

Redefining Education: How Architectural Design Can Restructure Learning Spaces for Experiential Learning, Collaboration, and Critical Thinking

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Abstract:

In today's fast-changing world, traditional education methods that focus mainly on memorizing information and writing exams are not enough anymore. The quote, "If we teach today's students as we taught yesterday's, we rob them of tomorrow,"[1] shows that education needs to change with time. With the rise of artificial intelligence and easy access to information, memorizing facts is becoming less important. Students now need skills like thinking, understanding, and problem-solving. This paper studies how the design of educational buildings can help improve learning. The way a school or college is designed can affect how students interact and learn. By creating flexible classrooms, open spaces, and areas for group discussions, institutions can encourage collaboration and creative thinking. Educational spaces should not just focus on teaching information, but also on helping students learn how to think and work with others.

Through examples of modern school and college designs, this research aims to reimagine educational design to lead to more meaningful learning experiences and better prepare students for the challenges of an AI-driven future.

Keywords: College , architecture, modularity, education, experiential, collaboration

1. INTRODUCTION

In a world that's changing at light speed, old-school models of education, in which rote memorization and standardized tests dominate the classroom, aren't getting the job done anymore. The modern student requires more than just the mere ability to remember facts— what helps him or her get through to an uncertain future conditioned by technology and artificial intelligence are skills that will help him or her navigate that future.

In order to reap the benefits of this ever-changing landscape, students must be able to adapt to situations, think critically, and work well in a group. With AI becoming a part of our everyday lives, if one is unable to analyze, create, or innovate, that has become tantamount. Memorizing information is not enough today because it does not really prepare students for real-life situations. In reality, students need to know how to think, solve problems, communicate, and adapt. Just learning answers for exams does not help much in the long run.

It is at this point, here, that architectural and design roles become very crucial at schools. Rethinking

spaces where learning happens will have a lot to do with the kind of environments these can develop within the realms of teamwork, emotional intelligence, and critical thinking. Just imagine flexible classrooms, inviting common areas, and open layouts that facilitate sharing ideas-this is what can spark curiosity and engagement.

This paper looks at how good school design can improve the learning experience. By studying modern school buildings and how students use these spaces, the research tries to show that architecture can play a big role in education. If learning spaces are designed thoughtfully, they can help students prepare better for a future where technology and AI are becoming more important.

2. OVERVIEW OF LITERATURE REVIEW

1. The Role of Architecture in Improvement of Schools with Flexibility Approach -

This paper looked at how flexible school design can improve learning. The idea is simple. When spaces can be changed around, they work for more students. Movable walls and multi purpose rooms make it easier to collaborate and stay engaged.

The research also found that these design choices actually lead to better student results. [9] It makes sense when you think about it. The space you learn in affects how well you learn. This fits with the growing push for more inclusive and innovative education.

2. Architectural Education Future:

Experience in Designing a New Curriculum for Undergraduate University Education in Architecture:

Farahat argues that architecture education needs to catch up with the modern world. The current curriculum just does not prepare students well enough for real life. There needs to be a better balance between theory and actually doing things hands on.

He also stresses the importance of mixing different fields together and bringing technology into the design process. [10] On top of that, the curriculum should be pushing students to think critically and creatively while also considering sustainability. The goal is simple. Architecture students need to graduate ready for a world that is constantly changing.

3. Changing the Organization:

Architecture and Stories as Material-Discursive Practices of Producing 'Schools for the Future

The author, Juelskjær looks at how the design of a school does more than just provide a place to learn. It actually shapes how students behave and how the whole school culture develops. Architecture is not just a background element. It actively influences what happens inside it. The paper uses the idea of material-discursive practices to show how design and the stories told about spaces work together to create schools that feel modern and forward thinking. [11] Basically, if you want education to change, the buildings need to change too.

4. School Architecture and Complexity

Rena Uptis takes a hard look at how most schools are built and basically says it is not working. The whole "factory model" design was never really made with learning in mind. [12] She makes the case that architecture should actually support how students think and grow, not just fit as many desks into a room as possible.

What is interesting is she points to approaches like Waldorf and Reggio Emilia as proof that it can be done differently. These methods have always paid attention to the space students learn in, things like open areas for different kinds of interaction, layouts that are not so rigid, bringing nature into the

environment, and even getting the community involved in how schools are designed. At the end of the day her argument is pretty convincing. Buildings shape behavior whether we notice it or not. So if we are serious about changing education, the physical spaces need to catch up too

2.1 KEY ASPECTS OF LITERATURE REVIEW

| Topic | Key findings | Research gaps |
|--|--|--|
| <input type="checkbox"/> “School Architecture and Complexity” by Rena Upitis | <ul style="list-style-type: none"> • The design of school buildings significantly influences not only academic performance but also engagement in non-core disciplines like arts and environmental education, which are often overlooked in traditional models. • Traditional school architecture reinforces the outdated "factory model" of education, emphasizing standardized teaching and testing while neglecting creativity, collaboration, and holistic development. | <input type="checkbox"/> <ul style="list-style-type: none"> • The connection between specific spatial elements (<u>like flexible zones, debate areas, or multi-use amphitheaters</u>) and critical thinking processes is not explicitly explored. • The concept of <u>collaboration across disciplines</u> (e.g., science meeting arts) and how architectural design can facilitate such interactions is not elaborated. |
| “Changing the Organization: Architecture and Stories as Material-Discursive Practices of Producing 'Schools for the Future’” by Malou Juelskjær | <ul style="list-style-type: none"> • The concept of "material storytelling" is central to creating future school spaces, emphasizing how narratives, models, and physical materials collaboratively shape the vision of new learning environments. • The research highlights a shift from traditional classrooms to differentiated, flexible spaces that cater to diverse learning styles • Elements like soft seating, quiet zones, and sensory-friendly features play a significant role in shaping the emotional and physical states of learners | <ul style="list-style-type: none"> • Although the paper involves participatory design processes, it does not deeply explore how <u>interdisciplinary collaboration</u> can enhance the design of learning spaces for modern educational needs. • While the paper discusses flexibility in learning spaces, it does not emphasize how sustainable design practices can contribute to creating <u>environmentally responsible students</u> |

| | | |
|--|---|--|
| <p>□ “Architectural Education Future: Experience in Designing a New Curriculum for Undergraduate University Education in Architecture” by B Ismail Farahat</p> | <ul style="list-style-type: none"> • Architectural education often fails to prepare students for the realities of professional practice, particularly regarding client needs, economic considerations, and sustainable design. Bridging the gap between academic research and real-world design practices is crucial. • The curriculum’s focus on ethics in architecture, such as addressing societal issues and ensuring responsible practice, is applicable across disciplines. | <ul style="list-style-type: none"> • does not delve deeply into how <u>specific architectural design elements</u> (e.g., <u>light, color, furniture layout</u>) influence <u>cognitive processes</u> like critical thinking or collaborative work. • there is limited exploration of how <u>architectural design itself can facilitate or encourage</u> interdisciplinary collaboration. |
| <p>“The Role of Architecture in Improvement of Schools with Flexibility Approach “]” by Mahdi Zandieh</p> | <ul style="list-style-type: none"> • Flexibility in school architecture means creating adaptable spaces that can accommodate changing educational needs, technologies, and learning methods, moving away from traditional, rigid classroom designs • Successful implementation requires participatory design involving students, architects, educational experts, and psychologists to understand user needs and behavioral preferences. • Implementing flexible school architectures is challenging due to traditional educational mindsets, technological limitations, insufficient funding, and a lack of understanding about environmental psychology's impact on learning spaces. | <ul style="list-style-type: none"> • Specific design methodologies for translating pedagogical theories into architectural principles • Economic feasibility models for implementing flexible learning spaces, especially in resource-constrained settings • insights into how spatial design directly impacts cognitive processes and learning outcomes |

2.2 PARAMETERS OF STUDY:

1. Role of Spatial Flexibility in Enhancing Critical Thinking
2. Specific Architectural Design Elements Such as Light, Color and Furniture Layout Influence Cognitive Processes
3. The Role of Stakeholder Feedback in Shaping Architectural Design

1. Role of Spatial Flexibility in Enhancing Critical Thinking

Flexible spaces do a lot more than just look modern. Places like the Future Classroom Lab show how giving students an adaptable environment actually pushes them to think harder, work together and

solve problems in a hands-on way. When students can physically engage with their surroundings it naturally leads to more creative and critical thinking. [2]

But it is not only about the physical space. Psychological flexibility matters just as much. Being able to adapt your thinking, manage your emotions and approach new challenges with an open mind are all part of what makes someone a strong critical thinker. These are exactly the kinds of skills needed in the 21st century. [3]

From a student's point of view, walking into a classroom with movable furniture and an open layout just feels different. It is less rigid and more inviting. You actually want to participate. That kind of environment mirrors the flexible mindset that leads to real innovation and collaboration.

When architecture is designed with all of this in mind it stops being just a physical structure. It becomes part of the learning itself, pushing students toward independent thought and preparing them for a world that is constantly shifting.

2. Specific Architectural Design Elements Such as Light, Color and Furniture Layout Influence Cognitive Processes

Architectural elements like light, color, and furniture layout can affect how students think and learn. These design choices can influence focus, creativity, and overall performance.

Natural light is very important. Studies show that students in classrooms with windows and more daylight perform better in exams (4). Natural light improves attention and reduces tiredness. This proves that the physical environment can directly affect mental performance [4].

Color also has a psychological impact. Warm colors like red and yellow can increase energy and creativity. Cooler colors help students feel calm and focused. In creative spaces like design studios, using suitable colors and natural materials like wood can improve productivity and creative thinking [4].

Furniture layout also plays a role in learning. Movable desks and chairs allow students to face each other and work in groups. This encourages discussion and participation in class [5].

When these elements are used properly, classrooms can become more interactive and supportive. They can help students develop critical thinking, creativity, and teamwork skills, which are important today.

3. The Role of Stakeholder Feedback in Shaping Architectural Design

Stakeholder Feedback Plays a Critical Role in Shaping the Architectural Design of Educational Institutions by Aligning Spaces with the Diverse Needs of Users

Good design does not happen in isolation. When students, teachers and administrators are actually consulted in the design process, the end result works better for everyone. Their input helps shape decisions around things like natural lighting, how technology is integrated, classroom layouts and shared spaces. Something as specific as the need for movable furniture or modular classrooms might only come up because someone who uses the space every day pointed it out. [6]

Human centered design takes this a step further. Through things like prototyping and group brainstorming, practical needs tend to surface that might otherwise get overlooked. Sustainable materials, flexible common areas, proper lighting. These are not just nice to have features, they genuinely affect how creative and focused students can be. [7] [8]

The bigger picture here is simple. When the people who actually use a space are involved from the start, the building ends up serving them properly. It becomes more than just walls and rooms.

It becomes something the community actually connects with and that supports the kind of modern learning experience students need today.

3. PRIMARY DATA COLLECTION

The space you are in affects how you think. Traditional classrooms with fixed rows and rigid layouts were never really designed to encourage creativity or collaboration. They were designed for control. If we actually want to change how education works, we have to start with the spaces where it happens. Talking directly to students and looking at schools that have already done this well can tell us a lot about what works and what does not when it comes to designing spaces that genuinely improve learning.

Case Studies:

I will conduct detailed case studies of institutions that are known for their innovative learning spaces. These will include universities like Stanford, MIT, and Ashoka University, as well as other newer educational models that focus on flexible and active learning.

For each case study, I will look at three main things:

- **Architectural Features:** I will describe the physical layout of classrooms, common areas, and outdoor spaces to see how they are designed.
- **Pedagogical Approaches:** I will study how the architecture supports different ways of learning, such as group work, project-based learning, and hands-on activities.
- **Student Experiences:** I will include both stories and available data on student satisfaction, engagement, and academic performance to understand how these spaces impact students.

Student Surveys:

To gather quantitative and qualitative data on the role of learning environments, a survey was conducted with students from various educational institutions. The survey explored the following aspects:

1. **Perceptions of Learning Spaces:** Students were asked to rate and describe how various learning environments, such as traditional classrooms, open-concept spaces, and outdoor learning areas, impacted their engagement and understanding of subjects.
2. **Collaborative Experiences:** Questions assessed the effectiveness of the current architectural design in enabling group activities, peer discussions, and teamwork, identifying both strengths and areas for improvement.
3. **Emotional Well-being:** The survey delved into the relationship between the physical environment and students' mental health, focusing on how factors like lighting, ventilation, and spatial design contribute to their comfort and overall satisfaction with their educational experience.

By looking at real case studies and hearing directly from students through surveys, this paper aims to build a clearer picture of how architectural design can genuinely transform the way education works.

CASE STUDY 1 : THE NEW SCHOOL UNIVERSITY CENTRE

INTRODUCTION

The New School is a well-known university in New York City and is a strong case study for this research. It is known for its progressive approach to education. The university focuses on interdisciplinary learning, critical thinking, and social awareness.

Its campus design is modern and student-focused. The spaces are open and encourage collaboration.

There is a strong focus on how students experience and use the spaces. This connects well with the aim of this research, which is to rethink educational spaces.

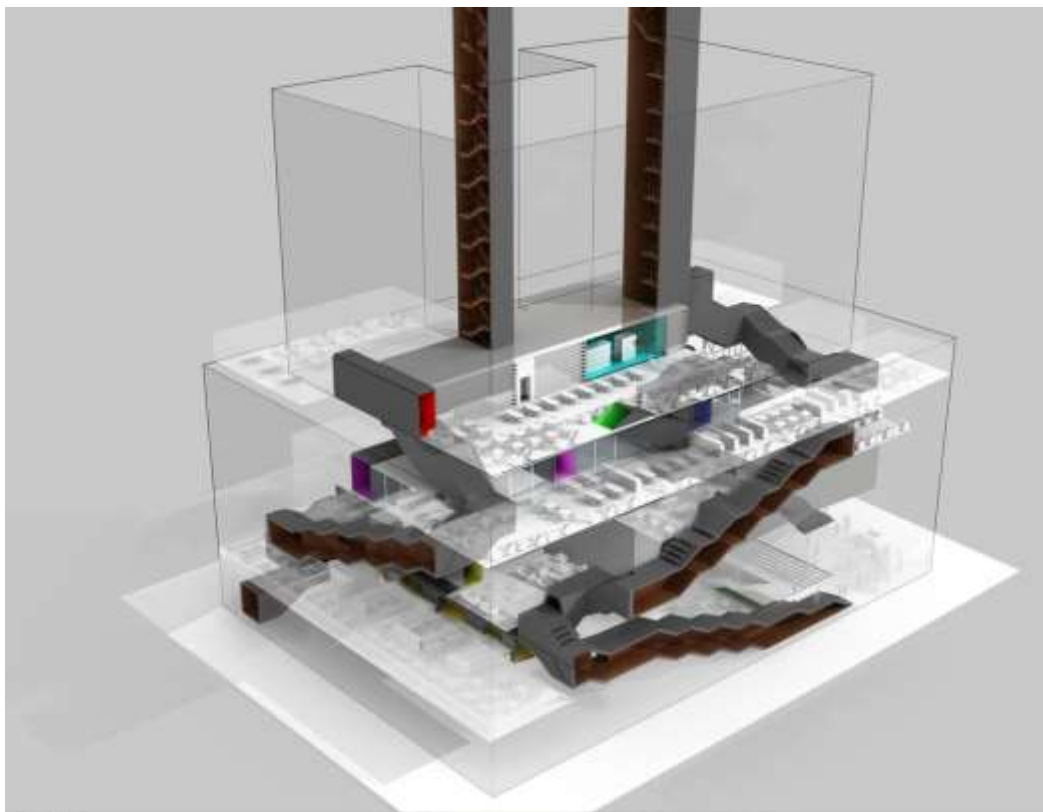
By studying the architectural features and teaching methods at The New School, we can understand how physical spaces influence learning. It helps show how design can support creativity, independent thinking, and a sense of community among students.

PHYSICAL CHARACTERISTICS :

DOUBLE STAIRWAYS

The main design feature of the building is a central system of “communicating stairs.” These stairs connect different floors visually and physically. They encourage students and faculty from different departments to meet each other by chance. This creates more informal conversations and unexpected interactions. It also makes movement inside the building more active and dynamic.

To support this idea, a skip-stop elevator system is used. During peak hours, the elevators stop only at floors 1, 4, and 6. This makes people use the stairs to reach the other floors. Because of this, there are more chances for interaction. During non-peak hours, the elevators stop at all floors, making movement easier while still keeping the building active.



Source: <https://www.som.com/projects/university-center-the-new-school/>

NATURAL LIGHTING

Natural light is used really well throughout the building. Clerestory windows and horizontal glazing pull daylight deep into the space making it feel alive and welcoming rather than dull and institutional. Even the stairwells are designed to let light in, especially the communicating stairs which feel open and connected rather than just a way to get between floors. It is a small detail but it makes the whole

building feel more linked together. On top of looking good, all of this actually cuts down on energy use and has a positive effect on how students feel and how willing they are to work across different subjects and disciplines.

SKY QUADS

The sky quads are one of the more interesting features of the building. They are placed right next to stairwells and corridors so students naturally pass through them throughout the day. That placement is intentional. It turns what would just be empty transitional space into actual hubs where people stop, talk and work together. You can find lounges, meeting rooms, design studios and cafes all within these areas. They work for both planned study sessions and completely unplanned conversations between students and faculty from different disciplines. That kind of casual cross disciplinary interaction is hard to force but easy to encourage when the space is designed right.



Source: <https://www.som.com/projects/university-center-the-new-school/>

PEDAGOGICAL APPROACH : PROJECT BASED LEARNING

The spaces at The New School are built around the idea that learning should be active not passive. The studios and classrooms are large and open and can be rearranged depending on what a project needs. Movable walls and modular furniture mean the space works for a solo task just as easily as it does for a big group. There are also dedicated design studios and labs where students work on real world projects rather than just theoretical ones. That hands on approach naturally builds creativity and problem solving in a way that a standard fixed classroom simply cannot.

INTERDISCIPLINARY FOCUS

The layout of the University Center is set up in a way that almost forces different disciplines to mix. Studios, classrooms and common areas sit right next to each other so students from design, technology, the arts and other programs are constantly crossing paths. That kind of proximity is not accidental. When people from different fields are sharing the same spaces they naturally start exchanging ideas and that is where a lot of the most interesting thinking happens.

EXPERIENTIAL APPROACH

Learning at the University Center does not stop at the classroom door. The building includes exhibition areas, performance spaces and meeting rooms that connect students to the wider community. These are not just decorative extras. They create real opportunities for students to take what they have learned and actually apply it. Whether that is through community engagement, internships or just interacting with people outside their program, the architecture makes that kind of

experiential learning feel like a natural part of being there rather than something separate from it.

STUDENT EXPERIENCE

Through a series of interviews conducted at the campus, students talked about their experience studying at The New School. While most of them complimented the natural lighting in the space and how it facilitates a better learning environment for them, some students talked about how colour and varying levels create separation of spaces in their minds while still being interconnected.

They also talked about how certain aspects, like the stairs, are usually meant as a transition space, but on this campus, those spaces are functionally viable apart from just being a connecting feature.

To quote a few students:

"The building offers me the opportunity to work in several different modes."

"This building is awesome; its clean, modern, environmentally friendly, and I like the light." "I'm here in this building more than I'm in my apartment. "

"An amazing place to ferment my creativity; when you're surrounded by a space like this, your creativity really flourishes."

"Because its so open, I'd rather study here than my home." Source : <https://www.youtube.com/watch?v=HzETh3M4mIs>

CASE STUDY 2 : MARYSVILLE GETCHELL HIGH SCHOOL CAMPUS

INTRODUCTION

Marysville Getchell High School, located in Marysville, Washington, is a modern educational campus designed by DLR Group. Completed in 2010, the campus covers about 195,000 square feet and serves around 1,600 students. It has four separate learning buildings. These buildings are arranged around a central space called the Campus Commons. The design follows a "small learning community" (SLC) model, where students learn in smaller groups.

The campus is surrounded by wetlands and second-growth forests. Because of this, nature becomes an important part of the design. The buildings connect indoor learning spaces with the outdoor environment. The design focuses on sustainability, collaboration, and flexibility. Overall, it is a good example of modern and innovative educational architecture.

STAKEHOLDER INVOLVEMENT IN THE DESIGN PROCESS :

STUDENTS

Students were actively involved in the design process. They took part in focus groups and some even worked as interns with the design team. Their ideas helped shape many important decisions.

Because of their input, the school included flexible classrooms with movable walls and modular furniture. Technology was also properly integrated to support different ways of learning. This made the spaces more adaptable and student-friendly.

Student feedback was especially important in shaping the Small Learning Community (SLC) model. The campus was divided into four separate buildings. Each building focuses on a specific academic theme, such as global connections, biomedical studies, entrepreneurship, and communications. These themes came directly from student discussions, where they expressed a need for more personalized and interest-based learning spaces.

TEACHERS

Teachers were pretty clear about what they needed. Spaces that allow for collaboration and give them

the freedom to teach in different ways depending on the lesson. That feedback directly shaped the design, leading to open classrooms that can be rearranged and shared resource areas that everyone can access. They also flagged natural light and acoustics as priorities, which makes sense. A room that is too dark or too noisy makes it genuinely harder to teach and harder to learn.

COMMUNITY MEMBERS

Feedback from the community showed that shared spaces were very important. People wanted the school to feel connected to its surroundings. Because of this, the Campus Commons was designed as a central hub. It includes spaces for dining, fitness, and events, and it is open to the public.

Outdoor spaces were also carefully planned. Amphitheatres and walkways were added to connect the buildings with nature. This reflected the community’s wish to create a campus that feels open, welcoming, and in harmony with its natural setting.

DIFFERENTLY ABLED STUDENTS

Feedback from a wheelchair-bound student ensured that accessibility was kept in mind. This included ADA-compliant designs across all buildings and pathways.



Site plan representing four different buildings as an outcome of the focus groups conducted
Emphasis on indoor - outdoor connection

SOURCE : <https://www.dlrgroup.com/work/marysville-getchell-high-school/>

LAYOUT AND FLOW : CAMPUS COMMONS

The Campus Commons is placed right in the middle of everything and that is exactly the point. Being central means it is easy to get to from all four SLC buildings so it naturally becomes the place where people meet up.

It brings together dining, fitness and community events all in one spot which means students from different areas are constantly sharing the same space. That kind of daily overlap encourages the kind of casual interaction and collaboration that you just cannot really plan for

OUTDOOR - INDOOR INTEGRATION

Elevated walkways, outdoor amphitheatres, and open decks connect the buildings to the natural

surroundings. These elements make nature a part of everyday campus life. Students can use these spaces for outdoor classes, informal discussions, or just spending time together.

This design helps create a calm and relaxed atmosphere. It also gives students more opportunities to learn and interact outside the classroom.

ELIMINATION OF TRADITIONAL CORRIDOORS

Rather than standard hallways, the SLCs have spaces that flow into each other. Moving through the building naturally leads to spontaneous interaction.

There is no hard separation between classrooms and collaborative areas. It all just connects.



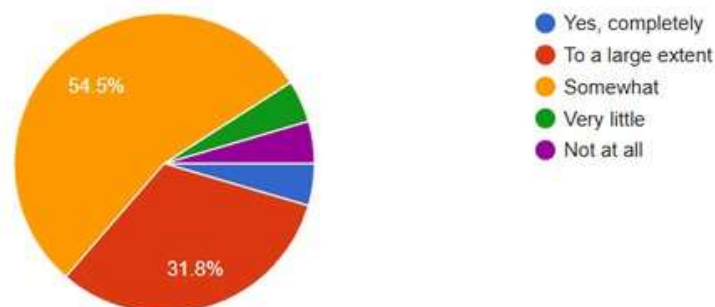
SOURCE :<https://www.dlrgroup.com/work/marysville-getchell-high-school/>

STUDENT SURVEY

Do you feel the spaces in your college are designed with students' needs in mind?

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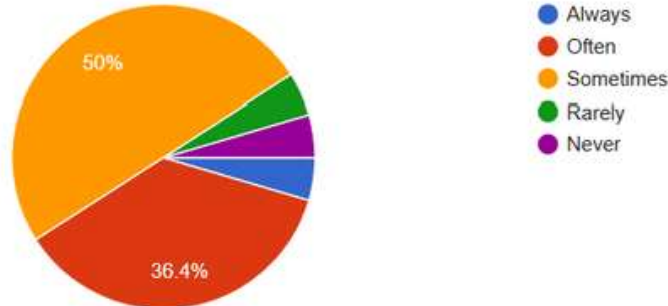
22 responses



Does your college environment inspire you to study or work effectively?

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22 responses



Which spaces in your college are most conducive to building social and professional networks?

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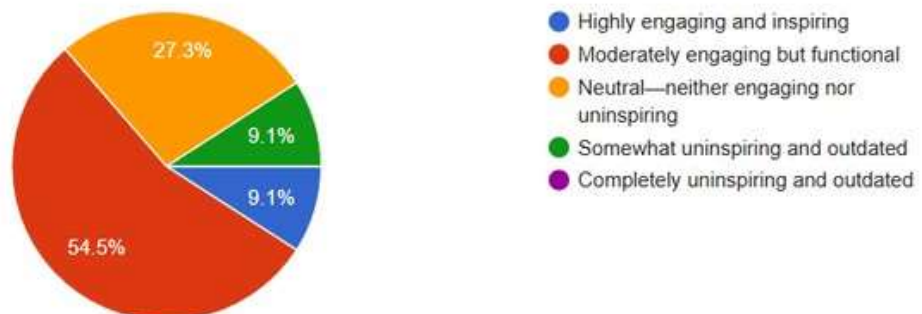
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How would you describe the overall environment of your college campus?

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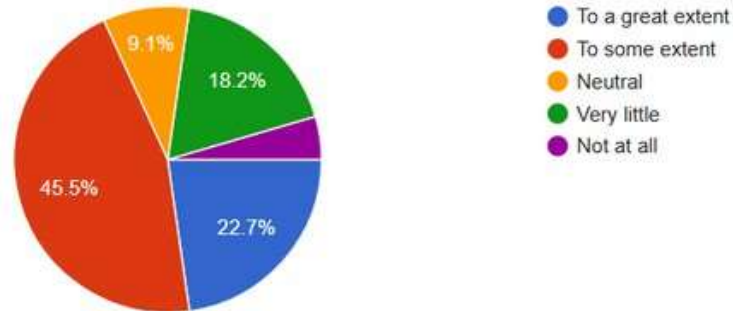
22 responses



To what extent does your college's physical environment foster networking and collaboration among students?

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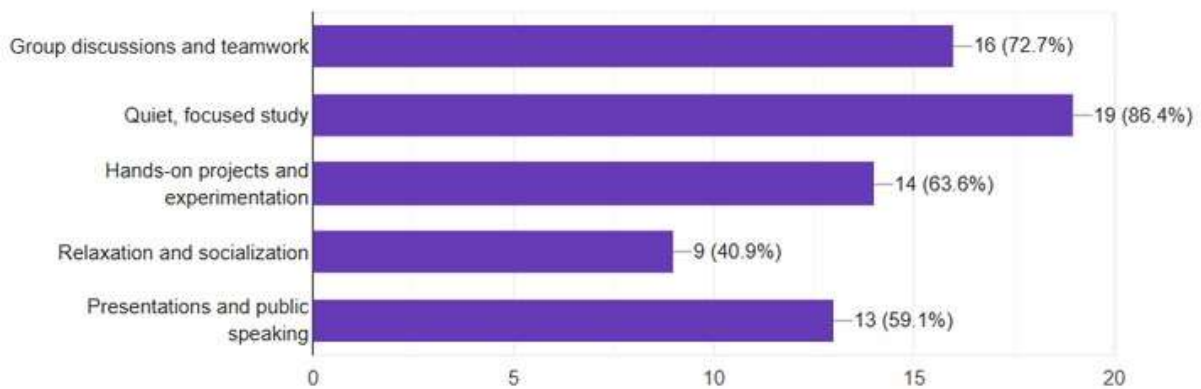
22 responses



Does your college provide adequate spaces for the following activities?

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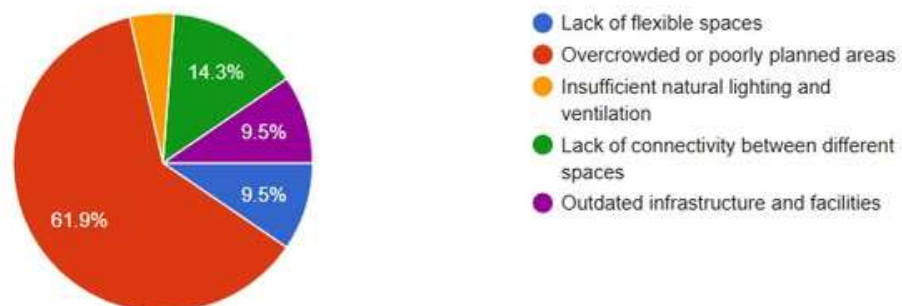
22 responses



What is the biggest challenge in your college's current physical design?

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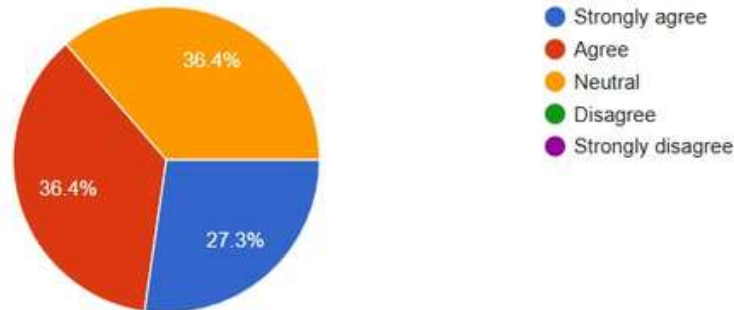
21 responses



Do you feel the traditional classroom module (e.g., one-way lectures) is outdated?

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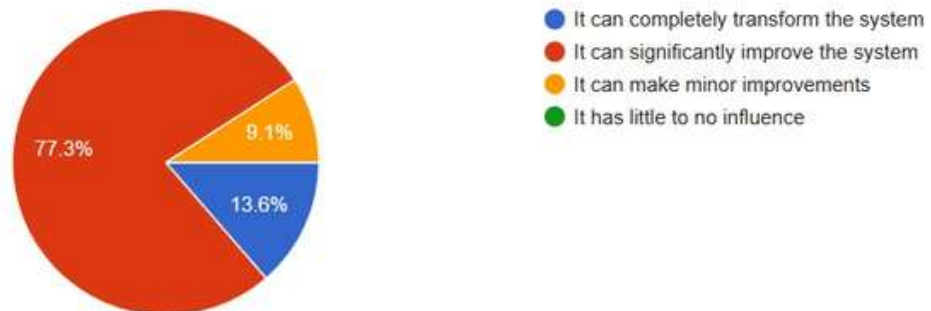
22 responses



In your opinion, how much can architectural design influence the current education system?

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22 responses



Some students answers to open-ended questions:

What do you think would be a better alternative to the traditional classroom module?

“A space that bridges the gap between theory and practicals in a hassle free and productive way”

“Move lessons outside the traditional classroom to connect concepts with real-world applications”.

“Having a modular space in terms of furniture”

What role should architects play in redefining the educational experience beyond designing physical spaces?

“Architects must approach educational modules with practicality and focus more on experience and multi-sensory oriented design.”

“Smell and sound”

“It should have engaging spaces throughout, not only classrooms but spaces where there can be informal learning as well”

CASE STUDY FINDINGS:

MARYSVILLE GETCHELL HIGH SCHOOL CAMPUS

Marysville Getchell High School is a good example of how flexible design and feedback from users can change learning spaces in a positive way. The school follows the Small Learning Community (SLC) model. This divides the campus into separate academic hubs. Each hub has its own focus and

identity.

The classrooms are designed to be flexible. They have movable walls, modular furniture, and proper technology support. This allows teachers to use different teaching methods. It also makes group work and projects easier.

Nature is also an important part of the design. Outdoor amphitheaters, walkways, and views of the wetlands are included in the campus plan. These spaces support experiential learning by connecting students to their surroundings.

The design was strongly influenced by community feedback. Because of this, the school reflects the needs of students, teachers, and the local community. It helps create a sense of belonging and shared ownership

THE NEW SCHOOL UNIVERSITY CENTER

The The New School University Center is a strong example of how architecture can support better learning. The building brings different academic departments together in one vertical campus. This helps students from different fields interact more easily.

One of its main features is the communicating stairs and sky quads. These spaces encourage casual meetings and informal discussions between students and faculty. This creates more chances for collaboration and new ideas.

The building also uses natural light, flexible classrooms, and shared social areas. These features support experiential learning. Students can work on projects, have discussions, and learn outside their regular classrooms. The spaces can also be rearranged when needed. This makes the building adaptable to changing academic requirements.

ANALYSIS

ANALYSIS OF SURVEY

Integration of Theory and Practice:

Many students highlighted the need for learning environments that bridge the gap between theory and practice. This suggests a demand for spaces designed to support hands-on and experiential learning.

Flexible Learning Environments:

The feedback also indicated a preference for modular and adaptable spaces, such as reconfigurable furniture and versatile layouts, which can accommodate various learning activities and not just traditional classroom learning setup

Outdoor and Real-World Connections:

Students expressed interest in moving lessons outside traditional classrooms, while stating the importance of linking academics with real-world situations

Role of Architects in Educational Design:

Students believe architects should focus not only on creating functional physical spaces but also on enhancing the overall educational experience through multi-sensory design, keeping in mind aspects like sound and smell.

Outdated Traditional Classroom Module:

Most students agreed that the traditional classroom just does not work anymore. The rigid lecture based format feels outdated and does little to encourage creativity or real engagement. What stood out was that many students also saw architects as having a genuine role to play in fixing this, not just

educators or policymakers.

• These insights tell us the importance of designing educational spaces that are dynamic, inclusive, and experiential, enhancing not just academic success but overall well-being and personal growth. A recurring complaint from students was overcrowding. Study rooms, cafeterias and common areas often just cannot handle the number of people using them. That leads to discomfort, less focus and fewer chances to actually collaborate. Poor space planning also means privacy is hard to come by which makes it even harder to get work done. It is a straightforward problem but one that has a real effect on the day to day learning experience.

ANALYSIS OF CASE STUDIES

The shared and connected spaces in both institutions have had a strong impact on students. These environments feel open, active, and welcoming. Because of this, students feel more interested in learning. The spaces mix learning and social interaction, so education feels more natural and less restricted to classrooms. Students use these areas not only to study, but also to relax, talk, and exchange ideas. Features like sky quads and open stairways create chances for interaction. At the same time, they also allow quiet reflection when needed.

This kind of design helps create a culture where learning feels enjoyable. It increases student engagement and can improve academic performance.

In both projects, stakeholder feedback played an important role. The designs focus on collaboration, flexibility, and student comfort. Open hubs and connected stairways remove the traditional separation between spaces. The campuses feel more like active communities rather than just academic buildings. Natural elements and daylight also play a big role. At The New School, clerestory windows and large glazing bring in plenty of light. At Marysville Getchell High School, indoor and outdoor spaces connect smoothly. These features make the spaces feel bright and calm. Natural light and views help reduce stress and improve mood. Students feel more comfortable spending time in such spaces, which supports better focus, creativity, and overall learning experience.

CONCLUSION

In conclusion, this research aimed to understand how architectural design can improve educational spaces and make learning better. After studying different case studies and reviewing surveys, some clear ideas about the future of learning spaces have come forward.

The traditional classroom model is slowly becoming outdated. Just having rows of desks and lectures is not enough anymore. Students today need spaces that are flexible and interactive. They need environments that support collaboration, creativity, and critical thinking.

This research shows that the physical environment has a strong impact on how students learn. The way a space is designed can affect student engagement, comfort, and overall learning experience.

Key findings from our study reveal several important points:

1. **Flexibility is Essential:** Students want learning spaces that can adapt. This means movable furniture, modular classrooms, and areas that can be easily reconfigured for different types of learning activities and methods.
2. **Connection to Real World:** Young students want environments that bridge theoretical knowledge with practical applications. They want spaces that feel less like traditional classrooms and more like interactive, real-world settings.

3. **Interdisciplinary Spaces Matter:** The case studies of The New School and Marysville Getchell High School demonstrated how breaking down rigid disciplinary boundaries can spark innovation and cross-pollination of ideas.
4. **Natural Elements are Crucial:** Both students and architectural designs emphasize the importance of natural light, outdoor connections, and open environments
5. **Stakeholder Input is Key:** Involving students, teachers, and community members in the design process ensures that educational spaces truly meet the needs of users and is key.

As artificial intelligence and technology continue to reshape our world, education must evolve. Our research suggests that architectural design is not just about creating beautiful buildings, but in building environments that prepare students for a complex, rapidly changing complex future. The message is clear: we need to move beyond the factory-like model of education. Learning spaces should be living, breathing ecosystems that inspire curiosity, collaboration, and creative and critical thinking

This isn't just about redesigning buildings, it's about reimagining what education can be.

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