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Scientific article

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## Ergonomics of an art studio: methodology for comfortable and productive creativity

**Abstract.** This article discusses the importance of applying ergonomic principles in the art studio. An art studio is a space designed to facilitate creativity, allowing artists to express themselves freely while maintaining a productive and comfortable work environment. The ergonomics of an art studio plays a crucial role in ensuring the efficiency and well-being of artists by addressing key factors such as workspace arrangement, lighting, temperature, humidity, and ergonomic tools. Proper workspace organization, including adjustable chairs, well-positioned desks, and accessible storage, contributes to reducing physical strain and increasing productivity. Adequate lighting is essential to provide accurate color perception and minimize eye fatigue, while optimal temperature and humidity levels ensure comfort during prolonged work sessions. Additionally, the use of ergonomic tools, such as specially designed brushes and drawing supports, enhances the creative process by reducing strain on the hands and wrists. Furthermore, noise control, ventilation, and proper material storage play significant roles in maintaining a healthy and inspiring environment. Regular breaks and physical exercises help mitigate the negative effects of prolonged sitting and repetitive movements. The research highlights the importance of implementing ergonomic principles in art studios to enhance artistic performance, improve health conditions, and create a sustainable working environment. By prioritizing ergonomics, artists can maximize their creative potential while preserving their physical and mental well-being.

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## Introduction

A comfortable and ergonomic work environment plays a key role in the creative work of artists. The organization of space, the correct choice of lighting, temperature, humidity and ergonomic tools significantly affect the productivity, convenience of work and health of the artist. In the conditions of modern urbanization and limited space, special attention is paid to the creation of ergonomic art studios that not only facilitate the creative process, but also minimize physical stress and fatigue. Ergonomics as a science studies the interaction of man and the environment, offering effective solutions for optimizing workplaces. In art studios, these principles are especially important, since improper organization of the workplace can lead to rapid fatigue, decreased quality of work and even occupational diseases.

The purpose of this article is to study the main aspects of ergonomics in an art studio, consider the optimal ways of organizing the workspace that affect the productivity and comfort of artists, and offer practical recommendations for creating a comfortable and safe studio for work [1,2].

The methodology for this study is based on a qualitative approach, which includes a detailed analysis of ergonomic principles applied to an art studio environment. This analysis takes into account the key factors affecting artists' comfort, health, and productivity in their workspace. The research follows these steps:

1. Literature Review: A comprehensive review of existing studies and recommendations on ergonomics, focusing specifically on the design and setup of art studios, was conducted. This helped to outline general ergonomic principles and adapt them to the artistic context.

2. Observation and Interviews: Observations of art studios in urban settings were carried out to identify common problems and challenges faced by artists regarding workspace ergonomics. Interviews with artists were also conducted to gather insights into their needs and preferences.

3. Analysis of Design Factors: The study evaluates key factors such as workstation layout, lighting, temperature, humidity, storage solutions, ergonomic tools, and breaks. The goal was to identify which design elements contributed the most to creating a productive and comfortable studio environment.

4. Practical Recommendations: Based on the findings, a set of practical recommendations for optimizing the organization and design of art studios was developed. This included advice on selecting appropriate furniture, lighting, tools, and maintaining a comfortable environmental climate.

## Materials and methods

An art studio is a place where artists can freely express their creative energy. But in order for work to be productive and enjoyable, it is necessary to provide a comfortable and safe workspace that meets ergonomic requirements.

Ergonomics is a science that studies the interaction between humans and the environment. In the context of an art studio, ergonomics helps to ensure the optimal location of workplaces, lighting, temperature and other factors that can influence the creative process.

1. *The artist's workplace.* Important aspects of the ergonomics of the art studio are the correct location and equipment of workplaces. Each workplace should be individually customized for a particular artist, taking into account his physical characteristics and needs.

The main elements that need to be taken into account when organizing an artist's workplace:

-A chair: should be comfortable and have an adjustable height so that the artist can choose the most suitable height for himself;

-Desktop: should have enough space to work, not too high or low, and be able to adjust the tilt;

-Stands for brushes and paints: should be located in a place convenient for the artist.

2. *Lighting.* Lighting plays an important role in how we see and perceive the world around us. In an art studio, proper lighting can make the difference between comfortable and productive work and eye fatigue. The main requirements for lighting in an art studio: -Lighting must be sufficient and uniform; -The fixtures

should be positioned in such a way as to exclude shadows on the work surface; - The color of the light must be natural so that the artist can see the colors as they really are (Fig. 1) [3].



Figure 1 - The color should be natural

3. *Temperature and humidity.* Temperature and humidity can also affect the comfort and productivity of artists in an art studio. Excessively hot or cold rooms can lead to fatigue and irritation, and too dry air can cause health problems such as dry eyes. Recommendations on temperature and humidity in the art studio: the temperature should be comfortable for working in clothes appropriate to the time of the year; humidity should be between 40% and 60% to prevent dryness and irritation of the eyes.

4. *Ergonomic tools.* Ergonomic tools can help artists work more productively and comfortably, reducing the risk of injury and fatigue. Some examples of ergonomic tools for artists: brushes with an elongated handle for working in hard-to-reach places; special stands for drawing, which provide an angle of inclination and a convenient location of the drawing; ergonomically designed handles that provide a comfortable grip and reduce fatigue.

In conclusion, the ergonomics of an art studio is an important aspect that can help artists work comfortably and productively. The optimal location of workplaces, proper lighting, temperature and humidity, as well as the use of ergonomic tools can improve the quality of creative work and improve the health of artists [4,5].

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5. *Organization of the space.* The organization of the space also plays an important role in the ergonomics of the art studio. Artists should have enough space to work, as well as to store their materials and tools. Improper organization can lead to disorder, which can worsen the efficiency and comfort of work. Recommendations for the organization of space in an art studio: work desks should be spacious enough to accommodate all the necessary materials and tools; storage of materials and tools should be convenient and accessible so that artists can quickly find the right item; the space should be well lit and provide sufficient ventilation to maintain a comfortable temperature and humidity.

6. *Regular breaks and exercises.* Finally, in order to maintain health and comfort, artists need to take regular breaks and perform exercises to soften muscles and relieve tension. Recommendations for regular breaks and exercises in the art studio: it is recommended to take breaks every 30-60 minutes to rest your eyes and soften your muscles; exercises for the eyes and hands can help relieve tension and prevent injury; in addition to exercises, artists can also try other relaxation techniques such as meditation or yoga.

It should also be mentioned that artists working in art studios may face a number of additional factors that may affect their health and work comfort. Some of these factors may include:

*Noise.* If the art studio is located next to a road, or there are loud cars in it, this can become a source of distractions and harmful noise;

*Chemicals.* Artists working with paints and solvents may be exposed to harmful chemicals that can damage their health. It is recommended to use lung and eye protection when working with such substances;

*Lifestyle.* The sedentary lifestyle associated with an artist's work can lead to health problems such as obesity, heart and muscle problems. It is recommended to exercise and maintain a healthy lifestyle in general. Emotional well-being. Artists may face emotional stress related to the creative process, deadlines, and results of their work. It is recommended to learn how to manage stress and take positive measures to maintain emotional well-being. In general, a well-organized and ergonomic art studio can become a place where artists can create freely without facing unnecessary stress and painful consequences. At the same time, they can achieve high results and produce high-quality works of art. If the owners of an art studio take ergonomics seriously, they will be able to create a more productive and

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healthy workplace for artists. It can also improve the quality of the work and increase their customer satisfaction. In conclusion, ergonomics plays an important role in the art studio, where the health and comfort of artists come first. Attention must be paid to every aspect of workplace organization, from the selection of furniture and equipment to noise management and air circulation. All these factors will influence the productivity and effectiveness of artists in their creative process [6].

How to set up an artist's studio in an apartment? Although not every artist can afford a separate room for work, it is possible to create a functional and inspiring space by following a few simple rules. It is important that the room is bright, so choose soft and calm tones for the walls, preferably white, to create the impression of spaciousness. When choosing a floor covering, consider its practicality. Windows in the north will provide uniform natural lighting, and additional high-quality lamps can help in the dark.

## Discussion

The study highlights several critical aspects of ergonomics in an art studio. The correct positioning of workstations, coupled with the right selection of ergonomic furniture, is essential for minimizing fatigue and preventing injury. For instance, adjustable chairs and desks ensure that the artist can maintain an optimal posture while working. This reduces the risk of musculoskeletal problems, which are common among artists who spend long hours in a fixed position.

Lighting plays a pivotal role in the quality of the artistic work, especially for tasks requiring color accuracy. Natural light, ideally from the north, is recommended to avoid shadows and provide even illumination. However, artificial lighting should also be chosen carefully to ensure it mimics natural light as closely as possible.

Temperature and humidity levels were found to significantly affect comfort and productivity. Excessively high or low temperatures can lead to discomfort, while appropriate humidity levels between 40-60% help prevent dry eyes and skin irritation, which can affect the artist's health.

Ergonomic tools, such as specially designed brushes and drawing stands, can further improve the artist's workflow. These tools allow artists to work with less

strain, improving both comfort and efficiency. Moreover, the proper organization of space, ensuring easy access to materials and tools, was identified as a key factor in maintaining productivity. Regular breaks and simple exercises, such as stretching or eye exercises, were shown to be essential in maintaining overall well-being and preventing the physical strain that comes with long working hours. Artists should be encouraged to take regular intervals to rest and recharge.

### Conclusions

The findings of this study demonstrate that ergonomics plays an essential role in the productivity, comfort, and health of artists working in their studios. By focusing on key elements such as the layout of the workspace, lighting, temperature and humidity control, ergonomic tools, and the organization of materials, art studios can be transformed into environments that foster creativity and well-being.

Incorporating these ergonomic principles into studio design is not just about improving the quality of work; it also enhances the health and emotional well-being of the artists. Studios designed with care and attention to ergonomics can significantly increase an artist's productivity, reduce the risk of physical injury, and provide a more enjoyable working experience. The integration of proper ergonomic practices ensures that artists can continue creating without the adverse effects of stress and fatigue, leading to more fulfilling and sustainable careers.

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### Арт-студияның эргономикасы: ыңғайлы және өнімді шығармашылық әдістемесі

**Аңдатпа.** Арт-студия - шығармашылықты жеңілдетуге арналған, өнімді және жайлы жұмыс ортасын сақтай отырып, суретшілерге өз ойын еркін жеткізуге мүмкіндік беретін кеңістік. Өнер студиясының эргономикасы жұмыс кеңістігін орналастыру, жарықтандыру, температура, ылғалдылық және эргономикалық құралдар сияқты негізгі факторларды шешу арқылы суретшілердің тиімділігі мен әл-ауқатын қамтамасыз етуде шешуші рөл атқарады. Жұмыс кеңістігін дұрыс ұйымдастыру, оның ішінде реттелетін орындықтар, жақсы орналастырылған үстелдер және қол жетімді қоймалар физикалық жүктемені азайтуға және өнімділікті арттыруға ықпал етеді. Түсті дәл қабылдауды қамтамасыз ету және көздің шаршауын азайту үшін жеткілікті жарықтандыру өте маңызды, ал оңтайлы температура мен ылғалдылық деңгейлері ұзақ жұмыс сеанстары кезінде жайлылықты қамтамасыз етеді. Бұған қоса, арнайы әзірленген щеткалар мен сызу тіректері сияқты эргономикалық құралдарды пайдалану қолдар мен білектердегі жүктемені азайту арқылы шығармашылық процесті жақсартады. Сонымен қатар шуды бақылау, желдету және материалды дұрыс сақтау салауатты және шабыттандыратын ортаны сақтауда маңызды рөл атқарады. Тұрақты үзілістер мен дене жаттығулары ұзақ отырудың және қайталанатын қозғалыстардың жағымсыз әсерін азайтуға көмектеседі. Зерттеу көркемдік өнімділікті арттыру, денсаулық жағдайын жақсарту және тұрақты жұмыс ортасын құру үшін арт-студияларда эргономикалық принциптерді енгізудің маңыздылығын көрсетеді. Эргономикаға басымдық бере отырып, суретшілер өздерінің физикалық және психикалық әл-ауқатын сақтай отырып, шығармашылық әлеуетін барынша арттыра алады.



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**Түйін сөздер:** эргономика, арт-студия, жұмыс кеңістігі, еңбек жағдайлары, жарықтандыру, желдету, оңтай-ландыру.

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### **Эргономика арт-студии: методология комфортного и продуктивного творчества**

**Аннотация.** Данная статья обсуждает важность применения принципов эргономики в арт-студии. Художественная студия - это пространство, предназначенное для содействия творчеству, позволяющее художникам свободно выражать себя, поддерживая продуктивную и комфортную рабочую среду. Эргономика художественной студии играет решающую роль в обеспечении эффективности и благополучия художников, учитывая такие ключевые факторы, как планировка рабочего пространства, освещение, температура, влажность и эргономичные инструменты. Правильная организация рабочего пространства, включая регулируемые стулья, удобно расположенные столы и доступное хранение, может помочь снизить физическую нагрузку и повысить производительность. Достаточное освещение необходимо для обеспечения точного восприятия цвета и снижения утомляемости глаз, в то время как оптимальные уровни температуры и влажности обеспечивают комфорт во время длительных рабочих сессий. Кроме того, использование эргономичных инструментов, таких как специально разработанные кисти и подставки для рисования, может улучшить творческий процесс, снизив нагрузку на руки и запястья. Контроль шума, вентиляция и правильное хранение материалов также играют важную роль в поддержании здоровой и вдохновляющей среды. Регулярные перерывы и физические упражнения могут помочь снизить негативные последствия длительного сидения и повторяющихся движений. Исследование подчеркивает важность внедрения эргономических принципов в художественных студиях для повышения художественной производительности, улучшения здоровья и создания устойчивой рабочей среды. Отдавая приоритет эргономике, художники могут максимально раскрыть свой творческий потенциал, сохраняя при этом свое физическое и психическое благополучие.

**Ключевые слова:** эргономика, арт-студия, рабочее пространство, условия труда, освещение, вентиляция, оптимизация.

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