in the process of practical classes, independent work in solving professional problems.

In the analysis, the views of scientists on the structure of information culture of the individual, it was found that can be divided into intangible (for axample, information worldview) and material components (information activities). These components are inseparable, form a whole, and affect each other.

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UKRAINIAN AIRCRAFT CONSTRUCTION AS THE PRECONDITION OF EMERGENCE OF DOMESTIC AVIATION EDUCATION

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Abstract. *The historical preconditions for the emergence of the domestic system of civil aviation flight training in Ukraine were its active actions in the process of the development of aviation and aircraft construction. The particular aim of this article is to study the historic development of Kyiv Polytechnic Institute, to find out how it became the cradle of Ukrainian aviation and plane construction, to highlight and characterize the key persons who influenced the development of the domestic aircraft industry, to give the comparative characteristics to old educational and modern principles of aircraft constructors training. To solve the tasks of the article, a set of research methods was used, due to its subject, goals and objectives: comparative analysis (theoretical analysis, synthesis, generalization, systematization of scientific sources, periodicals to solve this problem and clarify the conceptual apparatus of the study); chronological and diachronic (determination the development and essential changes in preparing the aircraft construction personnel in KPI); search and bibliographic (systematization and classification of pedagogical, methodical, scientific literature, archival materials, periodicals on the aeronautical achievements in Kyiv Polytechnic Institute); comparative and historical (analysis and comparison of socio-pedagogical phenomena that make it possible to identify positive inputs in Ukrainian aviation industry).*

Comparing educational methods at the beginning of the XX century and the beginning of the XXI century, it should be noted that now in addition to generating talented ideas the student should have many professional competencies. In addition to strict requirements for future specialists, the state also makes certain requirements for higher education institutions that train future aircraft designers.

Keywords: *Aviation, construction, aeronautical education, Kyiv Polytechnic Institute*

JEL Classification: JEL I0; I20

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Introduction. The main purpose of those who were directly involved in the formation and development of aviation was to fly on an aircraft heavier than air. At that time, such activities were considered as fun for individual enthusiasts. However, later aviation turned from a curiosity into an extremely important technical and social phenomenon. Kyiv Polytechnic Institute was a place where great scientists were solving the problems and spreading the ideas of aviation in Ukraine.

Literature Review. A big number of works written by domestic and foreign scientists were dedicated to a matter of theoretical and practical research aspects of aviation industry development: I. Gayets, Yu. Slyusarenko, A. Kalinovskyi, N. Horbal, N. Kalinovskaya, O. Labunets, A. Hrushevytska, O. Svezhentsev.

Many scholars and researchers have been studying various aspects of the history of Kyiv Polytechnic Institute. They consistently covered the structure, the main stages of KPI's activity, paid special attention to the most important achievements in the training of highly qualified engineers, the activities of leading scientific schools and areas. Among them were G. Belyakov, Y. Vasylenko, M. Vilkov, S. Gavrish,

F. Gorovskyi, M. Zavinovskyi, M. Karpenko, M. Ilchenko, V. Kirichuk, B. Novikov, N. Palamarchuk, V. Pikhov, G. Rakitina, L. Savchuk, R. Slipenky, T. Stepanenko, B. Tsyganok, V. Chobitok, V. Shekhovtsov.

Kyiv Polytechnic Institute was opened in 1898. At that time the institute had four departments: mechanical, chemical, civil engineering and agricultural. on Over time, on the basis of KPI there were established 12 universities in many regions of Ukraine, 9 of them have the status of national: Kyiv National University of Construction and Architecture, Kyiv National University of Technology and Design, National Aviation University, National University of Food Technologies, Odessa National Maritime Academy, Vinnytsia National Technological University and so on [8, p.217-220].

It should also be noted, that the interest in aeronautics was not something new for the institute. The first suggestions to create the additional fifth aeronautical department were made straight in 1899 year. Firstly, it was not about the preparation of plane construction specialists. For that period, such machines were just a dream for domestic engineers and scientists, but about the specialists who will work in the sphere of aeronautics. The head of the new department was one of the greatest aviation enthusiast professor Nikolai Artemiev, a talented student of Nikolai Zhukovsky.

Professor Stepan Tymoshenko became the first honorary chairman of this section, and Viktoryn Flavianovych Bobrov, a student of the mechanical department, became its vice-chairman.

It was a century ago when the first graduation of specialists completed the full course of KPI. The new high technical educational institution immediately declared itself to be of high quality for its graduates. Dmitryi Mendeleev, who graduated from KPI engineers in 1903, noted that in 35 years of his pedagogical activity he had not met in other educational institutions such a complete set of theoretical knowledge and practical skills as the first graduates of Kiev Polytechnic. They really made a significant contribution in the development of various fields of technology. Aviation that had been developing rapidly in the early twentieth century was not an exception [7, p.32-33].

During 1907-1908, Professor Artemyev conducted experiments with the «flywheel-propeller» model, which was a steel flywheel on a vertical axis with rotating blades mounted on it. In the winter of 1908-1909, Professor Artemyev and the famous aviator Boris Delone tested large models of gliders (with a wingspan of up to 3 meters), launching them with a catapult with a powerful spring from the car buffer. Later, Mykola Artemyev together with KPI professor Oleksandr Kudashev took part in the construction of the first glider and plane in Kyiv.

A passionate aviation engineer and active developer the ideas of aviation and gliding was KPI Professor Mykola Delone, the son of aviation pioneer Borys Delone. In early 1896, he began systematic experiments with glider models in New Alexandria near Warsaw, where he headed the department at the Institute of Agriculture. Since 1906, when the Aeronautical Section was established at the KPI, Mykola Delone became the permanent leader of the aeronautical section that later

was transformed into Kyiv Aeronautical Society. This first aviation center in the south of Russia brought together not only well-known professors, engineers and designers at the time, but also KPI students who were in the forefront of those who paved the way to heaven [9, p.314].

Members of the aeronautical section listened to lectures, which were held by professors of KPI and the St. Volodymyr University. They also wrote their own scientific essays and reports on aviation, built and tested flying models, kites, gliders. Student Ergand built quite successful flying models. Students Adler and Savitsky conducted experiments with a glider attached to a bicycle. Later, members of this section built one of the first tugboats in Russia.

At the end of 1908, Professor Mykola Zhukovsky arrived in Kyiv. In the premises of the Merchants' Meeting (now the Kyiv Philharmonic) he gave a public lecture «Successes of Aeronautics», during which there were shown short aeronautical newsreels. At the request of majority of students and teachers, Mykola Delone repeated this lecture in a large KPI physical auditorium. Later, Professor Delone repeatedly lectured on aeronautics and gliding in Kiev, Kharkov, Poltava, Uman, Ekaterinoslav, Yelisavetgrad, Moscow, Orel and Vilnius.

In spring of 1909, Professor Delone, with his sons and KPI teachers Hanitsky and Garf, built his first glider, a biplane with balance control. Professor Delone later built three more gliders. In 1909, the KPI Aeronautical group, led by Professor Delone, brought together about 200 enthusiasts who studied the theoretical foundations and techniques of aviation, tried to build gliders and aircraft. Among them are KPI students, future aviators Sikorsky, Bilinkin, Karpeka, Adler and others. He himself developed and gave a course of lectures on aeronautics.

However, the members of the section not only listened to lectures and studied the theoretical foundations of aviation but also performed practical activities - they designed and constructed their own devices. No wonder that the largest number of domestic aircraft designers came from the walls of the Polytechnic Institute. Among them Igor Sikorskyi, Dmitry Grigorovich, Fedor Tereshchenko, Fedor Bylinkin, Georgy Adler, Alexander Karpeka, brothers Kasyanenko and others. During the period from 1909 to 1912, Kyiv enthusiasts created about 40 different types of aircraft more than in any other city in Russia.

One of the brightest figures of the Kiev aircraft construction school was an outstanding designer with a worldwide reputation Igor Sikorsky (1889-1972). In autumn 1907, he entered the KPI, where he studied until 1911. Sikorsky became one of the active participants in the helicopter section, which was headed by one of the Kasyanenko brothers - Andrii Ivanovych. In the summer of 1908 Igor Sikorskyi began to develop his first helicopter, and in 1909 its practical construction. Unfortunately, the first helicopter could not take off.

Taking into account testing results, in the spring of 1910 Igor Sikorsky created his second helicopter, but it also was not able to take off.

At the same time, simultaneously with the helicopter testing, Igor Sikorskyi began to develop his first airplane. He was working with the son of a Kiev merchant Fedor Bilinkin, who already had some experience in this matter. The biplane was

named BIS №1 (Bilinkin, Jordan, Sikorskyi). Then it was reconstructed into a BIS №2 aircraft. On the 3rd of June in 1910 in the presence of sports commissioners of the Kiev Aeronautic Society Igor Sikorsky performed a successful flight. It was a straight flight with a length of 182 meters at an altitude of 1.2 meters and it lasted 12 seconds. Subsequently, it was accomplished about 50 flights at an altitude of 10 meters, but with a short duration.

On his next C-3 plane, Igor Sikorskyi passed exam and got the title of pilot-aviator. During that flight he made five «Eights» in the air and landed safely. Russian Imperial Airclub on behalf of the International Aviation federation issued him a pilot's license for № 64. On general meeting of the Imperial Russian Technical Society on January 21, 1912 Igor Sikorsky was awarded the medal «For Useful Works in sphere of aeronautics and for independent development of the airplane of own system that gave fine results».

After leaving to the United States, Igor Sikorskyi developed more than 65 designed aircraft. From 1939 until the end of his days, he designed and built helicopters one of the best in the world.

Brothers Yevgenyi, Ivan, Andrii and Grigoryi Kasyanenko are rightly considered the founders of Ukrainian aviation. As soon as it was founded the Aeronautical Section at the KPI, Yevgenyi Kasyanenko headed the section «Airplanes», and Andrii – «Helicopters». In addition to scientific and organizational work, they carried out effective design activities. Since 1910 till 1921, the brothers created six planes.

The beginning of the First World War greatly affected the work of the Institute. The aeronautical section stopped its activity - most of its members were mobilized in the aviation military units. But already in 1915 it started again its activity in the sphere of aviation.

Since 1920, under the leadership of an energetic rector Victorina Bobrova at KPI begins a serious restructuring - with significant changes in the educational process, re-equipment of the material base of the institute. Note that V. Bobrov's interest in the training of national personnel of aircraft manufacturers was not accidental – while ha was a student, for many years he was the permanent secretary of the Aeronautical section in Kyiv Polytechnic Institute. As soon as he graduated and during the First World War and the Civil War he served as a mechanical engineer in aircraft repair units, was involved in the organization of aviation production. Victorin Bobrov by the time of appointment to the post of rector headed the plant «Remvozduh-6» the first aviation factory on the territory of Ukraine (now it is the world famous Kyiv state aviation plant «Aviant»).

Since 1922, the work of the Aeronautical section was restored, in next year it turns into Aviation Scientific Technical society, and in 1924 it became a basis for separate aircraft construction faculty. Over time, KPI opened an aviation department that in 1933 was transformed into Kiev Aviation Institute, now known as National Aviation University.

Aims. The particular aim of this article is to study the historic development of Kyiv Polytechnic Institute, to find out how it became the cradle of Ukrainian aviation

and plane construction, to highlight and characterize the key persons who influenced the development of the domestic aircraft industry, to give the comparative characteristics to old educational and modern principles of aircraft constructors training.

Methods. To solve the tasks of the article, a set of research methods was used, due to its subject, goals and objectives: comparative analysis (theoretical analysis, synthesis, generalization, systematization of scientific sources, periodicals to solve this problem and clarify the conceptual apparatus of the study); chronological and diachronic (determination the development and essential changes in preparing the aircraft construction personnel in KPI); search and bibliographic (systematization and classification of pedagogical, methodical, scientific literature, archival materials, periodicals on the aeronautical achievements in Kyiv Polytechnic Institute); comparative and historical (analysis and comparison of socio-pedagogical phenomena that make it possible to identify positive inputs in Ukrainian aviation industry).

Results. The aviation traditions of KPI are still alive. However, domestic aviation industry has become cramped in its cradle, and today our country has a powerful scientific and production potential. Today the aviation industry of Ukraine unites about 40 high-tech enterprises and organizations. The main is the state aircraft construction concern «Antonov», which includes the Aviation Science and Technology Complex, Kyiv Aviation Plant «Aviant», Kharkiv State Aircraft Manufacturing Enterprise and Kiev Civil Aviation Aircraft Repair Plant No. 410.

It has more than 20 types of original civil, military transport and special aircraft, and also about 100 modifications of aviation equipment. The world's largest aircraft An-225 is widely known («Mriya»). The field of activity of the Antonov's giant An-124 («Ruslan»). In recent years Antonov's concern developed a military transport aircraft with short takeoff and landing - An-70.

Due to the fact that the design bureau of Oleg Antonov began to operate in Kiev, the Ukrainian aircraft industry received a very big boost for development. Many factories in Ukraine began to produce products, which were used to build Antonov's aircraft. Oleg Antonov is a Soviet aircraft designer who made an inexhaustible contribution to the development of world aircraft construction, and Ukrainian aircraft in particular. In 1952, together with his design bureau, he moved to Kyiv, where he began to fulfill the task of the authorities, namely the construction of a military transport aircraft with two turboprop engines. The task was completed, and the first designed An-8 plane took off on February 11, 1956. The An-22 set 41 world aviation records.

Soon he began to develop and build the An-10 and An-12 and the passenger An-14, An-24 and An-28. Later, the An-22 Antey was designed - the world's first wide-fuselage aircraft, which in size surpassed anything that had been done in aviation until then, breaking records for speed, load capacity and altitude [8, p.284-290].

Accordingly, his direct work as the general designer of this office, led to the growth of the aviation industry throughout our country and we still enjoy the results

of his work in this area. Thanks to the work of these enterprises, our country is known all over the world in the aviation sector.

Discussion. Unfortunately, nowadays Ukrainian aircraft construction is not the most developed in the world, as Ukraine does not have sufficient economic potential for financial promotion of such a scientific and capital-intensive industry, but certain types of aircraft construction (especially transport aircraft construction) in Ukraine still got a good result. Currently, evaluation is relevant the state of the aircraft industry in Ukraine and the search for new ones promising markets.

Taking into account the historic and current state of Ukrainian aircraft construction, it should be noted that the beginning of the twentieth century was a period of prosperity of domestic aircraft construction for Ukraine. At that time, the country was concerned not only with the material support of this industry, but also with the quality training of aviation personnel. For example, expansion of the Antonov State Enterprise possible due to the implementation of existing counter-acts, the opening of service centers in countries where aircraft are imported; it is necessary to search for new ones markets and partners [11].

In addition to Antonov's own desire to restore its power in the field of Ukrainian aircraft construction, we now have serious state support. The concern is starting to produce cargo planes without any Russian components. This is an unprecedented event at this stage. At all meetings of Antonov's representatives with potential counterparts, the Russians tried to convince that the Ukrainian plane would simply not take off into the sky, and that the Russian Federation was capable of blocking any such possibility. But Ukraine has proved to the world that it can do it. Verkhovna Rada completed the legislative reform of the aircraft industry of Ukraine, creating conditions for a temporary, until January 1, 2025, reduction of the tax burden on the aviation industry: exemption from value added tax, land tax and corporate income tax; increasing the list of goods imported by aircraft manufacturers without paying import duties, as well as the abolition of benefits for temporary importation under the terms of operating leases of individual aircraft.

During the process of lobbying these laws, deputies have set an ambitious goal - to return our country to the status of a powerful aviation state. This once again shows that the parliament can consolidate, unite around fundamental decisions for the state, iconic areas. It is at such moments that national interests become higher than political ambitions.

Conclusion. Now in Ukraine there are qualitative standards of education in the specialty 134 Aviation and rocket-space technology. Comparing educational methods at the beginning of the XX century and the beginning of the XXI century, it should be noted that now in addition to generating talented ideas the student should have many professional competencies. The main of them are:

- fluent oral and written communication in Ukrainian and foreign languages on professional issues;
- understand environmentally hazardous and harmful professional factors activities and adjust its content in order to prevent negative impact on environment;

- specialists have to manage the means of modern information and communication technologies to an extent sufficient for training and professional activities;
- aeronautical engineer must explain their decisions and ideas to specialists and non-specialists in a clear and unambiguous form;
- have the skills of independent learning and self-studying to improve professional skills and solve problems in a new or unfamiliar environment;
- to form substantiated assessments of actions of state bodies, others political institutions from the standpoint of universal, democratic values, priority of human and civil rights and freedoms;
- have the logic and methodology of scientific knowledge that is based on an understanding of the current state and methodology of the subject area;
- explain the influence of design parameters of aviation elements and rocket-space technology on its flight characteristics;
- have ideas about methods of ensuring the stability and controllability of aviation and rocket-space technologies;
- have the skills to determine the load on aviation structural elements stages of its life cycles. Understand the principles of fluid and gas mechanics, in particular hydraulics, aerodynamics (gas dynamics);
- describe the structure of metals and nonmetals and know the methods of modification their properties.

In addition to strict requirements for future specialists, the state also makes certain requirements for higher education institutions that train future aircraft designers, among them are:

1) identifying the particular principles and procedures for assurance the quality in higher education;

2) monitoring and periodic review of educational programs;

3) annual assessment of applicants for higher education, scientific and pedagogical and staff of higher education institutions and regular assessments results publication on the official WEB-site of the institution of higher education, on information stands and in any other way;

4) providing professional development of pedagogical, scientific and pedagogical workers;

5) ensuring the availability of the necessary resources for the educational process organization, including independent work of students, for each educational program;

6) ensuring the availability of information systems for effective management of the educational process;

7) ensuring publicity of information about educational programs, degrees higher education and qualification;

We can say for sure that the Kyiv Polytechnic Institute successfully continues all historic and actual aviation traditions. Thus, Ukraine is one of the few countries that has a full plane development cycle. Today the National Technical University of Ukraine «KPI» is rightly proud of the fact that its faculty and students laid the

foundation for aviation power of our state. As a result, our country has a strong scientific and industrial potential.

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FORMATION OF METHODOLOGICAL COMPETENCE OF FUTURE TEACHERS OF GEOGRAPHY

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Abstract. *The article reflects the features of methodological training of future teachers of geography in higher education institutions. The purpose of the article is to form the methodological competence of future teachers of geography, which would meet modern requirements for the training of specialists in higher education institutions. Methodological approaches (systemic, personality-oriented, competence-oriented, activity-based, contextual, environmental) and principles of methodical training (scientific, professional orientation, integrativeness, coherence, connection of theory and practice, consciousness and activity, systematicity and sequence, strengthening creative orientation, variability, personal orientation). The components of methodological competence, such as methodological knowledge, methodological skills, pedagogical reflection are revealed their mastering by students during the study of the discipline "Methods of teaching geography" and during pedagogical practice is shown. Certain difficulties of students in mastering methodological knowledge and skills are outlined and a number of organizational and pedagogical measures that will contribute to the formation of methodological competence are identified on their basis. The purpose of training is defined as the formation of methodological competence of the future teacher of geography. A description of the process of formation of methodological competence of students - future teachers of geography through various forms of education (lectures, seminars, practical classes), independent research and teaching activities.*

Key words: *methodical competence, methods of teaching geography, professional competence of teachers, methodical training, future teachers of geography, principles, approaches, forms and methods.*

JEL Classification: JEL I0; I20

Formulas: 0; fig.: 1; tabl.: 2; bibl.: 10

Introduction. The cardinal economic, political and social changes taking place in the modern world community also lead to the modernization of the entire education system. The thesis about the continuity of education, the need for lifelong learning, as well as the formation of a teacher of a new format able to teach students to acquire new knowledge and skills, to be tolerant and patriotic is becoming increasingly important. The task of the teacher is to help to find oneself in the future, to become independent, creative and self-confident people. Responsive, attentive and receptive to the interests of students, open to all new teachers - a key feature of the school of the future.

In terms of implementation in pedagogical practice of new state educational standards, where the emphasis is on the formation of students' active citizenship, love for the Homeland, an important place is occupied by the school subject "Geography", the content of which reveals the nature, economy mainly of Ukraine [1]. And the earlier beginning of the study of geography make this subject even more popular. The success of students in solving modern problems of geographical education and the achievement of planned learning outcomes in the subject are determined by the level of professional competence of the teacher. In the current

situation, changes in the professional training of future teachers of geography are inevitable.

And these changes are reflected in the state educational standard of higher education. For example, the requirements for the results of basic educational programs are directly consistent with the requirements of school educational standards, in particular, in the formation of professional competencies of students such as the ability to solve problems of education and spiritual and moral development of students and use educational opportunities. activities and quality assurance of the educational process, the ability to organize the cooperation of students, to support the activity and initiative, independence of students, their creative abilities [3].

Literature review. The research of Y. Babansky, S. Honcharenko, M. Danilov, I. Zverev, I. Lerner, V. Lugovoi, L. Kondrashova, N. Kuzmina, M. Kraevsky, L. Pancheshnikova, V. Slastyonin and others are devoted to the problem of methodical teacher training as an important component of professional training.

The author's vision of the concept of methodical training of future teachers is presented in researches of home scientists M. Krylovets, N. Morse, V. Sharko. The problem of competence is developed by well-known home and foreign scientists-teachers N. Bibik, S. Goncharenko, A. Derkach, I. Zyazyun, K. Korsak, N. Kuzmina, O. Lokshina, A. Markova, N. Nychkalo, O. Ovcharuk, I. Pidlasy, O. Pometun, I. Radygina, O. Savchenko, I. Taranenko, S. Trubacheva, R. Chernyshova, A. Khutorsky and others. In the works of G. Isayeva, M. Elkin, S. Kapirulina, S. Kobernik, V. Korneev, L. Kruglyk, O. Kravchuk, T. Nazarenko, A. Syrotenko, M. Soroka, B. Chernova, G. Uvarova and in the work of teachers-practitioners O. Burlaka, O. Biryuk, G. Karpyuk, R. Kovalenko, N. Kucherenko, O. Lytvynchuk, G. Orlova, N. Pushkar, T. Rykhlyk, N. Sinya, L. Sushik, O Filipchak, N. Shipko the methodical aspect of this pedagogical phenomenon begins. However, this important pedagogical problem has not been fully studied. On the one hand, it applies to the expansion of areas of enrichment of the terminological apparatus of pedagogy, and on the other hand, specific guidelines and practical advice to teachers-practitioners.

Aims. The purpose of the article is to form the methodological competence of future teachers of geography, which would meet modern requirements for the training of specialists in higher education institutions.

Methods. When were writing the article, we used general scientific research methods, empirical: description, observation, questionnaire, survey; methods of mathematical statistics - to process the results of the study.

Results. Methodical training is a fundamental component of professional training of future teachers of geography and is considered as a system that covers the purpose and objectives, content, methods, tools and forms of organization of student learning. This system belongs to the system of the highest level - professional training of future teachers of geography - and functions in its structure.

Methodical training provides a synthesis of subject geographical, psychological and pedagogical and professionally significant methodological knowledge, skills, personal qualities of the future teacher of geography. There is no clear definition of

this concept , despite the importance of methodological training in the professional development of student teachers in the scientific literature there is no clear definition of this concept [1].

The structure, content and specifics of methodical training of future teachers of natural sciences, namely geography, were studied by home and foreign scientists, in particular N. Vereshchagin, M. Krylovets, O. Tamozhnya, I. Starchakova.

The purpose of methodical training is the formation of methodical competence of the future teacher of geography, methodical readiness to perform professional activities in the system of school geographical education.

The main tasks of methodical training of students are: mastering theoretical knowledge of methods of teaching geography; formation of methodical abilities and skills; gaining experience in applying the acquired knowledge and skills; development of professional abilities of a geography teacher; development of individual methodical style.

The purpose of methodical training will be considered achieved if future teachers will have a number of methodological competencies, formed methodical thinking and will continuously work on self-education, enrichment of own methodical experience.

Among the professional knowledge that determines the methodological competence, subject, psychological, pedagogical and methodological knowledge are of special importance. In this case, for the future teacher of geography subject knowledge - is the knowledge of the basics of geographical science in its many areas [6].

Of the whole set of psychological and pedagogical knowledge taught in the relevant disciplines at the Pedagogical University, the most important and necessary for further professional activity of a geography teacher are: knowledge of psychological and age characteristics of students, psychological theories and concepts of educational activities, choice of psychological and pedagogical tools influence on students and psychological and pedagogical introspection.

Methodical knowledge includes knowledge of students: legal documentation in the sphere of education and methods of teaching geography; the importance and problems of research in methodological science, its relationship with other psychological, pedagogical and geographical sciences; goals of teaching geography at school; structure and content of school geographical education; modern requirements for the organization of educational and cognitive activities of students; typology of methods and technologies of teaching geography, etc.

The whole set of psychological, pedagogical and methodological knowledge is related to the method of teaching the subject, that is the ability to apply existing knowledge in the teaching of their subject in practice. Methodical skills of the future teacher of geography are represented by skills: to plan educational process proceeding from the set purposes of a lesson and features of cognitive activity of pupils; develop software and methodological support for the course of geography, thematic and lesson plans; to organize an effective process of teaching geography in the conditions of general educational institutions with an orientation on formation of

geographical representations of schoolboys, training of their receptions of educational activity; to conduct lessons of different types and kinds; to carry out an individual and differentiated approach to students in the learning process; select teaching aids for the lesson in accordance with its objectives; develop test questions and tasks; to make interdisciplinary and intradisciplinary connections in the process of teaching geography; to analyze the pedagogical activity for the purpose of its improvement, to be engaged in self-education; to organize the work of students in the field to study the native land, to conduct extracurricular work in geography, etc.

Another important component of the methodological competence of the future teacher is reflection. Reflection in the pedagogical process is a process of self-identification of the subject of pedagogical interaction and with the formed pedagogical situation, with what constitutes the pedagogical situation: students, teacher, conditions of development of participants of pedagogical process, environment, content, pedagogical technologies and so on [3].

The formation of methodological competence in the field of teaching geography is carried out during the study of the discipline "Methods of teaching geography" by students, during the pedagogical practice at school and will continue in future pedagogical activities.

The program of the discipline provides various forms of organization of education: lectures, practical and seminar classes dedicated to solving practical problems faced by a geography teacher in a modern school (development of programs, calendar-thematic plans, lesson plans in accordance with new school standards; ; creation of didactic materials for lessons; organization of design and research activities of students, etc.) However, as the experience of teaching shows, one theoretical training for becoming a teacher is not enough, so some classes are held at school, where students have the opportunity to try themselves as a teacher trial lessons and extracurricular activities. So, students before the active pedagogical practice adapt to the educational process and later feel less stress during training sessions.

An important part of the methodological training of future teachers of geography is their independent research activities. Every student, working on a methodological topic that interests him, learns to analyze and summarize the best pedagogical experience, to carry out their own methodological developments and present the results at scientific and practical conferences. Research activity of students is further realized in course and final qualifying works. Independent work should occupy a leading place during classroom classes and in extracurricular time, to reproduce in the tasks a variety of methodological activities of a geography teacher. The using of computer technologies and the Internet has significant opportunities in the organization of independent work of future teachers. Tasks for independent work can be the search for information, images, videos and their analysis, compiling a dictionary of methodological terms, a card file of methodological literature, analysis of scientific works of scientists-methodologists, development of presentations, etc.

An important stage of continuous methodological training is the pedagogical practice of students in secondary schools, which allows them to identify in the real

educational process the accumulated baggage of methodological knowledge and skills.

To identify the level of formation of methodological competence of students, a number of diagnostic methods were selected:

1) methods of diagnostics of methodical knowledge (tests of current and intermediate control of knowledge in the discipline "Methods of teaching geography" - IV course) (table 1);

2) methods of diagnostics of methodical skills by means of the analysis of the executed practical works on IV course and results of industrial (pedagogical) practice on IV course (table 1);

3) methods of determining the level of formation of pedagogical reflection;

4) methods of assessing creative potential;

5) methods of identifying factors of attractiveness of the profession.

Table 1

Methods of diagnostics of methodical knowledge

Method	Results of the research
Diagnosis of methodical knowledge	Students demonstrated "excellent" and "good" levels of knowledge.
Diagnosis of methodical knowledge	Students demonstrated a "sufficient" level of mastery of skills. Students have difficulty in independently developing lessons of different types and using different technologies.

Determining the level of formation of pedagogical reflection was carried out according to the method of O. V Kalashnikova [9]. The questions of the questionnaire concerned the analysis of their behavior and actions in different situations. According to the sum of points scored, 50% of students have an medium level of pedagogical reflection, another 50% - high, low level of reflection is not detected (Fig. 1).

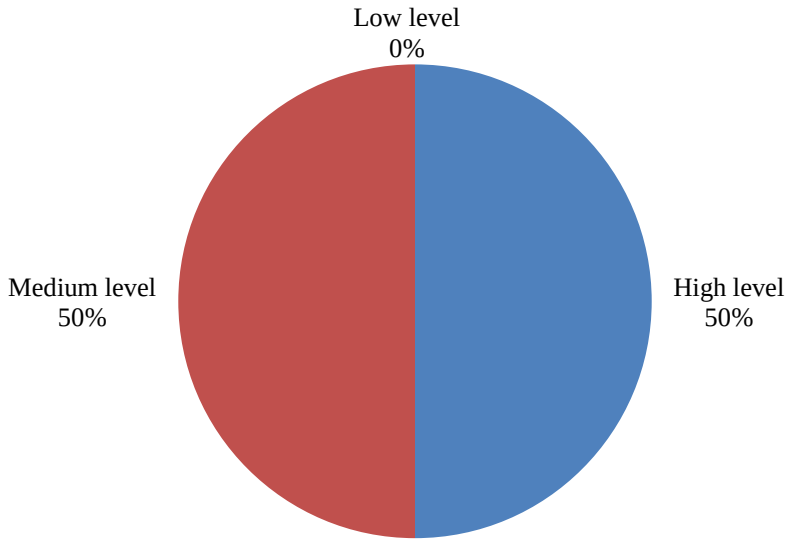

Fig. 1. The level of formation of pedagogical reflection

The results show that students are worried about the results of their work, they are able to learn and perform work in accordance with the requirements, to improve its quality.

The method of studying the creative potential of I. N Semenova [8] concerned its components such as curiosity, self-confidence, the desire for independence, the ability to concentrate and abstract. 80% of the surveyed students show high creative potential, but there are also barriers to its development in the form of fear of failure, condemnation and misunderstanding. This greatly reduces creative activity and restrains the imagination as a necessary condition for the formation of a creative personality. One-fifth of the surveyed students have a very high creative potential, but also an overestimated self-esteem. This technique showed that students are ready to implement various creative tasks with students, have many ideas and want to implement them in future teaching.

Whereas methodological competence is part of pedagogical competence, it is necessary to find out the attitude of students in general to the teaching profession as a future sphere of activity. A questionnaire was conducted with students according to the method of V. Yadova [10] on the attractiveness of the profession of geography teacher, the most significant are listed in table 2.

Table 2

The attractiveness of the teaching profession

"Positive" factors	"Negative" factors
Profession is one of the most important in society	A small salary
The work requires a creative approach	Great working day

All these suggests that students do not have full confidence that they will work at school, but all respondents would like to try themselves as a teacher.

Educational and methodical support of the process of formation of methodical competence of students - future teachers of geography is a working program, a course of lectures, a workshop, a fund of funds for the discipline "Methods of teaching geography". All these methodological developments are aimed at developing motivation for the profession of "teacher of geography", providing optimal conditions for students to master the basics of professional activity in the field of methods of teaching geography in secondary schools.

Discussion. Professional training of students at the Pedagogical University should be aimed at forming a new type of thinking and professional competence. Teacher's professional competence - personal and value characteristics, attitude to the profession as a meaning of life, manifested in the pursuit of self-development in this area, in the acceptance (motivation) and ability to solve problems and typical professional problems that arise in real situations of teaching, using knowledge, professional and life experience, the potential of their individuality [2].

The strategy of methodological training of geography teachers is based on the integration of such methodological approaches as systemic, personality-oriented, competence, activity, context and environment, in the context of the proposed study. These approaches do not contradict each other, but on the contrary, complement each

other, which provides a choice of research tactics, appropriate forms, methods and tools of teaching, as well as the content of training future professionals.

The theory of methodical training is based on certain initial positions - the principles which define the purpose, the maintenance, ways of the organization and management of activity of students.

The principles of methodical training of future teachers of geography in the conditions of a modern institution of higher education are defined as follows:

- the principle of scientificity (compliance of the content of education with the current level of development of pedagogical and methodological science, methods of scientific knowledge);
- the principle of professional orientation (any component of training should contribute to the professional development of the future specialist);
- the principle of integrativity (methodical training is an important component of professional training of geography teachers, where subject, psychological, pedagogical and methodical training complement and enrich each other; integrative methodological training is also realized through integration of content and teaching methods, combination of subject knowledge and teaching methods, integration educational-methodical and scientific-methodical activity of students);
- the principle of consistency (all blocks of the standard of education and their content should be reflected in the trajectory of the methodological formation of the future specialist and mutually agreed with it);
- the principle of connection of theory and practice (maintaining a balance between the study of theoretical material and the practical application of methodological knowledge acquired during laboratory-practical classes and pedagogical practice);
- the principle of consciousness and activity (subjective position of the student in education, the ability to independently perform first educational and then professional tasks, contribute to the formation of methodological competence of the future teacher);
- the principle of consistency and systematicity (consistent mastery of methodological knowledge, the formation of methodological competencies in the course of professional training in higher education);
- the principle of strengthening the creative orientation of methodical training (development of methodical thinking of the future teacher by solving methodical problems of problematic and creative nature, performance of research tasks);
- the principle of variability (implementation of individual and differentiated approaches to methodological training, which allows to determine possible individual educational routes of students during methodological training and ensures the implementation of individual trajectory of methodological formation);
- the principle of personal orientation (using of professional potential of every student, formation of individual methodical style).

Result. Analyzing the difficulties that arise in students during the development of methodological training at the university, we can identify a number of

organizational and pedagogical measures that contribute to the formation of methodological competence of students:

- earlier acquaintance with the pedagogical process at school (passive observation of the teacher in class, involvement in extracurricular activities, etc.);

- adjustment of practical tasks for students taking into account the requirements of modern school, which would include the development of work programs for school courses in geography, elective courses and extracurricular activities: development of technological maps of lessons, application of multimedia technologies in geography lessons, etc.);

To determine the level of formation of methodological competence, the following criteria are inherent in each level in the chain to know - be able - to own on the basis of leading activities. At *the first level* the student knows modern pedagogical methods and technologies. Has an idea of the basic curricula of school courses in geography, elective courses, the universal types of educational activities that are formed in students during the teaching of geography at school. At *the second level* the student is able to apply modern pedagogical methods and technologies. At *the third level*, the student has methods of analysis and development of pedagogical technologies, taking into account the peculiarities of the educational process, the tasks of education and personal development. In the majority of cases, students of geography can be divided into levels as follows: students of I-III courses are at the first level of formation of methodological competence, most fourth-year and master students - at the second. The third level has not yet been reached by students, it is typical mainly for practicing teachers [7].

Consequently, the methodical training of future teachers of geography is a purposeful formation of a set of methodological competencies of future specialists in the context of solving methodological problems in the school course of geography. Methodical training not only provides students with knowledge and skills in the area of theory and methods of teaching geography, but also contributes to the formation of values to the profession and experience of methodical activities. The purpose of training is the formation of methodological competence of the future teacher.

Accordingly, we can say that the process of forming the methodological competence of the future teacher of geography is long and complex, and in higher education institutions only its foundations are laid, but we can already say that current graduates are ready to teach.

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FOREIGN LANGUAGE COMPETENCE OF TEACHERS

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Abstract. *This article considers the problem of connection between the foreign language communicative and professional competence of a teacher. The purpose of the article is to clarification of the level of the teacher's foreign language communicative competence is; determination of the main criteria and indicators that affect the level of the teacher's foreign language communicative competence. The research methodology includes the use of the following methods: mathematical and statistical methods of data, analysis. It has been established that professional competence is understood as the unity of his theoretical and practical readiness for professional activity, has a communicative orientation, characterizes a set of professionally important qualities and characteristics. It was found that foreign language communicative competence is a complex of knowledge, abilities and skills, as well as the experience of their use, which gives the teacher the opportunity to effectively and productively use a foreign language for professional activities. The level of foreign language communicative competence of teachers was clarified. It is proved that foreign language communicative competence is an important and integral part of the professional competence of a foreign language teacher.*

Key words: *professional competence, professional competence of a teacher, foreign language communicative competence, monitoring research.*

JEL Classification: JEL I0; I20

Formulas: 3; fig.: 5; tabl.: 4; bibl.: 10

Introduction. The modernization of Ukrainian education and the implementation of the New Ukrainian School Concept is a synergistic long-term reform that directly affects less than 65% of the country's population, the most ambitious reform in the years of Ukraine's independence. We are not talking about a single influence, but the connection of the Ukrainian school with the family, society, personality of the child, its continuous development, from early preschool age to adult education.

The task of the teacher is to coordinate and direct the activities of students towards the formation of communicative and educational-cognitive needs, development of generalized methods and techniques of educational activity, formulation and independent solution of specific educational tasks (cognitive, research, transformative, project, etc.), assimilation of new knowledge, improvement skills in all types of activities.

The knowledge society development's model requires from a modern specialist a teacher with a wide range of skills and competencies for the successful fulfillment of their professional functions, ensuring the comprehensive and sustainable development of education and science in Ukraine. Continuous professional development of a teacher in a knowledge society is a kind of challenge to his informational parameters, a response to instability in the field of employment and professions.

These issues have particular importance for the higher pedagogical school, which is faced with the task of training future teachers of the appropriate profile, who

were characterized by high professionalism and quality of professional activity. Taking this into account, the requirements for the semantic and organizational-methodological content of the professional training of future teachers are increasing, basing this process on the basic ideas of the competence-based approach.

Literature review. A significant number of works by both foreign and domestic scientists are devoted to the problem of foreign language competence: E. Vereshchagin, I. Zimnyaya, V. Kostomarov, E. Passova, L. Shcherba.

The problems associated with the disclosure of the essence of the teacher's professional competence have become the subject of scientific research by M. Zhaldak, M. Kornilova, L. Mitina, S. Molchanov, N. Nichkalo, S. Sysoeva.

Features of the formation and development of communicative competence are studied by N. Klyuev, V. Kunitsyna, N. Kazarinov, Yu. Turchaninova.

Aims. The purpose of the article is to clarification of the level of the teacher's foreign language communicative competence is; determination of the main criteria and indicators that affect the level of the teacher's foreign language communicative competence.

Methods. The research methodology includes the use of the following methods: mathematical and statistical methods of data, analysis.

Results. Foreign language competence has its particular importance due to the fact that the education system is currently characterized by significant innovative transformations. In the current conditions, in order to be successful and in demand, a teacher must be ready for any changes, be able to quickly and effectively adapt to new conditions, show the desire to be a professional, constantly update their knowledge and skills, strive for self-development, show tolerance for uncertainty, be ready to risk, that is, another words - be professionally competent.

However, as social practice shows, these characteristics are not formed in all teachers. On the contrary, a significant part of them experience great difficulties in adapting to rapidly changing social, economic, professional conditions, and then the lack of professional competence can cause serious social and psychological problems of the individual – from internal dissatisfaction to social confrontation and aggression.

The success of the development of foreign language education, in turn, is largely determined by the readiness of professional personnel working in the field of education to work in an innovative mode, to be flexible and responsive in their professional activities to the constantly changing needs of society and individuals. Therefore, the development of professional foreign language competence of teachers is becoming one of the most important conditions for reforming education.

Competence, as a scientific problem, currently does not yet have an accurate and unambiguous definition and has not received a comprehensive analysis, despite the fact that interest in it has a significant history of development.

Currently, the concept of «competence» includes not only cognitive and technological components, but also motivational, ethical, social and behavioral. As well as learning outcomes (knowledge and skills), a system of value orientations, habits.

The purpose of education is the formation of foreign language communicative competence for direct and indirect intercultural communication. Foreign language communicative competence – is the ability and willingness to act as a secondary linguistic personality in various communication situations, that is, to participate in intercultural communication.

Conducting this monitoring study is one of the ways to implement the state policy in the field of teacher training,which is to activate the work of teachers in the direction of ensuring the implementation of new state standards and the right of students to receive a quality education.

The total number of respondents who participated in the study is 2257 people (Table 1).

Table 1

Sample of survey respondents

№	Name of district / city	Number of teachers
1	Blagovishchenskyi	81
2	Bobrynetskyi	82
3	Vilshanskyi	49
4	Gaivoronskyi	101
5	Golovanivskyi	93
6	Dobrovelychkivskyi	65
7	Dolynskyi	89
8	Znamyanskyi	74
9	Kropyvnytskyi	53
10	Kompaniivskyi	61
11	Malovyskivskyi	56
12	Novgorodkivskyi	51
13	Novoarkhangelskyi	87
14	Novomyrhorodskyi	89
15	Novoukrainskyi	65
16	Olexandrivskyi	93
17	Olexandriyskyi	105
18	Onufriyivskyi	66
19	Petrivskyi	60
20	Svitlovodskyi	43
21	Ustynivskyi	47
22	t. Znamyanka	61
23	t. Olexandria	172
24	t. Svitlovodsk	77
25	t. Kropyvnytskyi	437
TOTAL:		**2257**

A comparative analysis of the results of a monitoring study of the foreign language communicative competence of teachers in the Kirovograd region showed that among primary school teachers working in institutions of the region, specialists of I and higher categories predominate (22.8% and 41%, respectively).

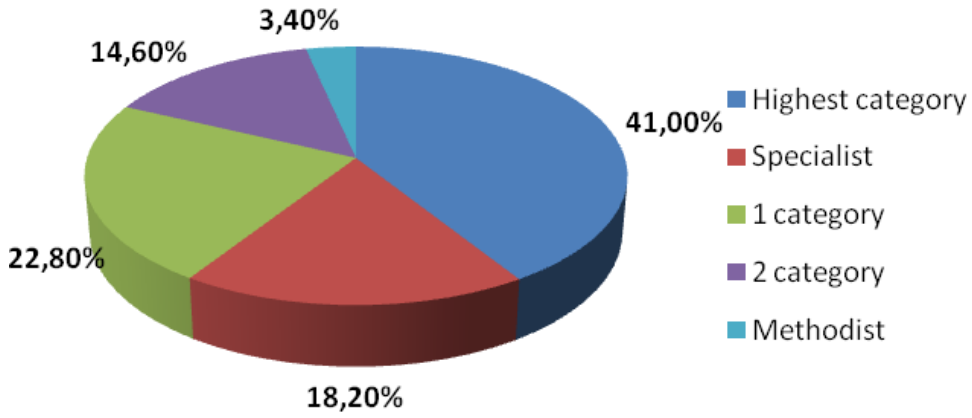

Fig. 1. Category of teachers

The teaching experience of the majority of the respondents is quite significant. Thus, 79.4% of teachers who participated in the monitoring study have more than 10 years of work experience.

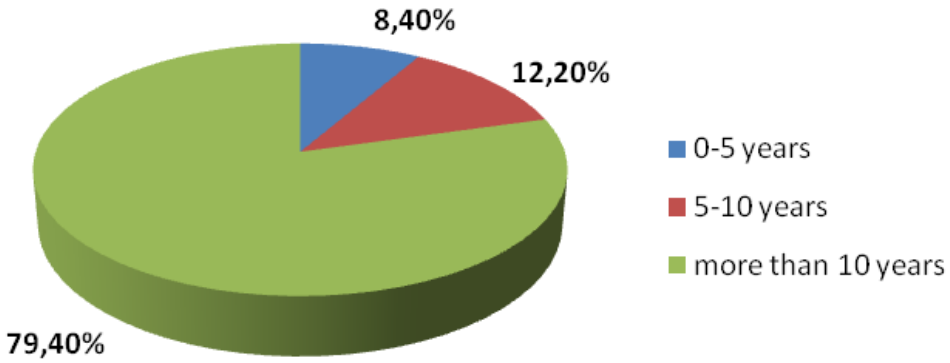

Fig.2 Pedagogical experience of teachers

Analysis of the respondents' answers showed that only 9.2% of teachers have a specialty «Primary Education and a Foreign Language», which means they have the right to teach a foreign language in primary grades in the conditions of the «New Ukrainian School». Most of the interviewed teachers have a specialty «Primary education».

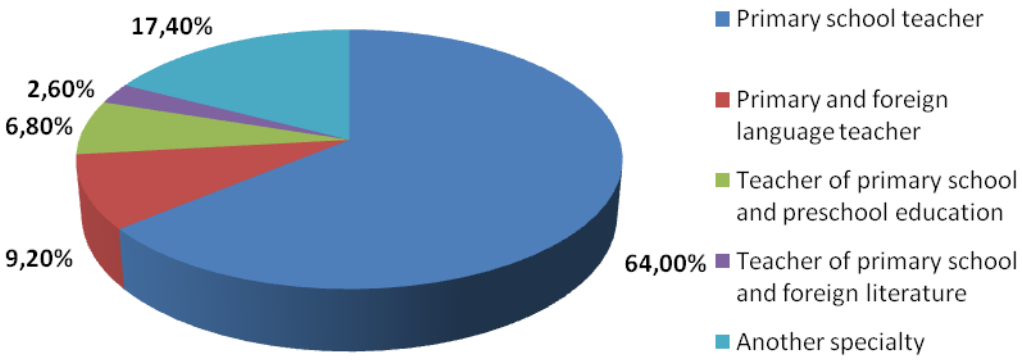

Fig.3. Specialty

According to the results of the study, we can say that a third of the respondents are guided in a foreign language communicative situation, as they are not specialists in this area.

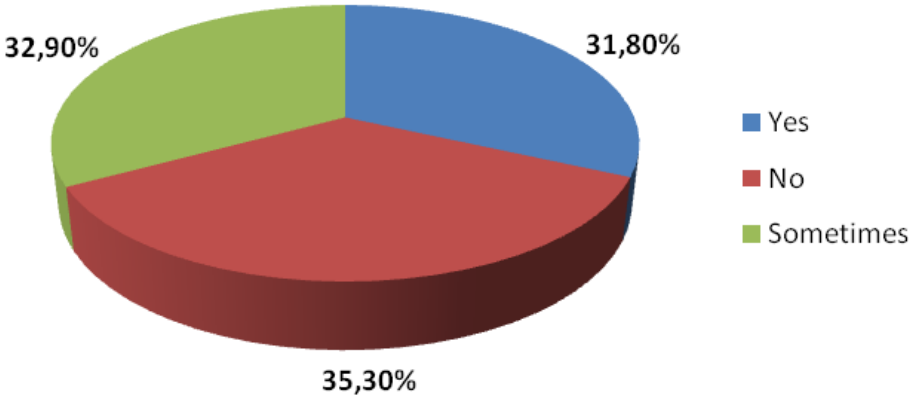

Fig.4. Orientation in a foreign language communicative situation

Some teachers of the region need methodological help, self-education, in order to enrich their vocabulary.

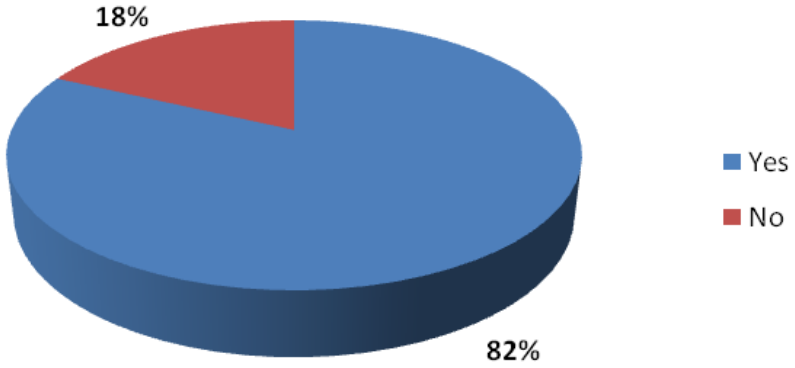

Fig.5. Lexical stock

To carry out mathematical calculations in order to bring the validity of the obtained results, the assessment is carried out in accordance with the scale, which is presented in Table 2.

Table 2

Scale for assessing the levels of formation of foreign language competence of teachers

Test tasks (points)	Score on a national scale	Level
90-100	Perfectly	High
75-89	Fine	Average
60-74	Satisfactorily	Low
35-59	Unsatisfactorily	

The results of the survey of teachers at the end of the study on the level of formation of foreign language competence are presented in Table 3.

Table 3

Numerical indicators of the levels of formation of foreign language competence of teachers after the experiment

Levels of formation	EG		CG		Difference
	persons	%	persons	%	%
High	360	31,9	351	31,2	0,7
Average	297	26,3	306	27,1	-0,8
Low	472	41,8	471	41,7	0,1
Together	1129		1128		

To determine the statistical reliability of the differences in the indicators of the levels of foreign language competence of teachers, we calculate the Student's t-criterion based on the data in Table 3 using the formula:

$$S_d = \sqrt{S_x^2 + S_y^2} \quad (1)$$

where $\bar{X}$ *and* Y *is the arithmetic mean of EG and CG; Sd - standard deviation, which is calculated by the formula:*

$$S_d = \sqrt{S_x^2 + S_y^2} = \sqrt{\frac{\Sigma(x_i - \bar{x})^2 + \Sigma(y_i - \bar{y})^2}{(n_1 + n_2 - 2)} \cdot \frac{(n_1 + n_2)}{(n_1 \cdot n_2)}} \quad (2)$$

where n_1 *and* n_2 *are the sample sizes in EG and CG; n_ (1) ≠ n_2,*

$\sum(x_i - \bar{x})^2$ and $\sum(y_i - \bar{y})^2$ are standard deviations.

Calculation of the number of degrees of freedom:

$$k = (n_1 - 1) + (n_2 - 1) = n_1 + n_2 - 2 \quad (3)$$

Comparative data indicate the mediocre formation of the foreign language competence of teachers in the region.

As for the teachers of the control group, according to the relevant criteria, we note a slight positive trend.

Table 4

Qualitative assessment of the results of the formation of foreign language competence of teachers after the experiment

Indicators of criteria	Dynamics of levels of formation of indicators,%					
	EG			CG		
	high	medium	low	high	medium	low
Motivational	3	4	1	2	6	8
Semantic	27	15	12	6	0	6
Procedural	14	13	1	10	2	12

A monitoring study of the foreign language communicative competence of teachers in the Kirovograd region revealed a number of problems:
– Some teachers require counseling on how to establish contact with students;
– Increasing self-esteem and confidence in teaching in primary grades;
– Improving the pedagogical skills of teachers;
– Enrichment of vocabulary;
– Pay attention to politeness and correctness in relation to students;
– Taking into account the age characteristics of students.

Conclusion. The knowledge society development's model requires from a modern specialist, teacher a wide range of skills and competencies for the successful fulfillment of their professional functions, ensuring the comprehensive and sustainable development of education and science in Ukraine. One of these competencies is foreign language. According to the results of the monitoring research, it can be argued that more than 60% of the surveyed respondents navigate in a foreign language communicative situation.

The study showed that the Ukrainian school requires new approaches to teaching based on the principles of partnership pedagogy, cooperation between students and teachers, abandonment of an authoritarian model of communication, requires a rethinking of the role of both the teacher and the student.

For the purposes of the Ukrainian school, the main tasks of the formation of the pedagogical competence of a specialist are specified:
– to ensure mastery of technologies of self-organization and self-actualization;
– create conditions for the formation of a professional culture of a specialist;
– to intensify the formation of key competencies of the teacher;
– to form professional mobility;
– organize methodological and didactic support for the teacher;
– to form social activity based on the personality traits and social skills of the individual.

A teacher's foreign language communicative competence is:
– possession of systemic knowledge about the norms and types of pedagogical communication in the process of organizing collective and individual activities;
– the ability to listen, defend one's position using various methods of reasoning and argumentation;
– development of a culture of professional communication;

– the ability to achieve pedagogical results by means of productive communicative interaction (relevant knowledge, verbal and non-verbal skills and abilities, depending on the communicative and activity situations).

The communicative competence of the teacher, the skill of business and interpersonal communication is a necessary tool for the humanization of education. High results in educational and pedagogical activity can be achieved only by the teacher who knows how to establish good relations with pupils, parents, who is inherent in the ability to understand another, to direct the communication process to achieve pedagogical tasks.

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EDUCATIONAL AND DEVELOPMENTAL ENVIRONMENT AS A FACTOR OF SKILLS FORMATION OF SELF-ORGANIZATION OF PRIMARY SCHOOL PUPILS' EDUCATIONAL ACTIVITY

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Abstract. *Modernization of educational activities determines the necessity for the formation of educational and developmental environment. Today, the development of students' self-organization in an educational and developmental environment is one of the main demands that modern society puts forward to the system of primary education. The purpose is to study the features of the educational and developmental environment, its classification; development of didactic games at the lessons of Writing and Mathematics that promote the development of pupils' self-organization in an educational and developmental environment. Research methods: a logical method; methods of system analysis; comparative analysis has made it possible to compare phenomena in order to establish similarities or differences between them. The academic paper has highlighted the essence of the concepts "educational and developmental environment", "self-organization of educational activities". The components of the educational and developmental environment of primary school and its classification have been formed. The basic types of primary pupils' self-organization under the influence of the educational and developmental environment have been considered. The stages of the ability of self-organization of primary schoolchildren's educational activity within the conditions of educational and developmental environment have been determined. Examples of Writing lessons in grades 1 and 4 have been given at the above stages, which contribute to the formation of skills of self-organization of pupils' learning activities. Thus, types of didactic games at the lessons of Writing and Mathematics have been offered, which make it possible to provide material in accessible, interesting form, form skills of self-organization of schoolchildren in educational environment.*

Key words: *personality, child, primary schoolchildren (pupils), teacher, game activity, cognitive activity, independence.*

JEL Classification: JEL I0; I20

Formulas: 0; fig.: 2; tabl.: 0; bibl.: 14.

Introduction. Transformation of the primary education system determines the need for the formation of educational and developmental environment in the process of educational activities. This will provide the preconditions for pupils to fully acquire the system of scientific knowledge, skills and abilities. Therefore, the development of pupils' self-organization is one of the main demands that modern society puts forward to education. According to the Concept of the New Ukrainian School (NUS) "the basic result centers around the formation of general learning skills that provide the opportunity to continue education at middle school, mastering the ability to learn - the ability to self-organize in order to solve educational issues". The amount of information doubles every year. Knowledge becomes obsolete faster than a

person has time to use it. In order to successfully live and act in the modern world, it is necessary to be constantly ready for change, while maintaining your own uniqueness. The basic goal of primary school is to teach pupils activity and educational independence, self-organization. This, in turn, highlights the issue of organizing purposeful work on the development of self-organization of primary schoolchildren.

Literature Review. The issue of "educational and developmental environment" has been covered in the works of such scientists as: I. Karabayeva, N. Kichuk (Kichuk, 2016), I. Kostyuk (Kostyuk, 2016), O. Kokhanova (Kokhanova, 2012), Yu. Manuilov, L Novikova, O. Savchenko (Savchenko, 2012), O.P. Sergeenkova (Sergeenkova, 2012), O. Stolyarchuk (Stolyarchuk, 2012), O. Pasek (Pasek, 2012), V. Petrovsky, I. Rachenko (Rachenko, 1972), A. Tsymbalaru, K. Shevchenko (Savchenko, 2012), V. Yasvin (Yasvin, 2001). The classification of educational and developmental environment has been given in the researches of such scholars as: Ye. Bondarevskaya, V. Vesnin, I. Levitskaya, S. Smolyuk (Smolyuk, 2016; Smolyuk, 2017). The works of S. Amirov, G. Gmyzin, L. Zhuravlyova (Zhuravlyova, 2018), O. Ishkov, G. Kogan, S. Kulnevych, V. Lvovich, S. Menkova (Menkova, 2019), N. Rybakova, L. Faleyeva (Faleyeva, 2012), J. Ustinova, etc., are devoted to the issue of self-organization of educational activity.

In Ukraine, at present time, quite a lot of attention is paid to the issues of education and upbringing of children, while researches, aimed directly on the educational and developmental environment and the process of self-organization of educational activities of primary school pupils, are not enough.

Aims. The purpose of the academic paper is to study the features of the educational and developmental environment, its classification, as well as the basic types and stages of formation of self-organization of primary schoolchildren; development of didactic games at the lessons of Writing and Mathematics that promote the development of pupils' self-organization in an educational and developmental environment.

Methods. A logical method has been used to reveal the content of the educational and developmental environment and self-organization of educational activities; methods of system analysis have been applied to identify structural links between the stages of formation of self-organization of primary school pupils; comparative analysis has made it possible to compare phenomena in order to establish similarities or differences between them.

Results. In the modern school the child learns to make a choice, to freely express the will, reveals himself as a person. The child develops best when he is fascinated by the learning process and takes an active part in the activities. Practice shows that the full development of the child is possible only in a specially created educational environment, which is a system of material objects of the child. It functionally models the content of his spiritual and physical development.

According to viewpoint of I. Kostyuk, the educational and developmental environment is a system of conditions and influences that contribute to the active

development, learning, promoting the child's personality, his ability to work independently, the ability to adapt to changes (Kostyuk, 2016).

Scientists I. Karabayeva, K. Krutiy, O. Savchenko define the educational and developmental environment as a set of certain conditions, influences, associations of subjects of education that provide development, training, education of the individual, his self-awareness (Savchenko, 2012).

From the point of view of V. Shuldyk, K. Shevchenko, the developmental educational environment is considered as a sphere of personal growth, human life, interaction of informational, cognitive, psychological, pedagogical accumulation of knowledge, where purposeful development of personality is carried out (Shevchenko, 2014).

Modern researcher S.V. Smolyuk interprets the developmental educational environment of primary school as an integrative concept that synthesizes a number of psychological, pedagogical, logistical, sanitary, didactic, ecological and aesthetic and other factors, as a result of interaction of which effective socialization and development of personal values of the pupil in educational process of primary school is provided (Smolyuk, 2017).

A number of scientists, studying the features of the formation of educational and developmental environment, consider its impact on development, while other researchers agree that the basis of the educational system in modern conditions and the direction of pedagogy are humanistic values. Thus, according to viewpoint of V. Yasvin, in order for the educational environment to have a developmental character, it must provide a set of opportunities for self-development of the subjects of the educational process (children and teachers). This complex includes three structural components: spatial-objective (classroom); social (nature of interaction of subjects of educational activity); psychodidactic (content and methods of teaching, due to the purpose and objectives of the educational process) (Yasvin, 2001).

The conducted analysis provides grounds for the formation of one's own vision of the educational and developmental environment, as a set of social-psychological, pedagogical, informational, technical factors that provide the prerequisites for the formation and self-realization of the individual. It should meet the characteristics and needs of the educational process, pedagogical technologies used and, above all, to ensure the nature of learning.

It should be noted that a number of psychological aspects and patterns must be taken into account in the course of formation of the educational and developmental environment (Figure 1).

During the formation of the educational and developmental environment there is a positive emotional atmosphere and the development of interest in learning activities. Scientists O. Sergeenkova, O. Stolyarchuk, O. Kokhanova, O. Pasekova claim that the problem in organizing the educational process of primary schoolchildren lies in the fact that they do not accept the goal set by the teacher when realizing the importance of education; therefore, the goal set by the teacher for primary pupils does not become their own goal (Sergeenkova, Stolyarchuk, Kokhanova & Pasek, 2012).

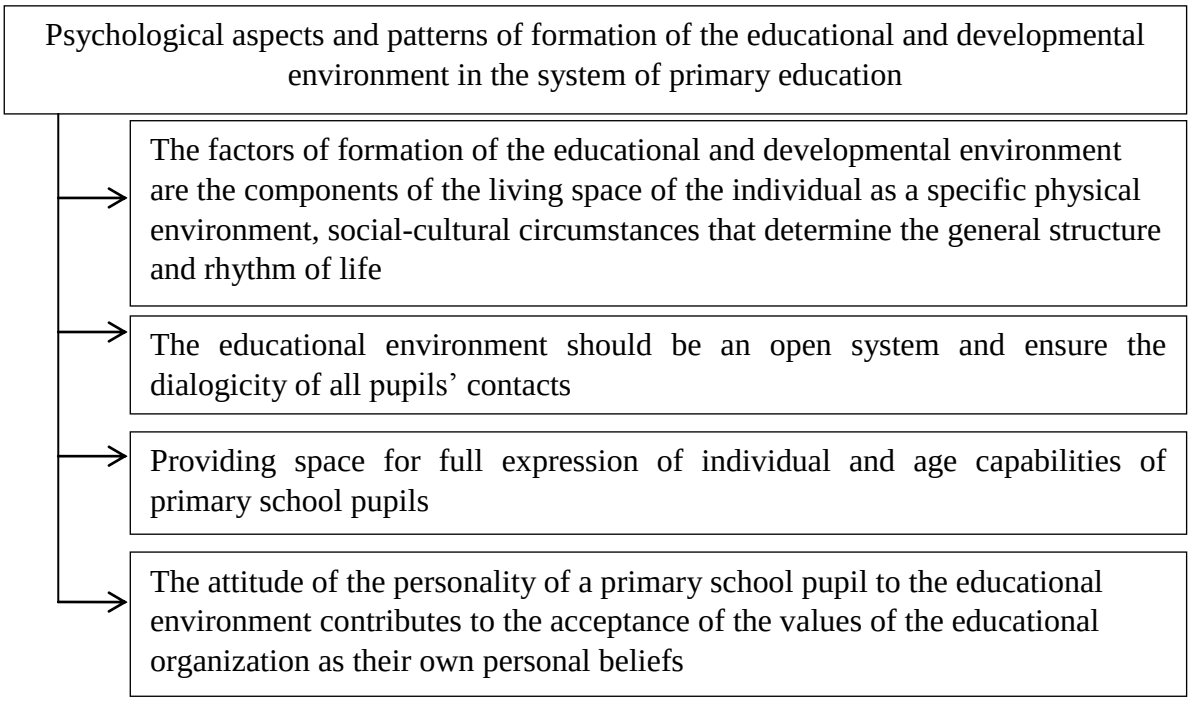

Fig. 1. Psychological aspects and patterns of formation of educational and developmental environment in the system of primary education

Source: author's development based on (Kostyuk, 2016)

The creation of a positive emotional atmosphere and the development of interest in learning is facilitated by the formation of the indisputable authority of the teacher for primary schoolchildren, which ensures the transition of the goal set by the teacher to the child's own goal of learning. Psychologists distinguish the following principles of forming the authority of the teacher, namely: the dissemination of the authority of all adults for the child, the recognition of the teacher as a carrier of numerous knowledge, the organizer of school activities, perception of the teacher as a subject of assessment and educational impact on the child (Smolyuk, 2016).

In this regard, there is a need to provide primary pupils with the opportunity to carry out various activities, such as: individual learning, gaming, artistic and aesthetic, labor, sports, research, creative and project activities, educational cooperation. In order to implement the outlined, the school needs an educational and developmental environment that includes:

- technical equipment of classrooms (computer equipment, including hardware, access to Internet resources);
- digital educational resources (electronic simulators on subjects, textbooks, educational Internet portals);
- educational and methodical literature (textbooks for schoolchildren, reference books, dictionaries and textbooks, methodical support for teachers);
- educational - practical and laboratory equipment (visual equipment, devices, tools, natural objects, models, etc.).

Rationally organized educational and developmental environment makes it possible for each child to find an interesting activity, believe in his abilities, learn to interact with adults and peers. When creating a developmental environment at

primary school, it is necessary to rely on the principles of openness, versatility, flexible zoning, stability and dynamism (Kichuk, 2016).

The peculiarity of studying at primary school determines the real possibility of using intersubject connections, interlinks of classroom and extracurricular activities. The classroom (especially for first-graders) should be equipped not only with traditional educational equipment; it should also provide space, the organization and use of which is a necessary condition for maintaining and strengthening the health of primary schoolchildren.

The educational activity of primary pupils in relation to game becomes leading, and formation of ability to study is carried out in the form of a lesson and training classes. Extracurricular educational activities are used in practice in order to create conditions for the child's advancement in the educational space, the formation of his educational independence, self-organization, which also makes it possible to expand his own knowledge, skills, and competences. Extracurricular activities of pupils unite all types of activities of primary schoolchildren, in which it is possible and appropriate to solve the issues of their education and socialization. Types and forms of extracurricular activities are determined independently in each educational organization, taking into account the available potential and resources.

Equipping an extracurricular playroom makes it possible for primary school teachers to organize children's leisure time during shifts. Children learn here to independently determine the content of their activities, allocate time and actively participate in activities. The organization of a children's playroom at school allows pupils to be freely engaged in various activities at the same time, according to their interests and desires. Classes in this area have a positive effect on the general condition of the child, create a positive mood, relieve emotional stress.

In this connection, the educational and developmental environment of primary school can be represented by:

- educational area with magnetic and interactive whiteboards, computers, projector, stands, which include educational and organizational (optimal organization of pupils' places, teacher's places), educational-intellectual (schemes, interesting stands on subjects or themes, puzzles, crossword puzzles, corners "Chomuchka", "Questions and answers", "Interesting mathematics, "Do you know?", etc.), educational and informational rubrics.

- sports and recreation area or a healthy lifestyle area to relieve fatigue, static stress, hypodynamics. The sports and recreation area should be equipped with a gymnastic wall with a gymnastic board, massage mats, soccer and basketball balls, plastic dumbbells, skittles, skipping ropes, a ball pool, etc. Inflatable balls are very popular among children, the variety of ways of application of which make them one of the favorite types of sports and game equipment.

The efficiency of the sports and recreation area is very high. School pupils' lounge zones and the gym should provide pupils with the opportunity to implement their physical activity, forasmuch as one of the most important activities is to create a comfortable health environment.

Here one can observe the information under the headings: healthy lifestyle, traffic rules, basics of life safety.

- a play area equipped, taking into consideration a gender perspective. At school, in the context of story-based role-playing, rules-based gaming activities and high-level directorial gaming activities, it is necessary to create conditions for the gradual transition of children from full-fledged gaming activities to educational activities, and to compensate the insufficient development of gaming activities for some children in the class.

- information zone - located on the perimeter of the classroom; it is represented by stands on the walls. The content of the stands reflects the life of Ukraine, as well as the hometown. Information for parents can be posted here. Stands are decorated in color, which makes you want to get acquainted with the information.

- correctional (social) zone, designed to correct disorders of mental processes of pupils. Correction area, or zone of developing games, aimed at both individual and group work (didactic games, games for the development of sensorimotor processes, games that promote the development of cognitive processes: mosaics, puzzles, lacing, games with free-flowing materials).

- rest area. Most children stay at school until 2.30 p.m. 5 days a week. It is advisable to make the space of the game room more homely. There may be a TV, DVD player in the rest zone. During rest it is possible to include pleasant music, to carry out musical physical training minutes. Children like listening to and singing children's songs.

- "Crazy hands" area - is an exhibition of children's products and drawings. Works need to be updated. Creating such a zone helps the child feel his significance, increases his self-esteem.

- "World of Nature" area, which comprises material that promotes the formation of pupils' ideas about life on earth, about natural communities, about the development and adaptation of living organisms to the environment.

- green area, which is represented with a variety of decorative flowers, information cards about flowers (flower name, family, etc.). The presence of flowers in the classroom makes it possible to form the skills and desires of children who care for them, to cultivate diligence, instill love and respect for nature. In addition, it makes it possible to create a cozy and comfortable learning space.

Taking in consideration the above, the educational and developmental environment of primary school creates all the necessary conditions for the formation of skills of self-organization of pupils' educational activities. The term "self-organization" was first used by W. Ashby in 1947, and in the domestic literature I.R. Prigozhin used this term in the 50-60s to describe the process of thermodynamics. By the way, L.V. Faleyeva consideres the self-organization of activities as a system of abilities and skills to mobilize the capabilities of the individual to achieve a personally or socially significant goal, which allow the pupil to be the subject of their own educational activities. The latter involves the identification and activation of the subject's own psychophysiological abilities and opportunities for purposeful activity (Faleeva, 2012).

Thus, self-organization is understood as the process during which the creation, reproduction and improvement of a complex management system is carried out. Self-organization is a complex property, which is expressed in freedom from external factors and coercion, the ability to subordinate his own views to own behavior, willingness to carry out activities without any assistance. When talking about the formation of pupils' self-organization, it is necessary to keep in mind two interrelated objectives:

The first objective centers on developing pupils' independence in cognitive activity; it is necessary to teach them to master knowledge, to form their own worldview;

The second objective centers on teaching children to independently apply the acquired knowledge in learning and practice.

Herewith, the basic types of self-organization of primary schoolchildren under the influence of the educational and developmental environment are distinguished, which are reflected in Fig. 2.

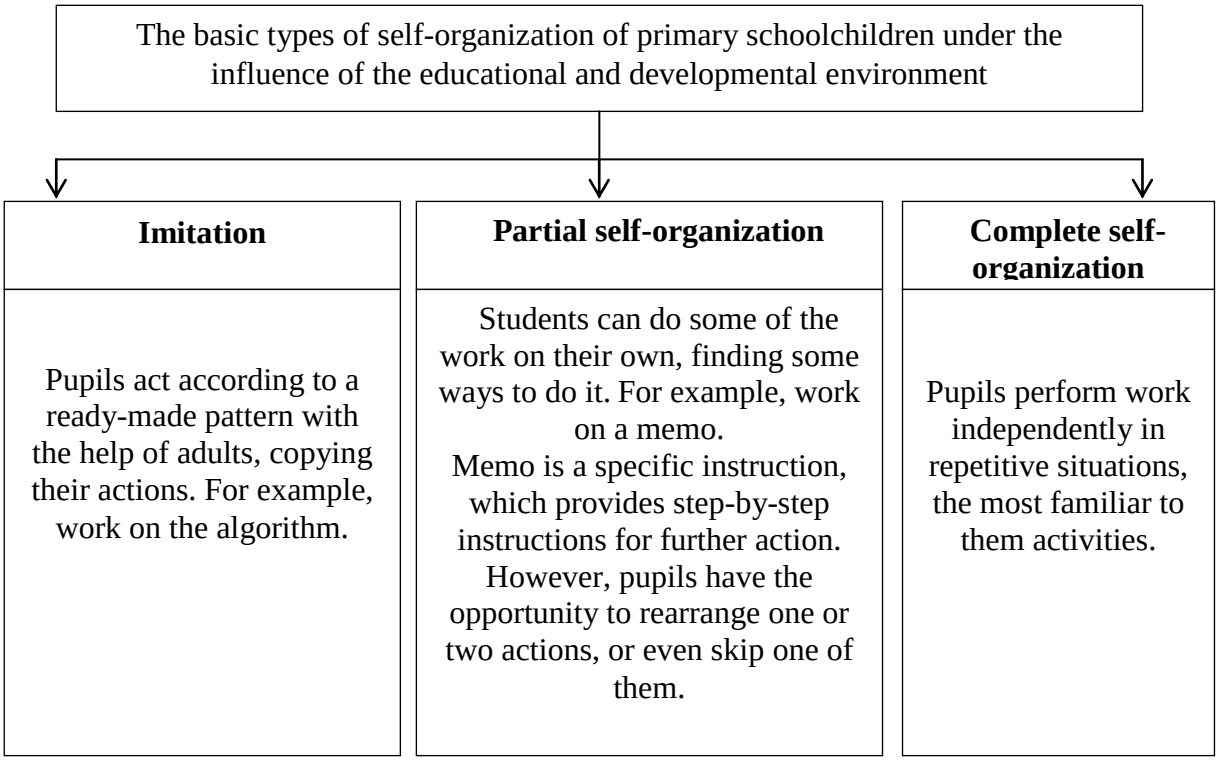

Fig. 2. The basic types of self-organization of primary schoolchildren under the influence of the educational and developmental environment

Source: author's development based on (Menkova, 2019; Zhuravlyova, 2018)

In the scientific literature, the following stages of ability of self-organization of educational activity of primary school pupils within the conditions of the educational and developmental environment are allocated, namely (Menkova, 2019):

- the ability to determine the purpose of the educational task;
- the ability to plan the educational task;
- the ability to properly perform the educational task;

- the ability to control the course and results of the educational task;
- the ability to assess the course and results of the educational task.

The ability to determine the purpose of the educational task. The purpose is considered as a pedagogical category in the works of K.D. Ushynsky, N.K. Krupskaya, A.S. Makarenko, B.A. Sukhomlynsky and others. In numerous scientific articles considerable attention is given to the issue of purpose setting. Thus, the starting point in becoming a pupil as an organizer of cognition is to determine the purpose. According to viewpoint of I.P. Rachenko, the purpose determines not only the general direction and effective stage of work, but also all intermediate links. And this determines the organization of all activities (Rachenko, 1972).

The purpose for the pupil is activity orientation. Finding out the purpose by pupils creates a certain emotional state, mobilizes volitional efforts. The purpose should be recognized. In the learning process, the purpose and objectives of future activities are usually set to pupils from the outside. As a rule, the teacher organizes and directs the actions of pupils. This leads to the fact that often the purpose of learning management is formed from the learning process of primary school pupils.

At different levels (during the analysis of new material, when checking homework), it is desirable to first direct pupils to understand the purpose set by the teacher, then to self-statement of their own purpose, which has a personal meaning.

We propose to consider this stage on the example of the lesson of Writing in 1st grade on the topic "Rules of carry over".

Teacher: Guess the riddle (the riddle about the birch (bereza) is written on the board).

Pupils: Birch (bereza).

Teacher: I will write the answer on the board (continues writing, but the word does not fit on the board). What can I do, children?

Pupils: Carry over.

Teacher: Will you help me carry over the word birch (bereza), work in pairs. (Students work in pairs on sheets.)

Teacher: Let's see how you have carried over the word "birch" (bereza) (consider different options: (be-reza, bere-za, bere-za, ber-eza). The task was one; however, you have done it differently. Why did it happen?

Pupils: We don't know the rules.

Teacher: Consequently, what is the topic of our lesson?

Pupils: Carrying over of words.

Teacher: What is our goal?

Pupils: To learn the rules of carrying over of words.

Thus, defining the purpose of educational activities by pupils is not as a simple task as it may seem at first glance. This process requires a creative approach, a broad view of things, the activity of pupils' thinking.

Therefore, the conclusion can be done: the definition of purpose is a personal function that provides the process of constructing an imaginary image of the future result of the activity (purpose), awareness and subjective acceptance of this image, as well as regulation of the subject's own activities aimed at achieving this purpose.

The ability to plan the educational task. The concept of "plan" is interpreted as a pre-planned system of activities that provides the order, sequence and timing of work. A sound plan is a working project of any activity. It is possible to measure process and results of work with its help. It can also act as a criterion for assessing the results of work.

We propose to consider this stage of the work on the example of the lesson of Ukrainian language in the 4th grade: monitoring dictation with visual training.

Teacher: Today at our lesson we will write a dictation on "Unstressed vowels in the endings of adjectives".

Pupils: Let's make a plan of our learning activities together at this lesson.

Pupils with the help of the teacher make a lesson plan: reading the text from the board; finding words with spelling - unstressed vowels in the endings of adjectives; finding words with other familiar spellings; explanation of spelling words; re-reading the text; explanation of the location of the comma; independent reading of the text; writing at teacher's dictation.

In addition, the development of the competence "self-organization of educational activities" is carried out directly in the organization and conducting independent work. At the initial stage, the teacher helps pupils make a plan of work and its implementation. Gradually, these actions are brought to automatism and do not require teacher's intervention.

The success of educational activities largely depends on the ability of primary pupils to predict future actions, the ability to identify different options for the task, analyze the features of each option and choose the best, the ability to properly perform the educational task. When the pupil has completed the oriented and planning part of the activities that make it possible for him to proceed to the direct implementation of the planned actions - he has decided at **the stage of the educational task** (Zhuravlyova, 2018).

This stage means directly independent work of pupils; it is one of the forms of the lesson. Let's consider in more detail the organization and procedure of conducting independent work at primary school.

Teacher: Today at the lesson we will write an independent work on the topic of "Carrying over of words". Let's define the purpose of this lesson.

Pupils: We'll repeat the studied material on the topic "Carrying over of words"; check knowledge on this topic; clarify and summarize the knowledge gained.

Teacher: Well done. Let's make the plan of work.

Pupils: 1) we read all the tasks of independent work;

2) we give a preliminary assessment for ourselves (we draw a man on a ladder).

This man symbolizes a certain assessment.; If a child draws the man on the top rung of a ladder, he assesses his work highly; if on average - doubts whether he will be able to do the job without mistakes; if at the bottom - believes that he will not be able to cope with this type of work;

3) we put the numbers in order and perform each task;

4) we check all the work again;

5)we assess the work and set a score on a linear scale for ourselves. It is a vertical line with three horizontal distributions, symbolizing high, medium and low levels.

Teacher: What questions have arisen during preparation for independent work (testing)? If there are no questions, then let's start its implementation.

The ability to control the course and results of the educational task. Control is considered as a component of educational activities, which consists in the analysis and regulation of its course and outcomes. According to the learning process, self-organization is considered as an important component of the pupil's learning activities, which consists in the analysis and regulation of its course and results, as the ability to control his learning activities and correct mistakes.

Also, the formation of pupils' control over the course, the correctness of each operation and their sequence is not only a means of mastering each operation and their sequence, that is, not only a means of mastering educational material, but also a means of forming the attention of primary pupils (Menkova, 2019).

The ability to assess the course and results of the educational task. After completing the work, the teacher collects notebooks. The checking is carried out in two stages:

1) deferred control: the work is checked without grading. The teacher indicates in the fields the number of mistakes made in the work with red pen, without correcting the mistake itself. The notebooks are then returned to the pupils, who are looking for and correcting their mistakes by themselves.

2) final control: grades will be given on the same linear scale where pupils put grades (marks) for themselves.

After that a general analysis and adjustment of independent work (testing) is carried out. The teacher summarizes: what tasks have been done without mistakes, what tasks have been done without mistakes, who has done well, which tasks have been the most difficult. The teacher should explain do everything and the pupil, as a result, should understand where and why he has made mistakes.

Pupils' awareness of their mistakes leads to their most effective elimination. After analysis and correction of knowledge, pupils return to the previous assessment of their work (a man on a ladder). Now the man is put again. If the location of the men coincides, then the child adequately assesses the level of his knowledge and skills. However, practice has revealed that adequate self-esteem is very rare for primary school pupils; it is more often either underestimated or overestimated. The proposed organization of work not only leads to the effective development of the competence "self-organization of educational activities" of primary schoolchildren, but also corrects their self-esteem.

Thus, mastering the skills of self-organization of educational activities by primary schoolchildren is a mandatory minimum.

It should be mentioned that primary school children, especially first graders, are distinguished by high cognitive activity. In search of an answer to the endless "why and how", the child is willing to perform practical actions with objects that interest him. Primary schoolchildren are dominated by involuntary attention and memory.

This feature determines the frequent change of activities and the inclusion of the game in the learning process.

Currently, numerous primary school teachers understand the importance of using gaming activities in the learning process of primary schoolchildren and the formation of their self-organization skills. For instance, at the lesson of Writing in the game "Who's more?" children independently come up with words for a given sound. In the game "Find the word in the word" pupils compose words from the letters of the word provided by the teacher. For the same purpose the games "Find a couple" (choose synonyms for words), "Add a word" and others are used.

At the lessons of Mathematics, one can use the didactic game-assignment "The fastest postman" in order to consolidate the knowledge of the table of addition and subtraction within 10 and the table of multiplication. The teacher gives the same number of cards ("letters") to 5 pupils, on the back of which expressions for addition and subtraction (multiplication or division) are written. Children, sitting at desks, draw houses with numbers (they hold in their hand the numbers from 1 to 10, or the answers of the multiplication table). Postmen should quickly identify the № of the house on the envelope (find the value of the expression) and deliver the letters to the appropriate houses (give to children who have cards with numbers indicating the answers to the expressions written on the envelopes). A pupil, who quickly and correctly delivers the letters to the destination, will be the fastest postman.

Thus, game technologies make it possible to present the educational material in the accessible, interesting, bright and figurative form, promote the best mastering of knowledge, cause interest to knowledge, form skills of self-organization of pupils.

Discussion. Proper organization of the lives and activities of children at primary school, regardless of their abilities means creation an educational environment that will meet the personal, cognitive, social and communicative development of each child. The role of the pupil and the teacher are clearly changing within the conditions of a developing educational environment. The teacher is the organizer of the pupil's development. He knows how to give knowledge to the child, and should organize a lesson for the development of regulatory, communicative, cognitive and personal learning activities. Teacher is a facilitator in mastering pupils' competences. He accompanies the child, creating conditions not only for the acquisition of subject knowledge, but, most importantly, for its self-organization. That is, the pupil from the passive, contemplating gradually becomes independent, and thinking.

The educational environment of primary school has significant development potential. It promotes the implementation of hidden creative talents and abilities of children, provides a constant high interest in knowledge, as well as provides a successful adaptation and a smoother transition to middle school. Creating and improving the educational and developmental environment of primary school in modern conditions is possible and necessary.

Conclusions. Thus, formation of skills of self-organization of primary schoolchildren in the conditions of the educational and developmental environment opens opportunities and ways of formation of the person; ways to identify the

interests, inclinations, abilities of the child. The basic activities (game, study, work, communication) act as a means of formation and development of all its forces, properties, abilities, skills. The basic elements of self-organization of the personality are: self-knowledge, self-development, self-education, self-learning. Mastering the elements of mental activity is carried out, namely: comparison, the analysis, and synthesis; correct organization of relationships and interactions in the teaching staff; development of abilities and ability to convince people by word and deed; formation of self-characteristics and long-term plan of self-organization.

A promising area of further research is the use of information technology in the formation of skills of self-organization of educational activities of primary school pupils.

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