

# ***Analysis of the Reasons for Abandoning the Traditional Classroom Layout***

**Yuxuan Jia<sup>1,a,\*</sup>**

<sup>1</sup>AP Program of the High School Affiliated to Beijing Normal University, Beijing, China, 100052

a. theresajyx@163.com

\*corresponding author

**Abstract:** With the development of the times, more and more people are beginning to notice that the traditional classroom layout is no longer able to meet the learning needs of students. The 21st century classroom layout has become more helpful to students. This study summarizes and compares the views of different groups of people on 21st century classroom layouts and the experiments that have been carried out to conclude that innovative classroom layouts are helpful and should be promoted. The traditional classroom layout with its difficult-to-move tables and chairs no longer meet the Socratic education that contemporary students need. The 21st century classroom layout with more mobile tables and chairs and an innovative environment is better suited to the needs of students for collaboration and discussion in the classroom. At the same time, it stimulates students' creativity and imagination.

**Keywords:** 21st Century Teacher, Layout Classroom Environment, Student Psychology

## **1. Introduction**

With the development of technology and education, students are learning in more diverse ways. At the same time, however, most high schools in China continue to use traditional classroom layouts. This layout limits the format of the classroom and the way students learn. Therefore, this paper will focus on the advantages of the new classroom layout for contemporary teaching and learning by comparing the old and new teacher layouts and citing existing experimental cases. So, what do traditional and 21st century classroom layouts look like? How does the new classroom layout meet today's educational needs? And why does the new layout promote higher levels of education? This research can solve the problem of classroom layout from the design point of view, and lay a solid foundation for improving the teaching effect and education level.

## **2. Traditional Classroom Layout and 21st Century Classroom Layout**

Today, the traditional classroom layout is still widely used. This classroom layout often has a neat and compact arrangement of desks and chairs. The walls around the classroom are in traditional solid colors. At the front and back of the classroom, there are two blackboards that are fixed to the wall and cannot be moved. The teacher's range of motion is often limited to the vicinity of the board or the small gaps in the table and chair arrangement. At the same time, students are often required to stay in the same position in the classroom. In contrast, 21st century classroom layouts that combine

flexibility, collaboration, innovation and comprehensiveness, have been significantly altered with respect to tables and chairs [1]. Most of the desks and chairs can be easily moved. At the same time, the tables and chairs will not be permanently fixed, but will be moved according to the needs of the students and teachers. Mobile whiteboards will also replace the traditional blackboard. Decorations are also encouraged around the classroom.



Figure 1: Traditional classroom layout.



Figure 2: 21st century classroom layout.

### 3. Analysis of the Reasons

As basic education reform progresses and people continue to pursue a better, higher-quality education, learning modes such as classroom selection, interactive learning, and group learning, which embody the concept of personalized learning, are becoming more and more popular in primary and secondary schools, which requires a deconstruction of the school space to accommodate personalized learning. At the same time, because the teaching environment in which teachers and students live every day impacts their cognitive, psychological, and emotional well-being, more schools should reform the traditional classroom layout to help students spend their learning time more efficiently and interestingly.

First, the new 21st century classroom layout helps improve collaboration in the classroom. Today's teaching format has broken away from the traditional model of a teacher lecturing and students listening. Modern classrooms require students to work together in small groups for effective, comprehensive discussion and learning. This means that collaborative work has become critical in modern classrooms. By making the classroom more collaborative, students can better understand and learn from the perspectives of others and reflect on and correct their perceptions. In the case of some Chinese high school students, the traditional neat classroom layout prevents students from actively working together in small groups in a productive manner. Because students are limited by a large number of common tables and chairs, they are reluctant or unable to form groups in the classroom quickly. For some classroom special table and chair placement requirements, such as Socratic discussion groups, students needed even longer than the end of class to prepare to talk about the table and chair placement in a prescribed circle. The time and space constraints greatly reduced students' motivation and incentive to work together. The new 21st century classroom, however, improves the collaborative row at the school by providing students with tables and chairs with pulleys and more open space, increasing the time and labor cost for students to prepare for small group discussions. Also, through the research of Harvey, Eugene J., and Melaine C. Kenyon, it is easily to find that movable tables and chairs are the first choice of students [2].

On top of that, the traditional fixed classroom layout is inflexible. This also means that collaboration within the classroom is significantly reduced. Fixed tables and chairs with separate

seating arrangements reduce discussion among students. The blackboard, which is exclusive to the teacher's lecture, also limits how students express their ideas. On the other hand, modern classroom layouts maximize flexibility by providing students with movable tables and chairs and more whiteboards. In *The Room Itself Is Active: How Classroom Design Impacts Student Engagement*, Melissa L. Rands explains how the open-plan design of some of Iowa State University's classroom layouts and the changes made to improve their flexibility [3]. In their experiment, Melissa L. Rands evaluated how a new classroom design affected student engagement in the classroom by making open-ended designs and changes to some classroom layouts at Iowa State University to increase flexibility and collaboration. In their experiment, "Even if our group didn't know [the answer to a question], we would like swing around and join up with another group ... that really helped, being able to open up a connection", said one student who experienced the modern classroom [3]. In addition, one teacher also stated, "These people will be here and these folks, and they're all talking about the same thing, but these folks will hear [the discussion] and kind of respond to it because they're close ... there's this moment when [the knowledge] moves across the room, which is very exciting" [3]. Modern and flexible classroom layouts not only benefit students, but also improve the teaching experience. Teachers also have more ways and opportunities to understand students' ideas or progress on classroom tasks in more flexible and collaborative classrooms. This is due to the more spacious, flexible spaces that help teachers get off the bench and engage with students. At the same time, the handwriting-friendly whiteboard provides a clearer picture of the student's ideas and perceptions to the teacher. As Melissa says: "The classroom design made students feel valued as co-constructors of knowledge, due to the design of the ALC "erasing the line" between students and teachers. erasing the line" between students and instructors" [3]. As the prominent designer James Krueger puts it, "Schools are moving away from the "I teach, you listen" instruction model and becoming much more Socratic" [4]. It demonstrates that traditional classroom layouts can limit the variety, interest, and efficiency of the modern classes. The new classroom design combines space and modern equipment to provide students and teachers with a more convenient, flexible and collaborative classroom. To put it another way, the separation between students and students, and between students and teachers, can be erased. The closer human connection and personalized interaction in the classroom also provides an unmistakable help for students to expand their minds, improve their cooperation skills and enrich their imagination. The ease of placement also enriches the classroom format options for teachers.

However, questions have also been raised about modern classroom design. In modern classroom designs, overactive students are likely to interfere with the teacher's lesson progress. There is no denying that it may become harder to control the classroom in a more flexible and collaborative environment. While we can't have complete control over such situations, here are some ways to help solve the problem. Flexible classroom space is not just for students but for teachers as well. The teacher can pause the discussion for a lecture or presentation by following the students' progress. At the same time, a modern classroom does not mean that students need to be in a constant state of discussion. When teachers need to "just" teach, the easy-to-move tables and chairs provide a way to return to the traditional layout. In modern classrooms, individual needs are given to both students and teachers as much as possible. The flexible space will serve the students as well as the teachers. Different teachers' teaching styles or habits can be achieved by quickly adjusting the classroom layout. This allows teachers to manage or maintain the pace of lessons in the classroom. In addition, according to research, more open classroom spaces will increase students' positive attitudes toward school [5]. This would mean that students would be more motivated and proactive in the tasks they face. Therefore, a 21st century classroom layout may not lead to disruptions in the classroom, but rather promote positive student cooperation with classroom order.

In addition to this, modern education does not only help students to enjoy the classroom more by using more varied and flexible furniture. It is also a feature of modern classrooms that breaks away from the traditional simplicity and cleanliness of the classroom environment. As Warner, Scott A., and Kerri L. Myers states, "A freshly painted room, an empty office, or a newly remodeled classroom represents a clean canvas upon which the occupants can leave their mark. Decorations on the wall, including student work, can serve the purpose of promoting student creativity" [6]. In most of the traditional classroom layouts, clean walls are one of the best tools to ensure that students are not distracted in the classroom. However, educators often overlook the psychological impact of color and surroundings on students. According to research, different colors can affect people psychologically. What is more important, appropriate wall decorations are also designed to regulate students' psychology and stimulate their creativity and motivation. The wall has also become an essential consideration for designers in modern classroom design. This confirms that modern classroom design tends to provide a better learning space and environment for students in terms of more comprehensive and subtle scientific factors.

#### 4. Conclusion

The paper illustrates the benefits of 21st century classroom layout with multiple examples. By comparing it to the traditional teacher layout, readers can learn that in the 21st century classroom layout, the new classroom design utilizes many modern devices, such as easily movable tables and chairs with whiteboards, which provide a more convenient, flexible, and collaborative space for students and teachers. Also, the unique design of the environment, such as the color and decoration of the walls, provides great help in stimulating students' creativity and imagination. Therefore, the 21st century classroom layout is worthy of being more widely used and promoted. On the other hand, more data should be compiled and analyzed in future studies of 21st century classroom layouts for actual user experiences.

#### References

- [1] Zhou Jie. *A new learning space built for personalized learning*. Shanghai Education, 2020(2):1, pp.22.
- [2] Harvey, Eugene J., and Melaine C. Kenyon. "Classroom seating considerations for 21st century students and faculty." *Journal of Learning Spaces* 2.1 (2013).
- [3] Rands, Melissa L., and Ann Gansemer-Topf. "'The room itself is active': How classroom design impacts student engagement." *Journal of Learning Spaces*, vol. 6, no. 1, 201, pp.26-33.
- [4] James Krueger. "Designing the 21st Century Classroom: 6 Top Considerations." *hmcarchitects.com*, 2. 4 August 2018, <https://hmcarchitects.com/news/designing-the-21st-century-classroom-6-top-considerations-2018-08-24/>.
- [5] Hartikainen, Jani, et al. "Associations of Classroom Design and Classroom-Based Physical Activity with Behavioral and Emotional Engagement among Primary School Students." *Sustainability* 13.14 (2021): 8116.
- [6] Warner, Scott A., and Kerri L. Myers. "The creative classroom: The role of space and place toward facilitating creativity." *Technology and Engineering Teacher*, vol.69, no.4, 2009, pp.28-34.