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The Effects of Technology and Interior Design on Art and Design Students' Skills

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ABSTRACT
Art is a world for our perspectives and own experiences. Designing an art classroom environment encourages students to be creative in their artistic artwork through using technology. It is a valuable tool for identifying art from various cultures, ideas, and inspirations. Additionally, using technology in art classrooms helps students gain access to up-to-date information and create valuable artwork and creativity. Research aims to integrate technology in art classroom environments to provide students with skills necessary for creativity, imagination, and problem-solving. The research is based on a descriptive-analytical approach to describing and analyzing the art classroom environment for fine arts students and the impact of integrating technology into this environment on their performance. The problem of study is that the design of art classroom environments either stimulates or inhibits the development of thinking and creative practices among students in fine arts colleges. Therefore, the use of technology encourages the student to try new things. In conclusion, the research concluded that the concept of learning and education in the field of interior design can be changed by integrating virtual techniques to transform curricula and reinforce students' creativity education, thus developing their skills.
Keywords - Art Classroom Environment, Technology and Artificial intelligence, Arts and Design, Interior Design, Students' Skills.

I. INTRODUCTION

Arts education helps students develop into competent individuals. There is great strength in the study and practice of visual arts. The human experience is powerfully and expressively embodied and conveyed through art. It can improve our mutual understanding and foster a sense of humanity among us. Art education fosters and develops higher-order thinking skills such as analysis, creativity, and critical thinking. Students can use art to explore their relationship with themselves and others, while also improving their emotional and social growth and creative abilities. The most precious human resource is creativity. [1] Assisting students in learning how to complete assignments efficiently while creating high-quality, original content should be the primary focus of education.

This increases the efficacy of learning by offering students opportunities to comprehend the material. [2] Consequently, learning and active engagement in digital education have developed to become more interesting, interactive, significant, and useful. Nowadays, teachers and students can cooperate to create technology and digital material that enhances learning. In the area of digital technology, the purpose is to make scientific content easier for students to understand and to boost creative learning. [1] Additionally, art and design are complex fields that connect several subjects from the artistic, architectural, and design aspects. Beyond the conventional curriculum, multimedia design projects are a potent teaching tool and an efficient approach to organizing teaching in art courses. [2]

Technology encourages students to attempt new things. Integrating modern virtual technology can transform the concept of teaching and learning in the fields of art and design. Field trips to galleries and museums provide excellent examples of how to foster students' creativity. Technology has provided the tools necessary to solve problems facing students in the classroom. It creates new opportunities for learning environments by introducing real-world issues into the classroom for students to research and work through.

Furthermore, students can use technology to create an atmosphere where problem-solving is integrated into the curriculum and to acquire the skills necessary to face and overcome personal challenges. [3] Students can utilize a range of resources, including several online search engines, to obtain information. The ability to investigate and gain knowledge about art from other cultures is made possible by artificial intelligence. Students can create art and share it digitally with classes all over the world. In addition to providing students with invaluable artistic experience and maybe creating new possibilities for creativity, it allows the sharing of ideas and inspiration. Artificial intelligence applications allow students to discover new areas of learning with enthusiasm. Interior design students can gain more knowledge and emphasize their creative and intellectual abilities in fine arts with the use of technology. [3]

Integrating advanced technologies into art and design classrooms can foster students' comprehension of visual arts, improve their computer skills, and expand their knowledge. Nowadays, technology is the primary means of conveying knowledge following the new content of education and personal development. More advanced education can be provided with the use of technology. [4]

The research contributes to the identification of strategies that assist students in identifying their interests, motivating them, and coordinating technology and digital media decisions with academic goals. [5]

The research problem is the poorly designed classroom environment, which hinders students' ability to learn more effectively. In addition to the lack of use of technology and not keeping pace with modern development in the art classrooms and design colleges.

The research aims to highlight the main strategies that will provide students with the skills for creativity, and problem-solving by technology into the art and design classroom environment. The research is based on the descriptive analytical approach to describe and analyze the classroom environment for art and design students as well as the effects of incorporating technology into this environment on the student's performance. In addition, Technology offers innovative possibilities for cultural art education, artistic expression, social engagement, ideas, and inspiration sharing.

The research assumes that technology can change curricula in the arts environment and improve students' abilities by investigating how students perceive their art classroom environments, which either encourage or inhibit the development of creative thinking and practices in fine arts students.

The study was limited to creative approaches to develop a stimulating, advanced learning environment in the art classroom that sustains students' motivation. The research is based on the descriptive analytical approach in describing and analyzing the classroom environment for art and design students and the impact of integrating technology into this environment on the student's performance.

Figure. (1) Illustrates the traditional and digital art. [6]

II. Technology and Traditional Art

Students can use a variety of software and programs to transform the artwork they create. Nowadays, artists create their artwork and designs using digital technology. Therefore, art and design students need to master these skills in the content of educational programs. Students rely on digital image editing software, digital video production, three-dimensional (3D) modeling skills, graphic and sculpting arts, digital game design, architectural design, interior design, and other art forms that demand a high level of technological proficiency.

Nowadays, digital technology is an essential part of art and design education. It provides new creative opportunities for helping art students to become ready for real-world applications and the workforce in a technologically advanced society. [7]

III. The Impact of Technology in Art and Design for Education Environments

Technology can transform teaching strategies in the classroom environment. Technology allows teachers to change education and deliver information in new and innovative ways. Students can use websites to take virtual tours of museums. In addition, the utilization of virtual reality and artificial intelligence technologies allows students to create their work innovatively. [7] Technology expands research opportunities for the art and design field for students. [7]

Technology facilitates the tracking of student progress and serves as an efficient means of observing what students are working on. It also gives students a space to organize their work. [7] Technology offers straightforward strategies for integrating art into the curriculum to enhance students' artistic abilities. Students are encouraged to create and grow in the art classroom by using digital tools. Integrating artistic creativity into art classrooms using technology-enhanced learning strategies. [9]

IV. Virtual Teaching Tools in Art Classrooms

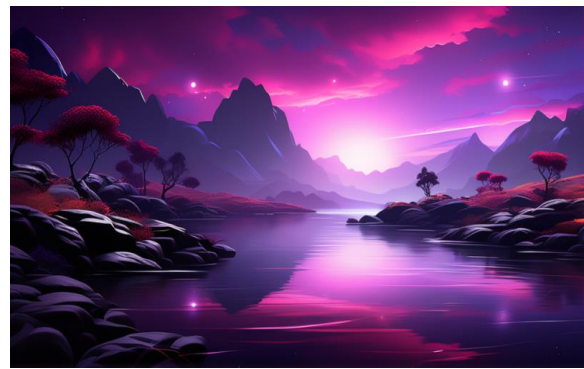Nowadays, online education is a crucial component of arts education. [10]

Figure. (2,3) Illustrate interior design through artificial intelligence. [8]

Figure. (4,5) Illustrate digital art with AI (Artificial Intelligent). [11] [12]

V. Art Activities Using Technology in Art and Design Classroom

It is crucial to give teachers the tools that they need to execute their jobs properly and to give students the freedom to express themselves creatively with conventional as well as contemporary media. To foster positive interactions between students and teachers, it is essential to set up a classroom that is practical, comfortable, and organized. [13]

The way that students choose to use these tools can have an impact on their style and process of creativity. [14] In addition, students can employ artificial intelligence when creating their own art and design projects, thereby developing their artistic and design skills. [16]

Due to their remarkable ease of use and vitality to the art learning environment, these innovative technologies have become essential elements in the classroom. [10]
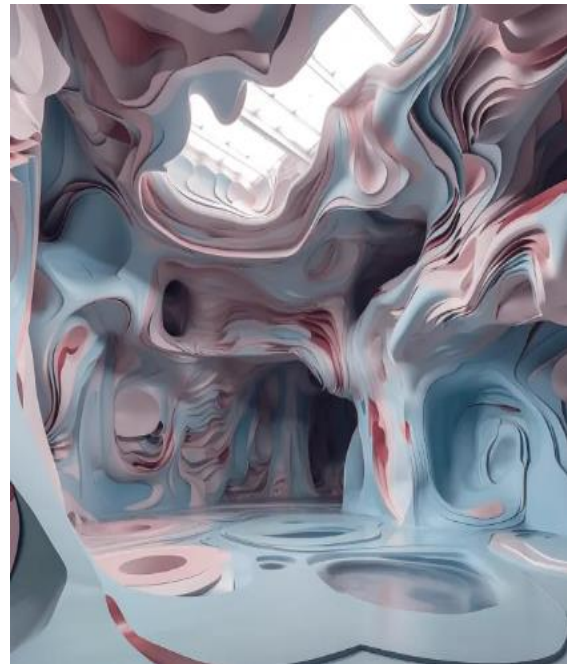

Figure. (6,7) Illustrate a creative environment that is generated by artificial intelligence. [15]

VI. The Connection Between Art, Creativity, and Expression

Art is a creative medium through which students can express concepts, emotions, and opinions. Investigating New Media: Introducing students to a variety of art supplies and media will enable them to investigate and determine what seems most natural for them as a form of expression. Visual Storytelling: innovative activities such as graphic storytelling and visual stories can enable students to communicate their thoughts and experiences in visually stimulating ways that foster their communication skills. [16]

VII. Advanced Technologies in Classrooms

Students work to create their artwork and projects in the classroom, which is a complex artistic environment. Artificial intelligence technology gives students wonderful innovations that affect and influence their ideas as designers. Artificial intelligence uses advanced systems that demonstrate the power of machines, emphasizing the continuous development of technology.

These changes depend on the parameters that humans have. Artificial intelligence can interpret data to achieve specific goals and tasks.

Artificial intelligence is a software and hardware system designed by humans, which uses symbolic rules or numerical models. [17] Designers can predict which styles and colors will become common in the future. This ability is extremely valuable to both designers and consumers. Art students can present clients with new and innovative design concepts. [18]

Technology has created amazing effects using light, texture, and transparency. It represents a new way of interacting with computers instead of the traditional design process.

The research emphasizes encouraging students to use artificial intelligence programs in their projects to express their ideas through this language. Hence, reducing the time spent drawing or modeling designs. Artificial intelligence tools are capable of producing amazing design results. [15]

VIII. Artificial Intelligence in Art Classroom Environment

Students can investigate virtual worlds and create innovative concepts using augmented reality and virtual reality in their classes. [18]

While artificial intelligence consists of technologies that allow for intelligent decision-making processes, virtual reality uses computers to create an engaging and innovative environment, while augmented reality and virtual reality add digital components to the physical world. Students can enhance their skills through artificial intelligence.

Figure. (8,9) Illustrate the powerful tools of artificial intelligence in creating interior designs. [8]

IX. Technology strategies in Art and Design Classrooms

Technology can be a powerful tool for teachers to enhance student engagement in art classes. Therefore, technology is an educational tool that is wonderfully applied in art classrooms. Some

strategies can be activated and utilized in art and design classes for students, such as (Table 1) [10]

Table. (1) Illustrates technology strategies in teaching.

Technology strategies to improve the educational environment within art and design classrooms		
1	**Virtual Reality Experiences**	Virtual reality field trips make learning interactive and immersive. [10]
2	**Digital Storytelling**	Digital storytelling tools, such as animation, video editing, and presentation software, allow students to create engaging narratives that develop creative storytelling within design. The multimedia nature makes design content more attractive and enjoyable for students. [10]
3	**Digital Platforms**	Digital tools provide imaginative possibilities for art students to explore their artistic talents. [16]
4	**Digital Drawing**	Students can experiment with layers, brushes, and more to create digital artwork. [16]
5	**Animation**	Animation is about storytelling and is brought to life through sequential images. Students can make short animated films with basic digital tools available online, as well as more sophisticated software. [16]
6	**Transitions and Camera Movement to Enhance the Story**	Transitions and camera movement can be used to enhance the artistic story. Short 1- to 2-minute projects teach basic skills to students. [16]
7	**Virtual Art Galleries**	Displaying student's creative artworks beyond the confines of the classroom promotes a wider viewership and a feeling of community. Some online resources can be used by teachers to set up virtual displays that feature students' work. [16]
8	**Museums and**	The astounding capabilities of artificial intelligence are

Exhibitions	displayed through art created by the technology and displayed in galleries and museums. [21]

X. Technological Tools for Teaching and Learning

Nowadays, the technology in classrooms is extremely different. Teachers now have access to advanced tools that improve instruction and engage students in art classes. Choosing educational technology resources that create dynamic classrooms, streamline evaluation processes, and foster innovation. [19]

Figure. (10,11) Illustrate the imagined scenes with artificial intelligence. [8]

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XI. Artificial Intelligence Art and Design Generators in Art Teaching

Artificial intelligence tools have gained significant influence in the field of arts and design. These remarkable tools employ artificial intelligence to create unique, stunning artwork and creative concepts for students. Programming languages and algorithms are tools used by artists to generate unique patterns and designs and create complex artworks.

There are some important AI generators, such as (Table 2): [20]

Table. (2) Illustrates artificial intelligence tools.

Artificial Intelligence Art and Design Generators		
1	**Neural Networks**	Artificial intelligence art generators are based on neural networks, which are inspired by the structure and functions of the human brain. [21]
2	**The Generative Adversarial Network (GAN)**	Generative Adversarial Networks (GANs) are crucial in Artificial Intelligence art generators. [20]
3	**Generator**	The generator is responsible for creating new images based on the input data. [20]
4	**Discriminator**	The discriminator helps the generator improve its output over time. [20]

XI.1.1 The Process of Creating Artificial Intelligence Art

The process of creating images and designs using artificial intelligence consists of a set of steps, which are:

XI.1.2 Input Data

Creating images using artificial intelligence (AI) begins with inputting a dataset containing images from many sources, including drawings, photos, and paintings. [20]

XI.1.3 Training Artificial Intelligence (AI)

The second step is to train artificial intelligence using the input data. The generator generates the images, while the discriminator evaluates their correctness.

XI.1.4 Generating Art

Users can often provide additional parameters, such as a desired style or specific elements, to guide artificial intelligence (AI) in creating a uniquely designed piece of art. [20]
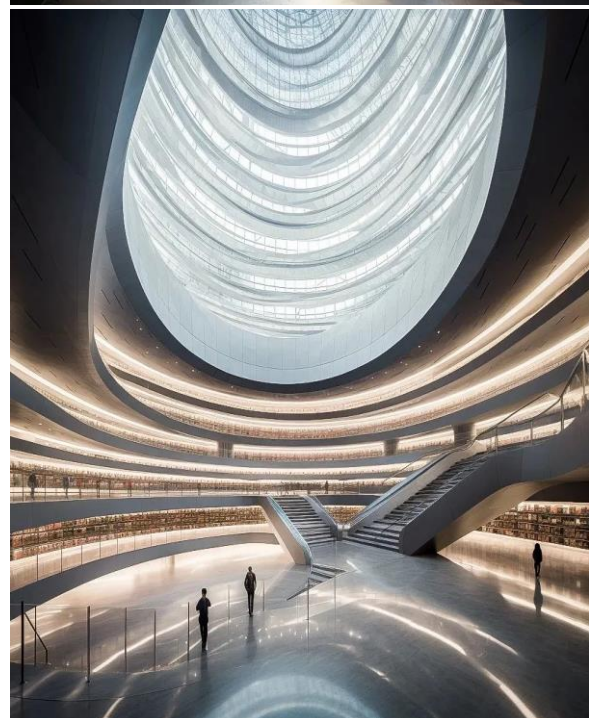

Figure. (12,13) Illustrate creativity in designing through artificial intelligence tools and all these abilities help students to enhance their skills. [8]

XII. Integrating Technology with the Interior Design Field in Art Classrooms

The field of interior design combines creativity and functionality to create spaces that fulfill people's needs and reflect their personalities. In interior design, which is undergoing several changes, technology has emerged as a revolutionary force. Technology breakthroughs are influencing interior design. The incorporation of technological innovation elevates interior design to a new level of quality in response to the ever-changing needs of consumers, creating new prospects for students. [21]

XII.1.1 Three-Dimensional (3D) Printing in Arts Teaching Environment

Three-dimensional printing is changing how designers create and manufacture items in interior spaces. Creative freedom is possible with three-dimensional printing technology, from personalized furniture to distinctive accessories. Therefore, when art and design courses are integrated into art workshops with three-dimensional printing content, students can implement their ideas and have a greater ability to comprehend scientific material and motivate them to be creative in an educational environment available with technology. [21]

XIII. Conclusion

In conclusion, Digital media and technology have the potential to encourage experimentation, innovation, and problem-solving among art and design students when creating art. Creative self-expression is now possible for art students thanks to new digital technologies, such as artificial intelligence. The artistic approaches employed by students through technology are remarkable in their artworks. Therefore, digital technology can facilitate students' creative thinking and improve students' flexibility and skills. Technology integration in art classes leads to better collaboration, enhanced analytical skills, and improved overall academic performance. Finally, integrating the arts with technology helps students develop effectively.

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