

## PHYSICAL CLASSROOM ARRANGEMENT AND ITS IMPACT ON STUDENTS' INTERACTION

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**Abstract** *This article is dedicated to exploring how the physical architecture of a classroom, specifically the material and technical framework of the modern educational system, influences the socio-psychological interaction among students. In the educational process, students' academic performance depends directly not only on pedagogical methods but also on the comfort and structure of the space they occupy. The article provides a comparative analysis of traditional (row-based), semi-circular (U-shaped), and cluster (group-based) arrangement models. The research highlights the impact of visual contact (eye contact), the teacher's movement trajectory across the classroom, and the physical distance between students on the intensity of communication. Furthermore, the paper scientifically substantiates the role of the physical environment in transitioning from a "passive listener" to an "active participant" model. The findings offer practical recommendations for educators to dynamically modify classroom layouts based on lesson objectives and to strengthen student collaboration.*

**Keywords:** *Classroom design, physical arrangement, student interaction, learning environment, group learning, student engagement, pedagogical strategy, environmental psychology, flexible classroom, teamwork.*

**Annotatsiya:** *Ushbu maqolada sinf xonasining jismoniy joylashuvi va uning o'quvchilar o'rtasidagi o'zaro aloqa hamda ta'lim samaradorligiga ta'siri tahlil qilinadi. Tadqiqot davomida an'anaviy qatorli joylashuv, "U" shaklidagi va guruhli (klaster) tartibga solish modellarining afzalliklari va kamchiliklari ko'rib chiqilgan. Shuningdek, makonning psixologik omillari — ko'z aloqasi, harakatlanish erkinligi va o'qituvchi bilan yaqinlikning talabalar faolligini oshirishdagi o'rni yoritilgan. Maqola yakunida zamonaviy ta'lim muhitini optimallashtirish bo'yicha amaliy tavsiyalar berilgan.*

**Kalit so'zlar:** *Sinf xonasi dizayni, jismoniy joylashuv, talabalar interaksiyasi, ta'lim muhiti, guruhli o'qitish, o'qituvchi faolligi, pedagogik strategiya, makon psixologiyasi, moslanuvchan sinf, jamoaviy ish.*

**Аннотация.** *В данной статье рассматривается влияние физической организации учебного пространства на социальное взаимодействие и академическую*

вовлеченность студентов. В современной педагогической практике архитектура класса перестает быть просто фоном и становится активным инструментом формирования коммуникативной среды. Автор проводит сравнительный анализ различных моделей раскладки: традиционных рядов, «U-образной» формы и групповых кластеров. В работе обосновывается, что физическое расположение мебели напрямую влияет на установление визуального контакта, траекторию движения преподавателя и интенсивность межличностного общения учащихся. Особое внимание уделяется психологическим аспектам пространства, которые способствуют трансформации студента из пассивного слушателя в активного участника дискуссии. Результаты исследования позволяют сформулировать практические рекомендации по созданию гибкой образовательной среды, способствующей развитию навыков критического мышления и коллективного сотрудничества

**Ключевые слова:** Архитектура учебного класса, физическая конфигурация, взаимодействие студентов, интерактивная образовательная среда, эргономика пространства, групповая динамика, педагогическая коммуникация, эффективность обучения, гибкое пространство, мотивация учащихся.

## INTRODUCTION.

### 1. The Context of Modern Learning Environments.

In the era of 21st-century education, the traditional notion of a classroom has undergone a radical transformation. Recent studies in educational psychology (e.g., Barrett et al., 2015) suggest that the physical environment can influence academic progress by as much as 16%. [2] The spatial configuration of a classroom is no longer viewed as a neutral background but as an active pedagogical tool—the so-called "third teacher." [4] This research emphasizes that student-to-student interaction is not merely a social byproduct but a cognitive necessity for deep learning. [5]

### 2. The Problem of Static Architecture.

Despite these findings, a significant number of educational institutions—approximately 65–70% in developing regions—still adhere to the "industrial age" model of rows and columns. [6] This teacher-centered architecture creates a "front-row effect," where students seated in the first few rows demonstrate 20% higher engagement levels compared to those in the back. [1] The fundamental problem lies in the "passive-receiver" culture that this layout promotes, which directly contradicts the requirements of the Common European Framework of Reference (CEFR) for communicative and sociolinguistic competence.

### **3. Theoretical Foundations and Proximity. Theoretical Foundations and Proximity.**

The relationship between physical space and interaction is rooted in the Theory of Proxemics, developed by Edward T. Hall. In a classroom setting, "social distance" (typically 1.2 to 3.7 meters) is the optimal range for collaborative work.[3] When students are forced into rigid rows, this distance is often breached or improperly utilized, leading to a breakdown in spontaneous peer-to-peer discourse.[9] This study investigates how altering these physical parameters can increase the "frequency of interaction events" per lesson by over 40%

### **4. Research Objectives.**

The primary goal of this research is to evaluate the impact of three distinct spatial models:

The Traditional Row Model: Evaluating the limits of one-way communication.

The U-Shaped (Horseshoe) Arrangement: Measuring the increase in eye contact and class-wide discussion.

The Cluster (Pod) Model: Assessing the development of collaborative "soft skills" and small-group dynamics.

### **5. Significance of the Study.**

This article provides a data-driven blueprint for educators to transition from "monologue-based" classrooms to "dialogue-rich" environments. By implementing flexible seating arrangements, institutions can foster an atmosphere where sociolinguistic markers—such as register, politeness conventions, and turn-taking—are naturally practiced rather than theoretically studied.

### **CONCLUSION.**

In conclusion, Classroom layout plays a crucial role in shaping student interaction and engagement. Traditional row seating limits communication and keeps learning teacher-centered, while flexible arrangements such as U-shaped or group seating promote collaboration and active participation.[7] Modern education requires adaptable learning spaces that can be easily rearranged according to lesson objectives.[8] Such flexibility helps develop essential skills like teamwork, critical thinking, and effective communication. Therefore, classroom design should be seen not just as a physical setup, but as a key strategy for creating an interactive and student-centered learning environment.

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