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SYNERGETICS IN TECHNICAL AND ARTISTIC SCIENCES

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Abstract
This article will rediscover the participation of synergistic competence in the Integrative teaching of technical and art disciplines, the importance of pedagogical synergetics and approaches.

Keywords Technology, art integration, synergetics, competence, pedagogy, creativity, engineering graphics, fine arts, architecture, design.

INTRODUCTION

Synergetics is the field of science that studies the self-organization and evolution of complex systems. In Uzbek, it means" cooperation "or" acting together". Pedagogical synergetics, on the other hand, is an area that focuses on the application of synergistic principles in the educational process. In this area, the educational process is seen as a complex system and the focus is on studying the relationships and interactions between students, teachers, the educational environment and other factors. Pedagogical synergetics helps to make the educational process more efficient. This helps to promote the self-development of students, unlock their creative abilities and ensure their active participation in the educational process. Many scholars have been active in the field of integration of technical and art disciplines, and have made significant contributions to the field.

Victor Papanek: his book "Design for the Real world" (design for the real world) aims to connect design with social responsibility and highlight the positive impact of technology on humanity. His ideas emphasize combining techniques and art and adapting design to human needs.

John Maeda: his book" The Laws of Simplicity " links design to simplicity and aesthetics. He pioneered an approach that combined techniques and art to create intuitive and aesthetically pleasing interfaces for users.

Herbert Simon: his book" Sciences of the Artificial Sciences " treats technology and design as the systems created by humanity. He brought together techniques and art to advance an approach aimed at problem solving and creating new solutions.

Neil Gershenfeld Fab: the Coming Revolution on Your Desktop - From Personal Computers to Personal Fabrication): his book promotes democratization of technology and personal production. It aims to combine techniques and art to give everyone the opportunity to realize their ideas.

Synergetics differs from other fields of Science in that, firstly, synergetics can penetrate other fields of Science with its own ideas, and secondly, it turns

out that each individual science can also penetrate synergetics with its own ideas. In our opinion, synergetics, in complex systems, considers self-organizing phenomena as its subject, belongs to other areas of knowledge, enters into a general methodological paradigm, and within its framework, objects and objects studied, manifests a general interdisciplinary approach. Another important concept of synergetics is the attractor (from English to attract – meaning "pull"), which refers to the relatively stable state of the system, when all the "trajectories" of the system identified under the initial conditions are pulled to a point. If a system whose state is unstable approaches or is surrounded by the gravitational field of some kind of attractor, then the evolution of the system to a steady state occurs.

Integration of technical and art Sciences is an increasingly important trend in the modern world. These two areas complement each other, opening up new opportunities and helping students develop 21st century skills.

How does Technical Science affect the arts?

New tools and technologies: 3D printers, computer programs, VR/AR technologies provide artists with new creative opportunities.

Accuracy and technical skill: technical sciences help to achieve accuracy, attention to detail and excellence in art.

Strengthening creativity: technical sciences help to create new ideas in art, apply existing technologies in New Ways and automate the creative process.

How does art science affect technique?

Enrichment of the creation process: art helps to find creative thinking, problem solving and new solutions in technical areas.

Aesthetics and user experience: art helps improve the design, user interface and overall aesthetics of technical products.

Taking into account the human factor: art helps to create human-oriented technologies in technical areas, to take into account human needs and emotions.

In improving synergistic competence in the Integrative teaching of technical and art subjects, its most favorable environment is when specialist students learn to deeply understand the relevance of technical and art subjects, to consider problems from different perspectives. This will help them understand problems more deeply and find more solutions. Combining technical and art disciplines, they use their interdependence in practice. This helps them to deeper understand the value and importance of each area, beyond which they learn to develop new ideas and solve the problems that have arisen in new ways.

This helps them develop creative thinking and innovative approaches, work in a team, communicate, think critically, and think creatively. Integrative teaching of technical and art disciplines helps students develop synergistic competence. This provides them with a wider view, a deeper understanding and the development of important skills. This will help them become successful in the future.

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