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Research Article

A CLUSTER APPROACH AS A TOOL FOR SUPPORTING THE INTEGRATION OF INDISCIPLINARY RESEARCH AND EDUCATIONAL NETWORKS

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ABSTRACT

This article explores the cluster approach used in all fields as an important factor in supporting the integration of interdisciplinary research and educational networks. It is emphasized that this approach helps in developing cooperation, exchanging knowledge and experience, introducing innovations in the field of fine arts, and allows students and researchers to receive a more complete and comprehensive education.

Emphasis is placed on the role of developing students' creativity, critical thinking and professional skills, and the ability to be more effective in creating a sustainable system of education and research in the visual arts.

KEYWORDS

Teacher-artist, professional activity, integration, interdisciplinary research, creativity, fine arts, creativity, quality education.

INTRODUCTION

The socio-economic changes taking place in the world due to rapidly developing technologies require specialists in every field to have the skills to adapt to the modern process and make quick creative decisions on time. Compatibility of science and education with production is considered very important and ensures its sustainable development for all sectors. This is evidenced by the progress and advanced practices observed in developed countries. In this regard, naturally, ensuring the integration of science, education and production is considered one of the important and urgent tasks. Today, it is more important than ever to prepare competitive personnel for the requirements of the global labor market. As a

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solution to these problems, it is proposed to apply the "cluster model" to the educational system as an innovative approach to these processes.

The term "cluster" is considered one of the most popular terms when discussing the development prospects of the world economy, and has already entered the field of education. What does a cluster mean? First of all, we need to understand the meaning and content of this model. In fact, the word "cluster" (cluster) is taken from the English language and when translated, it means "collection", "ball", "group", "concentration", "grouping", "growing in groups". Initially, this term appeared in the field of statistics and computers, and later it was widely used in economics and sociology. Many definitions have been given to it by world scientists.

One of the important representatives who made a great contribution to science is the American scientist M. Porter is the founder of cluster development theory. To his credit, he was one of the first to study this problem by studying the competitive position of more than 100 industries in different countries. He puts forward the idea that a cluster is a combination of directly related industries, which causes the growth of mutual competitiveness of the formation mechanism.

Foreign scientists S.V. Sinitsyna, N.I. The cluster approach is defined by Zyryanova as a methodology used to unite various organizations, including industrial enterprises, research and educational institutions, in a certain area for the purpose of joint development of any sector of the economy. In fact, the cluster approach is successfully used in developed countries not only in the economic sphere, but also in the educational system. The importance of the cluster approach in vocational education is highlighted in the article by these authors on the topic "Importance of cluster approach in vocational education". The legal significance is the improvement of the regulatory framework of vocational education. Its socio-economic importance determines the development of a system of mutual cooperation between educational organizations and enterprises and organizations in the region. The professional-pedagogical importance is related to the development of the practical nature of the educational process.

S.V. Danilov, M.I. Lukyanova's article "Cluster approach in regional education" analyzes the main aspects of using the cluster approach in the field of education as a basis for the formation of innovative systems. They also study the importance of the cluster approach in the formation of innovative systems in the field of education.

In our country, scientific research related to the study of pedagogical education cluster and the problem of its practical application as a separate research object has accelerated in recent years. In particular, the educational cluster is a new innovative direction related to integration and continuity in our pedagogy, and its implementation in practice is reflected in many studies as a factor in the preparation of competitive personnel in pedagogical education.

The purpose of the study. In this study, the aim is to clarify the issues of supporting the integration of interdisciplinary research and educational networks by means of the cluster approach, which is used in all fields. Fine art has a special place among other social and humanitarian sciences that are important for human activity.

It is known from history that the representatives of this field have made an incomparable contribution to the development of mankind, the development of science, technology and technology, as well as important changes in the social and cultural life of a person. This science cannot develop separately from other sciences

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and industrial development. All disciplines complement each other, develop and improve through mutual integration. The integration of interdisciplinary research and teaching networks in art education can take many forms. For example, N.A. Stebletskaya's opinion expressed in the article "Integration in fine art lessons" states that the integration of "fine art" with other subjects such as history, geography, literature, music, defense education has a great impact on the creative potential of students. In this article, the author also shows that the use of various pedagogical technologies, such as design, information, and modeling, can help reveal the areas of integrated science more fully and brightly. Fine art means not only creative ability, but also creative thinking. The formation of attitude towards the environment by means of lines and colors serves to educate students' patriotic feelings by praising the sanctity of the Motherland and family.

Another Russian scientist S.M. Lemeshova's scientific research on the topic "Effective use of new educational technologies in the lesson" noted that the integration of research and educational networks can help create a more effective system of research and teaching in the field of visual arts. It states that the use of research methods and technologies can help students develop critical thinking, as well as creative skills and competencies.

In the field of visual arts, as in all fields, the cluster approach can be used as a tool to support the integration of interdisciplinary research and educational networks. Especially in today's era of globalization, activities based on mutual cooperation are the key to success. E.N. Nadezhdina's article "Interdisciplinary knowledge as a didactic resource for improving the professional training of specialists" discusses the issues of using interdisciplinary knowledge as a didactic resource for improving the professional training of specialists. This article focuses on the use of interdisciplinary knowledge, as well as the use of interdisciplinary knowledge in the educational process.

In this way, according to the above-mentioned scholars, interdisciplinary research and educational networks can be used to support the integration of the cluster approach in vocational education. They help create synergy between different organizations and institutions, which leads to more efficient use of resources and improved quality of education. Therefore, this integration is not limited to vocational education. We think that such an approach can be effectively applied in the field of fine arts of pedagogy.

Interdisciplinary research in the field of visual arts can include other disciplines such as history, philosophy, sociology, psychology, anthropology, cultural studies. Here are some examples of interdisciplinary integration in the visual arts:

Visual arts and psychology: Visual arts can be used to study psychological processes such as perception, emotion, and creativity.

Visual arts and anthropology: Visual arts can be used to study cultural and social aspects of people's lives, such as religion, customs, and traditions.

Visual arts and philosophy: In philosophy, visual arts can be used to explore philosophical concepts such as beauty, truth, and goodness.

Visual arts and history: Visual arts can be used as a means of studying the social and cultural needs of mankind before the beginning of time, as well as historical events and periods such as the Renaissance and the Baroque.

Visual Arts and Cultural Studies: Visual arts have been widely used to study cultural aspects of human life, such as music, dance, and theater.

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These are just a few examples of the interdisciplinary integration involved in the visual arts. Research on interdisciplinary integration based on a cluster approach can help expand our understanding of the visual arts and their role in our lives.

The integration of interdisciplinary scientific and educational networks in the visual arts is the process of combining various educational and research networks operating in the field of visual arts into a single system. The goal of this integration is to create a more effective and sustainable education and research system in the field of visual arts.

A.B. In the article "School and University Integration: Problems and Prospects" by Viflemsky and V.A.Malinin, it is argued that school and university integration is useful for creating interdisciplinary research and educational networks in visual arts. According to the article, the integration of school and university helps to create a single educational system that covers all stages of education, from primary education to higher education. This will create a more efficient system of fine arts teaching and research.

In addition, O.N. Shelegina's article "Integrating Research and Education Trends" suggests that the integration of research and education networks can help create a more effective system of research and education in the visual arts. The article emphasizes that the integration of scientific and educational networks will help to create a single system covering all levels of education and research in the field of visual arts.

The cluster approach serves the joint development of networks, brings together educational institutions, scientific centers, industrial partners and other organizations for the purpose of sharing knowledge and experience.

Some ways to develop and support interdisciplinary research, education networks:

1. Creation of forums and platforms for knowledge sharing: The development of online platforms and forums allows participants of educational clusters to share new ideas, research results and best practices in interdisciplinary fields. This includes discussion forums, blogs, webinars, online courses and other forms of interaction.
2. Organization of joint scientific projects: Educational institutions and research centers can cooperate in joint research projects combining different disciplines and directions. It allows scientists, professors and students to work together, share knowledge and experience, and apply innovative approaches to solving complex problems.
3. Organization of Interdisciplinary Courses and Programs: Educational institutions can develop and offer interdisciplinary courses, programs, and practices that integrate different areas of knowledge and skills. This allows students to get a comprehensive education, develop interdisciplinary thinking, and work as a team with representatives of other disciplines.
4. Development of cooperation with industry and public organizations: Educational clusters can also establish cooperation relations with industry and public organizations to jointly solve complex problems and develop innovative projects. It enables students and researchers to work in the context of real-life problems that exist in industry and society. This collaboration helps to gain a deeper, more practical understanding of the problems and enables the development of solutions that are directly applicable in real life.
5. Organizing events and forums to share experiences: Learning clusters can organize events such as conferences, workshops and forums where participants can share their research, projects and

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best practices. It creates a platform for experience sharing, discussion and mutual learning.

6. Support for students' research projects: Learning clusters can help students to carry out their own interdisciplinary research projects. This includes financial support, expert advice and access to necessary resources and equipment. This support guides students towards independent research and helps develop interdisciplinary skills.
7. Creating platforms for sharing knowledge and research results: Interdisciplinary research and education networks can create platforms for publishing and sharing research results and knowledge. These can be online resources, journals, databases, or special platforms that allow information dissemination and communication between network participants.

In general, it is an important factor to support the integration of the development of interdisciplinary research and education networks based on the cluster approach. It facilitates collaborative development, sharing of knowledge and experience, and innovation in many areas. It also provides students and researchers with a more complete and comprehensive education.

Through the interdisciplinary integration of specialization and professional activities based on the cluster approach to the field of visual arts, positive results can be achieved in research and thus the opportunities for the development of educational networks will increase. The development of interdisciplinary research and educational networks plays an important role in supporting its integration. It brings together educational institutions, research centers, production partners and other organizations to share knowledge and experience, while strengthening cooperation with other HEIs, Academy of Arts, general education, music and art schools. As a result, conditions are created for the joint development of interdependent networks.

Educational institutions and research centers can develop joint research projects in various disciplines and areas in cooperation and implement it together. Collaborative research projects across disciplines and disciplines are very important in modern science education. Such projects allow scientists, researchers and students with different experience and skills to join forces to solve complex problems and achieve new discoveries. Coherence of knowledge and actions to implement it represents a step towards building context-specific knowledge and a sustainable future for different actors together. This is an alternative model to the classical forms of interaction between science and society, in which science produces new knowledge, and then society follows it. Solving the problems of individual disciplines on the way to sustainable development is considered a very complicated and contradictory situation. The balance of knowledge and actions aimed at solving problems can be seen as a promising way for the activities of partners, because it allows combining different knowledge from different disciplines and practices. Such research projects include collaborative humanities research, robotics and design, and innovative educational technologies.

Humanities research: Linguists, historians, computer scientists, and designers can work together to analyze large amounts of textual and graphical data that lead to new ways of understanding cultural and historical phenomena.

- robotics and design: Engineers, technologists, designers, and computer technology specialists can work together to create robotic systems to improve everyday life and engage students in educational practice.

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- innovative educational technologies: Educators, psychologists, programmers and designers can work on the creation of new educational technologies that facilitate more effective learning.

Such projects stimulate creativity, exchange of knowledge and experience between scientists, researchers and students entering research, which ultimately leads to a fuller and deeper understanding of complex problems and the development of innovative solutions.

It allows professors and teachers, researchers and students to work together, share knowledge and experience, and use innovative approaches to solving complex problems.

Organization of interdisciplinary courses and programs: It is possible to organize interdisciplinary courses that combine different areas of knowledge and skills in an educational institution aimed at mastering the methods of teaching and creative work, their advantages and methods of effective application. These include art history in the field of fine arts, familiarization with the main styles and trends in fine arts in methodical sciences, preparatory courses aimed at mastering graphic arts, painting and composition, advanced training, additional vocational training courses. It is desirable to develop and implement programs related to interdisciplinary integration. This allows students to get a comprehensive education, develop interdisciplinary thinking, and work in a team with representatives of other disciplines.

Development of cooperation with industry and public organizations: in the field of visual arts, there are opportunities to jointly solve complex problems and develop innovative projects through educational clusters by establishing cooperative relations with HEIs, Academy of Arts, general education, music and art schools. Through such cooperation, university professors and students study the problems encountered in the field of fine arts in continuous education, in the professional and life activities of the pedagogue-artist. As a result, students adapt to their chosen professional activities and are involved in scientific and research activities aimed at solving these problems in cooperation. Problems are studied in depth, analyzed, tasks related to its solution are determined, skills to eliminate it appear in the process of practice in real life.

Events and forums for sharing experiences in the field of visual arts can be organized at different levels, from school classes to international conferences. Here are a few ideas that may be useful for organizing events and forums for sharing experiences in the field of visual arts:

Activities in collaboration with the school: Schools can organize exhibitions of student work, competitions, workshops and other activities that help students develop their creative skills and share experiences.

Regional and International Events: Education clusters can organize events such as conferences, workshops and forums where participants can share their research, projects and best practices. Regional and international events in the form of conferences, forums, and festivals give participants the opportunity to connect with other HE students, peers from different countries, exchange experience and knowledge, and get acquainted with the latest trends in visual arts.

Online Events: Online events such as webinars and forums can be helpful for those who cannot attend in person. They also serve to create a platform for participants to connect with colleagues from other countries, share experience and knowledge, discuss it and learn from each other.

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Masterclasses: Masterclasses can be beneficial for those who want to improve their fine art skills. Such events can also be organized in person at meetings or online.

Festivals, contests and art exhibitions: to share experience and knowledge among the participants, it is desirable to organize creative works of well-known artists, designers, personal exhibitions of students, festivals and events.

Workshops and Round Tables: Workshops are organized to enable the participants to share experiences and knowledge by discussing the latest trends in visual arts, discussing the latest trends in science and practice.

Creating platforms for sharing knowledge, experience and research results: Interdisciplinary research and education networks can create platforms for publishing and sharing research results and knowledge. These can be online resources, journals, databases, or special platforms that allow information dissemination and communication between network participants.

Support for student research projects: Learning clusters support students in carrying out their own interdisciplinary research projects. This activity may include individual practice in the field of visual arts, expert advice and use of necessary resources and equipment. Such support encourages and activates students in independent research and helps to develop the skills of connecting them logically in practice.

In conclusion, it can be noted that the cluster approach used in all fields is an important factor in supporting the integration of interdisciplinary research and educational networks in visual arts education. This approach promotes collaborative development, sharing of knowledge and experience, and innovation in many areas, and enables students and researchers to receive a more complete and well-rounded education.

RECOMMENDATIONS

- supporting the integration of interdisciplinary research and educational networks through the cluster approach used in all fields of visual arts can be implemented by using various pedagogical technologies and methods. It helps to develop students' creative abilities, critical thinking and professional skills.

- the integration of interdisciplinary visual arts research and education networks can be more effective in creating a sustainable visual arts education and research system.

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