



Content And Historical Development Of Teaching The Visual Activity Instruction Module Based On The Steam Approach

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Abstract: This article analyzes the historical stages, theoretical foundations, and contemporary development trends of the methodology of teaching visual activity. The study examines scientific and pedagogical views on children's visual activity from the late nineteenth and early twentieth centuries onward, highlighting European and Russian experience as well as the role of visual activity in preschool education. The author substantiates the importance of modern approaches, especially STEAM integration, in developing children's creative abilities, forming aesthetic perception, and supporting artistic thinking in the process of teaching visual activity. The article emphasizes the need to organize visual activity through both instrumental and art-oriented approaches and to ensure the integrated development of theoretical and practical skills in the professional training of future preschool educators. It also reveals the pedagogical potential of visual activity in fostering creativity, critical thinking, visual literacy, and innovative approaches in learners.

Keywords: visual activity, teaching methodology, preschool education, artistic and aesthetic education, children's creativity, STEAM approach, visual literacy, creative ability, pedagogical training, integrated education

Steam Yondashuvi Asosida Tasviriy Faoliyatga O'rgatish Modulini O'qitish Mazmuni Va Tarixiy Taraqqiyoti



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Annotatsiya: Ushbu maqolada tasviriy faoliyatga o'rgatish metodikasining tarixiy shakllanish bosqichlari, nazariy asoslari va zamonaviy rivojlanish tendensiyalari tahlil qilingan. Tadqiqotda XIX asr oxiri va XX asr boshlaridan boshlab bolalar tasviriy faoliyatini o'rganishga doir ilmiy-pedagogik qarashlar, Yevropa hamda Rossiya tajribasi, shuningdek, tasviriy faoliyatning maktabgacha ta'limdagi o'rnini yoritilgan. Muallif tasviriy faoliyatni o'qitishda bolalarning ijodiy qobiliyatlarini rivojlantirish, estetik idrokni shakllantirish va badiiy tafakkurni qo'llab-quvvatlashda zamonaviy yondashuvlarning, ayniqsa STEAM integratsiyasining ahamiyatini asoslaydi. Maqolada tasviriy faoliyatni instrumental va san'atga yo'naltirilgan yondashuvlar asosida tashkil etish, bo'lajak pedagog-tarbiyachilarni kasbiy tayyorlash jarayonida nazariy va amaliy ko'nikmalarni uyg'un rivojlantirish zarurligi ta'kidlangan. Shuningdek, tasviriy faoliyatning bolalarda ijodkorlik, tanqidiy fikrlash, vizual savodxonlik va innovatsion yondashuvni shakllantirishdagi pedagogik imkoniyatlari ochib berilgan.

Kalit so'zlar: tasviriy faoliyat, o'rgatish metodikasi, maktabgacha ta'lim, badiiy-estetik tarbiya, bolalar ijodiyoti, STEAM yondashuvi, vizual savodxonlik, ijodiy qobiliyat, pedagogik tayyorgarlik, integratsion ta'lim

The study of the history of the methodology of teaching visual activity as a branch of scientific pedagogical knowledge makes it possible to determine its formation and development prospects. In the late 19th and early 20th centuries, research was conducted on the methodology of teaching visual activity. The development of this area was studied as a scientific direction within preschool pedagogy. In general, as a result of the research conducted within the discipline, the historical stages and methods of teaching visual activity were analyzed. In recent years, the possibilities of using modern approaches in higher education have become more popular. However, in the development of any discipline, its historical development and emergence serve as a methodological basis. In



particular, in Russia, from the 1920s to the mid-1950s, an interdisciplinary community was formed on the methodology of teaching preschool children to visual activity. This community included ethnographers, art historians, cultural historians, psychologists, art teachers, kindergarten practitioners, and methodologists. While art education research in the region has emphasized the unique importance of this field in cognitive and affective development, the integration of art with other disciplines has been a major trend that has been recurring since the 1980s. Children's art emerged as an independent academic discipline in the early 20th century.

Rousseau did not believe that children's early drawings had aesthetic value in themselves. He wanted to base art primarily on empirical and factual observation. However, it is important to note that Rousseau did not see the teacher as a dominant figure, but he did see a certain level of adult guidance as necessary. These views are also related to the German idealism of Kant and Hegel, which attributed moral value to art. The young artist rises above external reality and approaches the spiritual and divine level. As a result, the emphasis shifts from imitating nature to expressing the inner world of the student.

These ideas were reflected not only among educators, but also in the work of romantic poets and artists. Romantics glorified the innocence of childhood as a sign of "genius" and considered the child a model for artistic creation.

Georges-Henri Lucier, in his work "Dessin d'un yenfant", published in 1913, analyzed the stages of development of children's drawing and introduced the concept of "intellectual realism".

3. Frans Chizhek and the pedagogy of "free expression". Frans Chizhek is recognized as the "father" of children's art. He was the first to put forward the idea that only works created by children have intrinsic aesthetic value. In 1897, he opened a special art school for children, emphasizing free creativity rather than technical instruction. The concept of children's art can be traced back to the so-called "cult of childhood". The most important representative of this trend is undoubtedly J.J. Rousseau. At the end of the Enlightenment, in the 19th century, and especially through his novel "Emile", Rousseau sees the source of all evil in social influences and argues that culture corrupts the child's essentially pure nature. He understands the child's mind as a natural and self-evident source of truth and purity, free from social distortions.



In its time, “Emil” was considered a pedagogical treatise. This work served as a catalyst for educational reforms based on intuitive learning, and in the following century it found its logical conclusion in the pedagogical views of Pestalozzi and Froebel. Progressive educators such as Deshay also drew inspiration from Rousseau’s ideas, and as a result, his influence on educational practice lasted for more than 200 years.

Rousseau does not yet seem to have attributed an independent (intrinsic) artistic value to children’s first attempts at drawing. On the contrary, he aimed to orient art education on a completely empirical and factual basis, to encourage the child to depict what he sees and understands. From the point of view of our study, it is important to note that Rousseau, although he denied the dominance of the teacher in the educational process, considered it necessary to some extent to be guided by adults.

G. Kershensteiner, having analyzed more than 58 thousand children's drawings, proved that artistic ability does not depend on social background [1]. Therefore, in the process of teaching students to visual activity, it is necessary to develop their creative abilities. The STEAM approach is considered effective in revealing the inner potential of each student.

The Austrian artist F. Chizhek was the first to introduce the concept of children's art through a series of exhibitions consisting of works of creative art circles. He also emphasized the importance of creative activity in education. He is recognized as the “father of children's art”. The scientist substantiated the creative instinct in children as a key factor of development [2]. He emphasizes the importance of perception. He recommends that children's art should be evaluated not by adult criteria, but in its natural state.

G. Reed states that “Drawing is a mental model or symbol that a child uses to represent objects or ideas. That is, it is a stable structure that reflects the personality. Drawings are not always visual imitations, they are internal constructions that children improve over time [3].

Until the 1980s, higher education curricula in Europe (Nuova Accademia di Belle Arti (Italy, 1923), Bauhaus Curriculum (Germany, 1919), etc.), Meisterschule (Austria, 1970) were mainly focused on the fine arts, and everyday objects were discussed only as sources of aesthetic experience within the framework of historical monuments and folk art products. After that, there was a clear turn towards modern crafts and design.



In Austria, the debate about the importance of images as a means of communication on an equal footing with oral speech led to a radical change in art and design curricula. Only art was not, but rather, requiring education aimed at learning visual language, instead of “education through art” (Bild Unterricht statt Kunstunterricht), the curricula were structured in a way that was relevant and in line with the needs of learners [4]. N. Vershinina’s monograph summarizes the results of scientific research on the problem of children’s visual activity, presented in dissertations defended from 1950 to 2000. It is noted that the professional training of higher education students in guiding the visual activity of preschool children is described in 5.7% of works [5]. Also, the problem of integrating visual activity with other areas has not been sufficiently resolved. Especially in recent years, the trend of integrating art into STEM education has intensified, and as a result, the concept of STEAM emerged. The abbreviation STEM was put forward in 2001 by J.A. Remali, a representative of the US National Science Foundation, who previously used SMET was introduced instead of the term. Initially, both abbreviations were used simply to describe the fields of science, mathematics, technology, and engineering, as well as the content of these fields.

J.A. Remali defines STEM as follows: “It is an educational process in which instruction is contextualized and students are challenged to solve real-world problems by creating opportunities for innovation.” [6] This concept was seen as a solution to the low performance of American students on standardized tests in mathematics and science, as well as the declining enrollment of students in STEM majors in universities. Later, the US National Science Foundation expanded the list of STEM fields to include psychology, social sciences, and research in education and teaching. Integrated models of science, technology, engineering, and mathematics are classified as follows:

S -Science. It deals with the study and understanding of the natural world and is the foundation of technology. Science focuses on the existence of things in nature. It uses processes such as “inquiry,” “discovery,” “learning,” and the “scientific method” to understand the nature of the natural world.

T- Technology. The transformation of the natural world to meet human needs and wants. Technology is concerned with what can be created (designed, manufactured, and developed) from natural materials and substances to satisfy



human wants. It uses the processes of “invention,” “innovation,” “practical problem solving,” and “design.”

E- Engineering. It is the profession of applying knowledge of mathematics and natural sciences, acquired through study, experience, and practice, to the efficient use of natural forces and materials for the benefit of humanity. There is a strong philosophical connection between the disciplines of engineering and technology.

M- Mathematics. “The science of laws and relationships.” It provides a clear language for technology, science, and engineering. Technological advances such as information stimulate mathematics, while innovations in mathematics enhance technological innovation. For example, a mathematical model can aid technological design by simulating how a system will work.

J. Remali defines STEM as “a process of education in which instruction is contextualized and students solve real-world problems by creating opportunities—the pursuit of innovation.” This concept was a response to the low performance of American students on standardized tests in mathematics and science, as well as the declining number of students enrolled in STEM majors at universities.

Despite the debate over the number of subjects that should be integrated, STEM classes involve students in complex projects. These projects require the simultaneous application of knowledge and skills from all disciplines, which in turn prepares students for their future daily lives. The arts only became an integral part of education at the beginning of the 21st century, when the integration of STEM subjects did not yield the expected results. STEAM emerged as an alternative to the classic STEM model.

The introduction of the arts into the educational process was expected to yield the following results (see Figure 1).



Organizing the educational process and outcomes with an innovative approach

Strengthening students' motivation to study

Gaining diverse experiences and expanding the scope of applications.

Figure 1.2.1. Results of the application of art in the educational process

The STEAM concept places great emphasis on the integration of arts. When analyzing the involvement of individual areas of art in this education, it is observed that design and fine arts (photography, painting, watercolor, graffiti, sculpture, models, collage, origami) are most widely used. These art forms ensure inclusive education, while making the results accessible to the general public and more understandable for students and their parents. The advantage of STEAM is that it allows for the integration of several disciplines at once and helps students practice their research, questioning, exploration, discovery, and innovative construction skills, as well as the formation of learning experiences. It is known that the main essence of this education is to create authentic learning experiences for learners that have a real-life context, involve ambiguous problems, complex or multi-step questions, require multiple approaches to the problem, provide interdisciplinary integration, and consider mistakes and re-examination as an integral part of the learning process. STEAM classes involve students in complex projects. These projects require the simultaneous application of knowledge and skills from all areas, which encourages students to demonstrate their abilities in their future daily lives. Modern requirements are such that society needs not just people, but also individuals who can adapt to unusual situations and make innovative decisions



using their creative abilities. In T. Costantino's research, interdisciplinary cooperation in higher education poses both organizational and intellectual challenges. It is based on the fact that it is difficult to find time for general planning from an organizational point of view, and it can be difficult to adapt jointly taught lessons within the framework of the teacher's workload and the student's curriculum. It is also important to create a favorable developmental environment in the interdisciplinary process.

In our research work, we studied and analyzed foreign experiences on this issue. In particular, the Council of the Canadian Academy of Sciences states that it is necessary to form STEM skills in students. This requires maximizing the impact of STEM skills, as well as developing leadership, creativity, flexibility and entrepreneurial skills in learners. Most researchers have found that these skills can be developed by integrating art with STEM. The STEAM concept is considered a factor that creates a favorable environment for learning, a method for developing critical thinking, and the foundation of communication and collaboration skills.

In our country, serious attention is being paid to the issue of preparing future educators to be globally competitive and find innovative solutions to modern problems. In countries such as Canada and Australia, they recognize the benefits of STEAM education, recognizing that design and creativity in the arts are important foundations for successful mathematicians, scientists, and engineers. Based on these analyses, we identified important approaches to the methodology of teaching visual activities (see Figure 1.2.2).

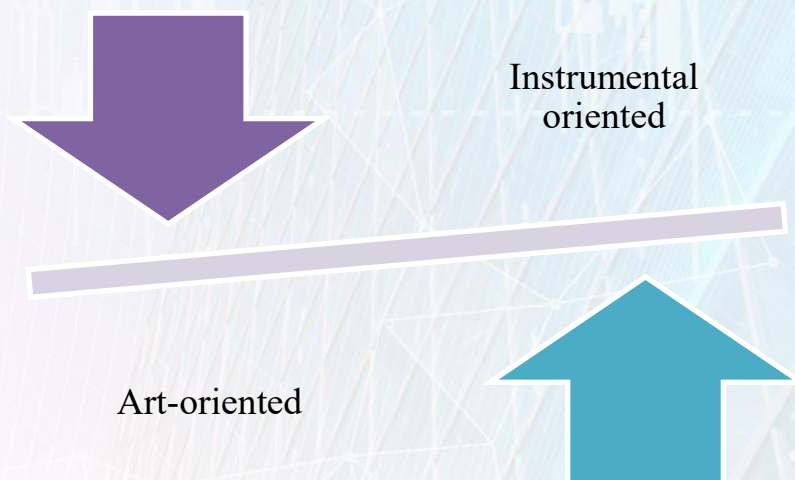




Figure 1.2.2. Important approaches to the methodology of teaching visual activity

Instrumental-oriented - a pedagogical process aimed at introducing students to the means, tools, and techniques of visual activity, as well as the formation of practical and methodological skills. In this case, the task of the educator is to create conditions for the development of children's motor skills, for example, by working with scissors or using coloring books. Well-developed motor skills lead to success at the stage of preparation for school and later.

Art-oriented - is a direction aimed at developing students' creativity, aesthetic taste, artistic perception and thinking, imagination. In this direction, future educators focus on teaching children to feel beauty, to freely draw, to express their thoughts through drawing, to create and to increase their aesthetic taste. In an art-oriented approach, a child's sense of achievement is provided by creating opportunities for independent activity, playfulness and experimentation. Here, the educator's enthusiasm and openness to children's initiatives are important, and the main task is to maintain an inspiring and meaningful environment. Activities are based on children's experiences, challenges and a sense of achievement. They are based on a continuous sequence of topics and processes, and positive feedback is emphasized. The child is accepted as sufficient in his own way, and the educator understands the children and their situations. Art itself is seen as a way of facing the world around him. At certain stages of the process, the child's independent activity and freedom of choice of direction are supported. [7]. Students are required to know that this educational module is inextricably linked with other areas in the process of gaining experience in organizing visual activity classes.

The acronym STEM was proposed in 2001 by J.A. Remali of the US National Science Foundation, replacing the previously used term SMET. Initially, both acronyms were used to refer only to Science, Mathematics, Technology, and Engineering, as well as to specialists in these fields. Later, the National Science Foundation expanded the list of STEM fields to include psychology, social sciences, and research on education and teaching. The NSF defines STEM fields broadly: it includes not only mathematics, natural sciences, engineering, and computer science, but also social and behavioral sciences such as psychology, economics, sociology, and political science. Since then, the term STEM has been adopted by many programs at the national and local levels as a key factor in



educational reform and restoring the global competitiveness of the United States. [8]

J.M. Breiner From an educational perspective, STEM can encompass a variety of activities, but it usually refers to the replacement of traditional lecture-style teaching with more inquiry-based and project-based approaches. For some, it only becomes STEM when the science, technology, engineering, and mathematics curriculum is combined and brought closer to the work of a real scientist or engineer.

D. Kashaka emphasizes the need to integrate arts and STEM in order to develop creativity and creative thinking in students. Integrating the arts within STEM education offers an important way to develop the creativity, critical thinking, and innovative capacity needed to understand and solve the complex problems of the 21st century. By integrating the arts with science and technology education, STEAM education engages students more deeply and develops skills for analyzing and solving problems in a variety of ways. This model should serve to prepare future leaders by ensuring the harmonious development of technical and creative skills [9].

Arts only became an integral part of education at the beginning of the 21st century, when the integration of STEM disciplines did not yield the expected results. STEAM emerged as an alternative to the classic STEM model. The goal of introducing arts into education was to achieve the following results:

- innovative organization of the educational process and outcomes;
- strengthening students' motivation to study;
- gaining diverse experiences and expanding the scope of applications.

The historical and political formation of STEM has changed the educational paradigm. Researchers, educators, and practitioners have proven the effectiveness of STEM in their work. By developing students' knowledge and skills in the STEAM approach in higher education, they are better equipped to master the methods of organizing visual activities in preschool education. As a result, they help children develop their imaginations about knowledge, technology, construction, art, and mathematics.

R. Chopra says that studying children's art provides a deeper understanding of their mental, emotional, and social world. The scientist developed stages of teaching visual activities.



1. Purposeless pencil movement is a movement carried out by the shoulder muscles, the child does not have a sense of space and size. The lines are irregular, starting anywhere and ending anywhere.

2. Imitative pencil movement - muscle movement is preserved, but gradually the movements of the wrist and fingers begin to dominate; this is the result of imitating the drawing movements of adults.

3. Visual control begins to strengthen (4 years). The human figure becomes a favorite subject: a circle for the head, dots for the eyes, two lines for the legs. Sometimes the body or arms are also added. Complete synthesis is not yet achieved.

4. Stage of descriptive symbolism (5–6 years). During this period, human figures are depicted on the basis of a relatively clear, but simplified symbolic scheme. Each detail is given in a familiar, conventional form. The child relies on the same favorite scheme for a long time.

5. Stage of descriptive realism (7–8 years). At this stage, drawings can be considered not only visual, but also logical in nature. The child describes not what he sees, but what he knows. The use of small details in the representation of the picture expands [10].

The above stages directly correspond to the content of STEAM technology. In the process of mastering visual activities, students can acquire certain knowledge, apply academic knowledge in activities such as drawing, working with clay and plasticine, building, expressing them in various ways, modeling, applying art therapy, and integrating them with mathematical ideas.

Guy Lindsay's work "Art Play and Inquiry" is devoted to the importance of art appreciation and art-inspired learning experiences in developing children's thinking, imagination, and interaction with art. Visiting galleries and museums, viewing and discussing works of art, choosing diverse and meaningful works, and using art as inspiration for practical activities are some of the strategies for developing children's visual literacy.

V. Lowenfeld developed a six-stage model of drawing in his work "Creative and Mental Growth" (see Figure 1.2.3).

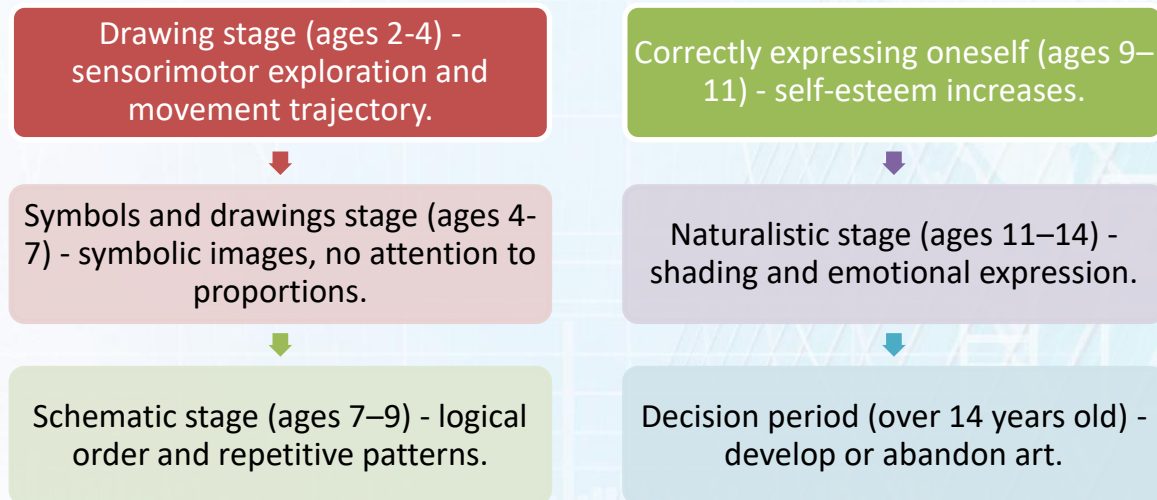


Figure 1.2.3. V. Lowenfeld's six-step model of drawing

The content of the above model combines exactly five (STEAM) areas. That is, in drawing, the organization of movement through intuition, cognitive processes develop, and mathematical imagination is strengthened through art.

K. Ourania's research suggests that although children create differently than adults, they have an innate artistic potential, which can be compared to the work of the most famous modern artists in the Western art tradition [11]

Art is a powerful tool for exploration and meaning-making, allowing children to explore, construct knowledge, and express ideas visually. Participation in visual art and research processes develops cognitive advantages and capabilities.

Visual art experiences allow children to develop the following dispositions: curiosity, perseverance, problem solving, resilience, and imagination. All of this creates the foundation for future creative thinking. Visual art experiences not only develop creativity, but also develop the flexibility, critical thinking, and curiosity children need to navigate a constantly changing, highly visual world. By developing these important dispositions, art prepares children for meaningful and impactful lifelong learning and growth [12].



Based on the analysis, the methodological aspects of the theory of fine arts in preschool education are as follows:

- ☒ Children are natural artists, and it is enough not to teach them to draw, but to encourage them;
- ☒ Children's art comes from individual and innate sources, so adult intervention disrupts natural creative development;
- ☒ Art is a means for the child to express himself and the world around him, and is not subject to the rules of realistic depiction;
- ☒ Like adult artists, the child perceives the world in terms of light, color, and form.

Developed and developing countries are implementing reforms in STEM education and investing heavily in developing STEM curricula to enable students to pursue careers in these fields.

Research has shown that STEM education is crucial for the implementation of curricula at various levels, from secondary school to universities, for achieving high educational outcomes and ensuring student development.

STEAM education can be considered not only a means of improving academic performance, but also a unique way of solving problems. Students are interested in the subject and tend to look at the events around them from a new perspective. They develop the skills to make discoveries, generate ideas and conduct experiments independently [6].

By analyzing the historical formation of the concept of fine arts and activity, the following features were identified:

1. There is a close similarity between children's drawings and primitive art, both of which are manifested as graphic expressions devoid of established pictorial traditions and academic rules.
2. The departure from academic traditions, the appeal to random and spontaneous drawings is equated with artistic creativity. In this case, creativity is understood as a departure from the influence of society and a return to the natural stages of individual development.



3. The romantic idea of the disappearing innocence and spontaneity inherent in children is contrasted with the increasing complexity and cultural formation of Western civilization.

4. The unique way of perceiving and depicting the world is manifested in art as a liberating and sought-after ideal.

5. The concept of children's art gained its full foundation at the beginning of the 20th century, as a result of the strong interest of modern artists in children's visual activity. They discovered in children's works a way to get rid of the burden of Western artistic traditions and return to the simplest, most natural forms of human expression.

6. As a result, children's creativity began to be considered as a universal and culture-free phenomenon, which coexists with modern concepts of art.

Today, in pedagogical higher educational institutions, the subject "Methodology of teaching visual activity" teaches students to organize educational work for preschool children in visual activity classes and outside of class time. In the process of mastering this subject, students can learn to effectively use modern methods and the latest technologies in the successful organization of visual activity classes. Students should master the necessary knowledge, skills and competencies in the process of lessons conducted to develop the talents and creative abilities of preschool children. Future educators should develop the competencies to be able to provide students with knowledge of all types of visual activities in their future professional educational activities and to apply them in practice.

The purpose of mastering this educational module is to prepare students for creative pedagogical activities, acquire practical and theoretical knowledge, skills and necessary qualifications in the field of teaching and educating preschool children in the field of artistic and aesthetic education, and form professional skills in the artistic and aesthetic education of preschool children, taking into account their age characteristics.

In the process of visual activity, students develop thinking operations (analysis, synthesis, comparison, generalization), which, in turn, leads to an increase in their mental potential. Recognizing that the role of activities included in the category of visual activity in the development of creative abilities in students is



incomparable, such activities also lay the foundation for the formation of elements of visual literacy in them. In the process of visual activity, students develop volitional qualities - such as completing the work they have started, setting a goal and striving to achieve it, helping their comrades. In the process of visual activity, they also prepare psychologically. Interest in the profession increases, the ability to learn new things and strive for goals, and the ability to work systematically are formed.

The objectives of the educational module “Methodology of teaching visual activity” include the following:

- to reveal the psychological, pedagogical and scientific-theoretical foundations of the subject and modern problems of teaching methodology;
- to explain the role of visual activity lessons in the system of continuous artistic and aesthetic education and upbringing of preschool children - to promote the development of students' cognitive interests, to convey the close connection between creativity and the presence of moral and volitional qualities (when creating creative works), as well as the upbringing of moral and national value motives of activity;
- to promote the development of students' pedagogical, artistic and creative abilities through folk, classical and modern art means, through the combination of their own creativity and various types of artistic activity;
- to promote the aesthetic development of students in the process of perceiving nature and art, and the formation of their own thoughts both in the process of perceiving works of art and in the process of their own creativity;
- to develop students' artistic thinking, spatial imagination, creative abilities, artistic taste;
- to introduce students to the figurative and artistic language of fine arts through its various types and genres, as well as to provide knowledge about various technical methods and materials;



- to encourage the development of students' creativity in artistic activities.
- to prepare students to use the knowledge, skills and qualifications acquired in professional pedagogical activities. The subject "Artistic activity in preschool education" is carried out in the form of theoretical and practical exercises. [13].

In theoretical exercises, students are given information on the content of organizing art activities in preschool education. During practical exercises, students perform practical creative work based on the theoretical knowledge they have learned. If a student cannot master practical exercises well, he will not be able to practically perform creative work to children when organizing exercises. Knowledge, skills and competencies in this methodological subject are formed precisely on the basis of practical exercises.

The STEAM approach is effective in the formation of these skills. Students think critically and solve problems in an integrative manner. They effectively express their thoughts in various situations, both orally and in writing. Therefore, the importance of effective communication skills is increasing. Collaboration technology is implemented directly. Students work in teams. Through collaborative learning approaches, students are introduced to the process of teamwork is fully engaged. The most important STEAM approach is a chain of creativity and innovation. Students develop the ability to create large-scale projects by putting forward new ideas. These projects require the simultaneous application of knowledge and skills from all areas, which serves as an important instrument in the future pedagogical work and personal lives of students.

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