

Design in the Classroom

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Thesis

How can a classrooms be designed to optimise use and improve functionality in areas confined by high population and limited space?

Classroom design is a fundamental component to the learning outcomes of students. These are spaces that will have the most impact on younger generations. Although students don't often consider classroom design as being significant to their education, the space that one learns in is directly correlated with how one comprehends and absorbs information.

Current Model

In most creative fields of study, students require space for both mental and physical purposes. Conventional classrooms consist of four walls and some arrangement of desks with a central spot reserved for the teacher or professor.

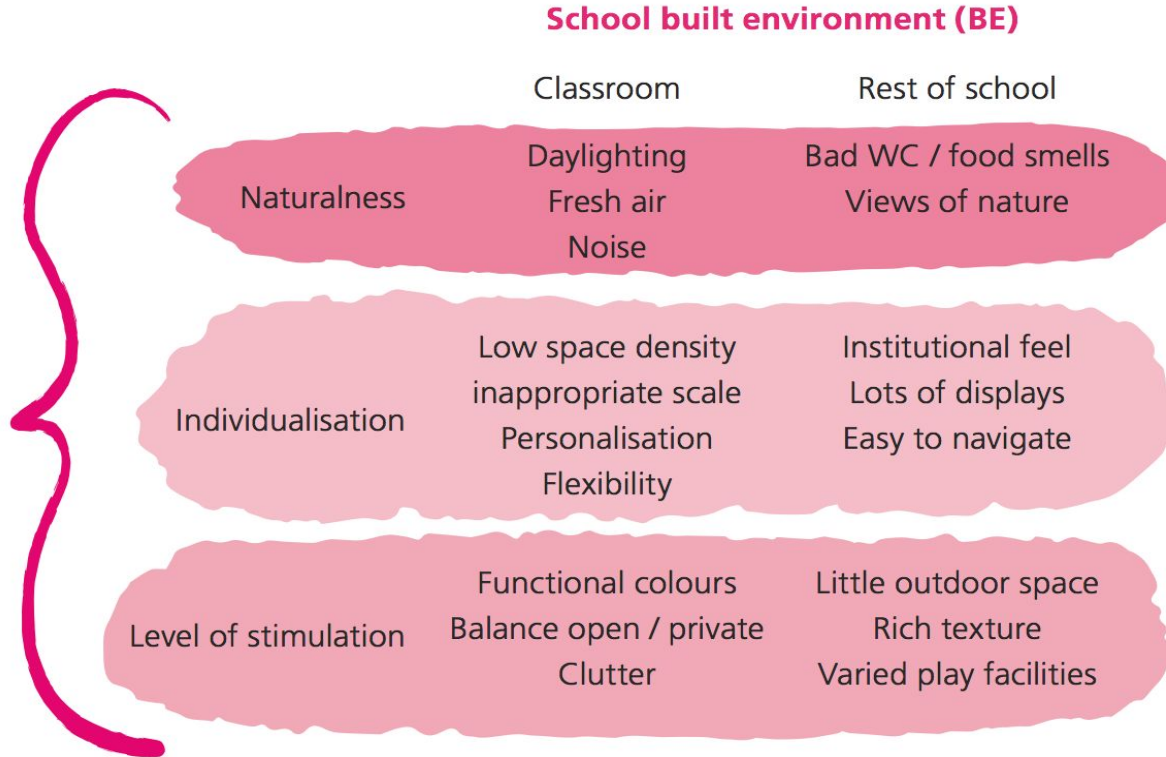




Research

Design elements such as, furniture, color, accessibility, flexibility and exposure to light are all components to a lucrative learning environment. Many current classroom models do not offer enough quality equipment, visual stimulation, open and easily accessed corridors, and natural light. Designers can help redefine the standards that are set for a high quality education.

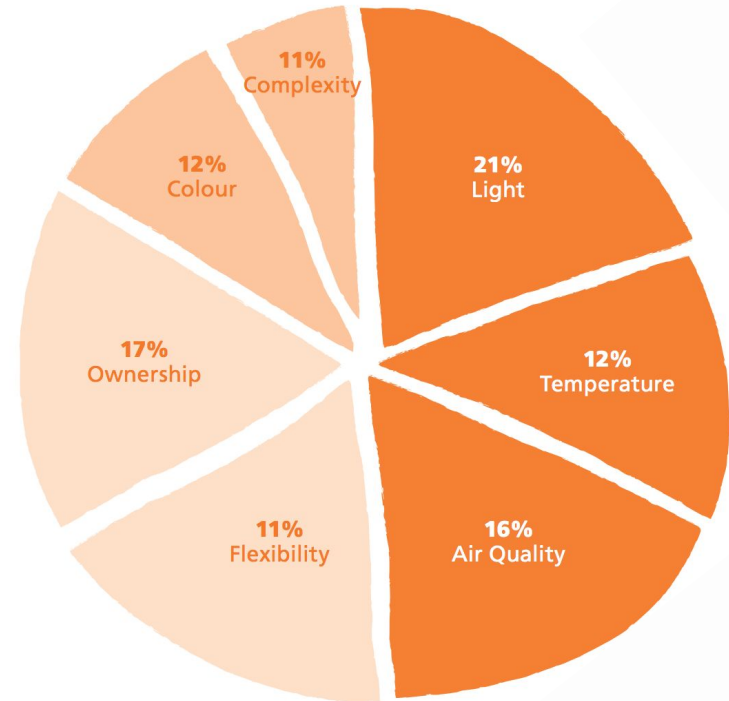
Factors that affect learning outcome:



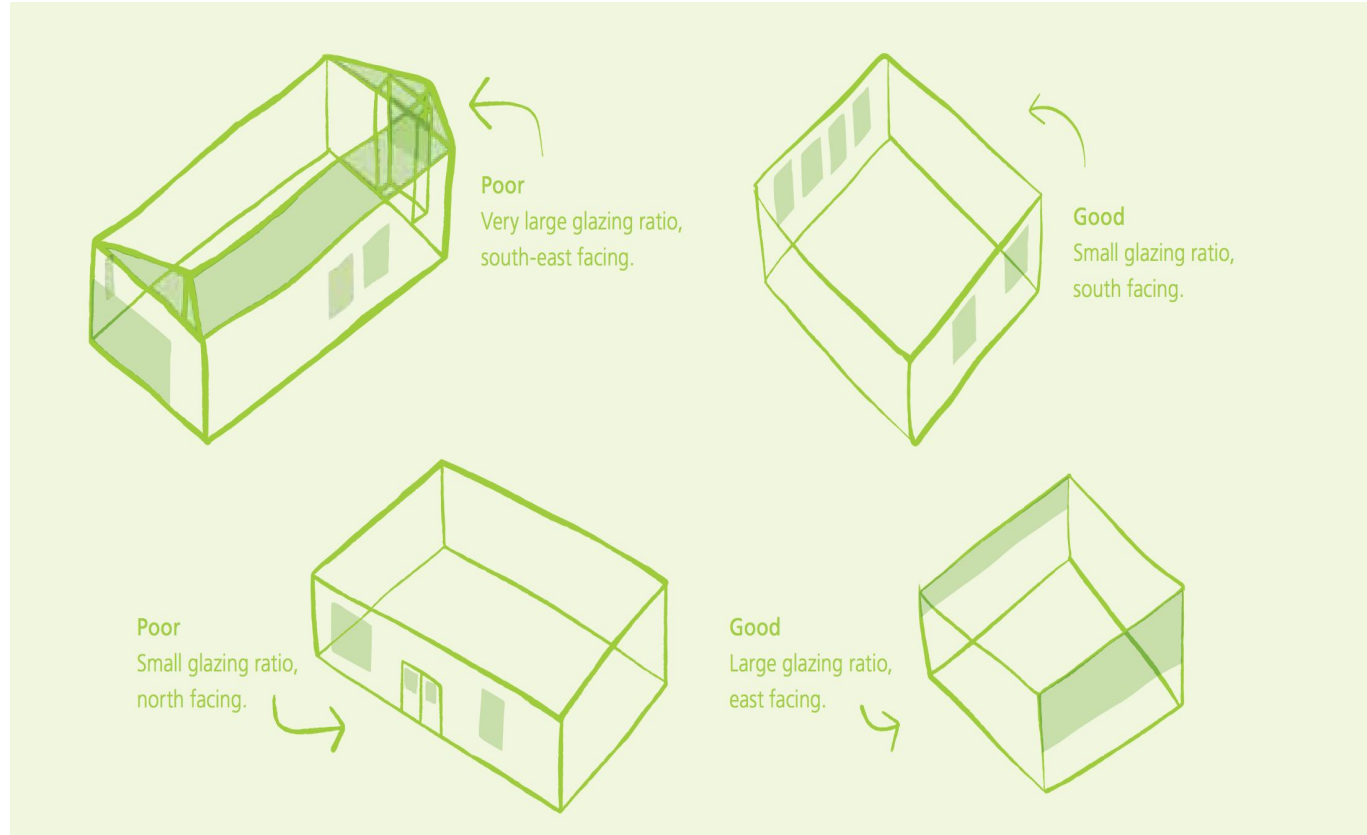
“Clever Classroom” A Study by the University of Salford (Manchester, UK)

Factors found to be significantly influential to student learning outcomes:

- Naturalness: light, temperature and air quality – accounting for half the learning impact
- Individualisation: ownership and flexibility – accounting for about a quarter
- Stimulation (appropriate level of): complexity and colour – again about a quarter.



Light



Poorly Lit Classrooms:



Well Lit Classrooms:





- Large window provides a broad vision outside.
- Plenty of green area can express the seasonal cycles.
- The view is always available, even when the pupils are seated, as the sill height is low.
- The door gives pupils easy access to the outside. But, the displays are starting to block the view.

Temperature and Air Quality

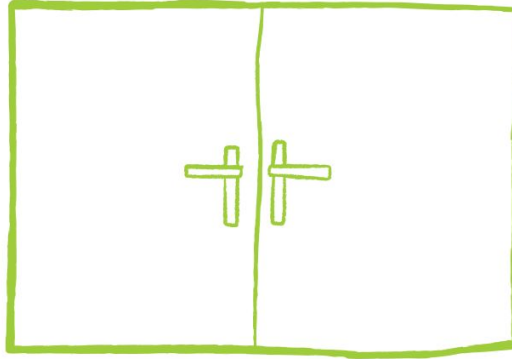
small, high-level windows, which allow small amounts of ventilation in high wind;



trickle ventilators for cold weather, high winds and when other windows are closed for security;



large, main central windows for still, hot, summer weather;



small windows at bench height for all-round ventilation – may have to be closed in high winds to prevent papers flying.



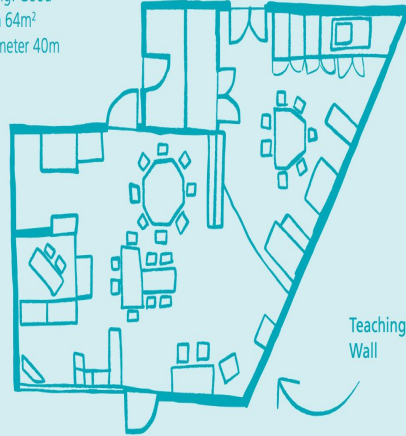
Classroom Size and Flexibility

Key Stage 2
Rating: Poor
Area 52m²
Perimeter 46m

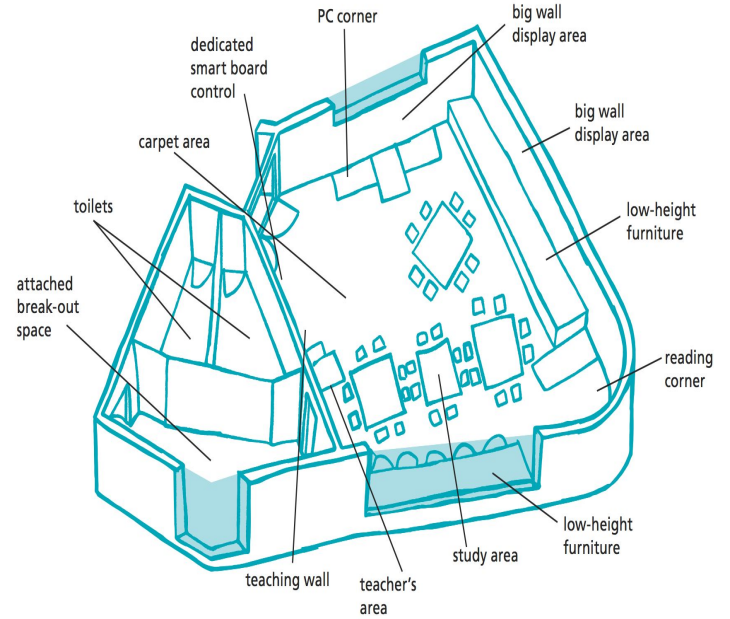


In complex shaped rooms, especially if it is smaller, it is harder to create the more formal learning arrangements often used for older children

Key Stage 1
Rating: Good
Area 64m²
Perimeter 40m



In complex shaped rooms, it is easier to create varied learning activity zones for younger grades to fit the typical pedagogical approach adopted.



Individualization



In the Furniture:

A solution as simple as changing the desks and chairs students use can optimise how each student and the classroom as a whole functions. The standard chair and desk seen in classrooms across the United States are more often than not made with heavy metal or wood and not easily rearranged. This setup, although sufficient, does not grant mobility or encourage team work.

Gurzynski-Weiss et al. / Space in Traditional and Innovative Classrooms

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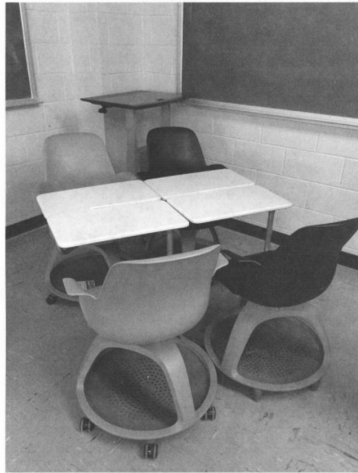


Figure 2. Photo of nodal chairs placed together to form a common workspace

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Hispania 98 March 2015



Figure 3. Photo of collaboration café classroom

Visual Stimulation



Distinct ceiling



Class-made display



Personal storage



Interesting desk



These classrooms have complexity inherent in their designs – eg the floor plan on the left and the ceiling design on the right.



Too little



About right



Too much

Color

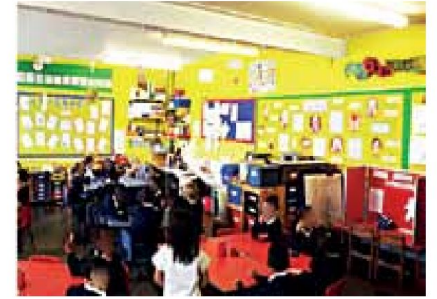
Illustrations of Wall colours and areas



Too little

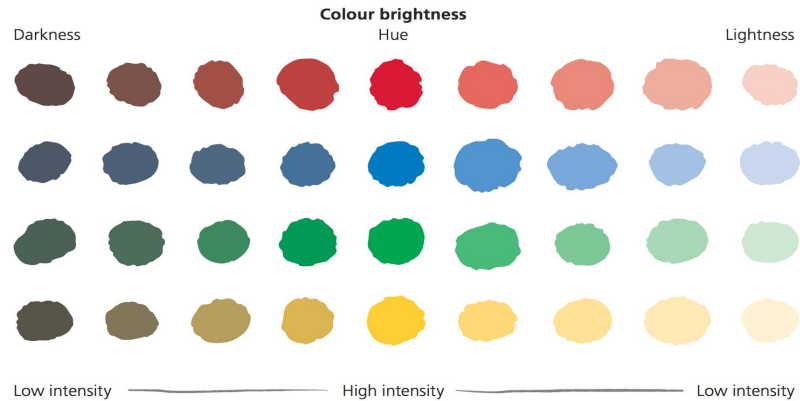


About right



Too much

Example of range of brightness in colour



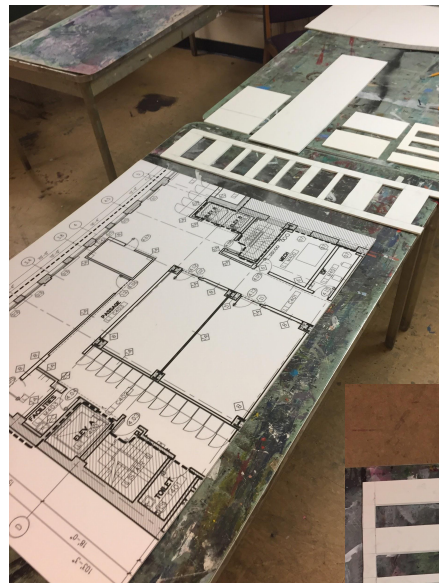
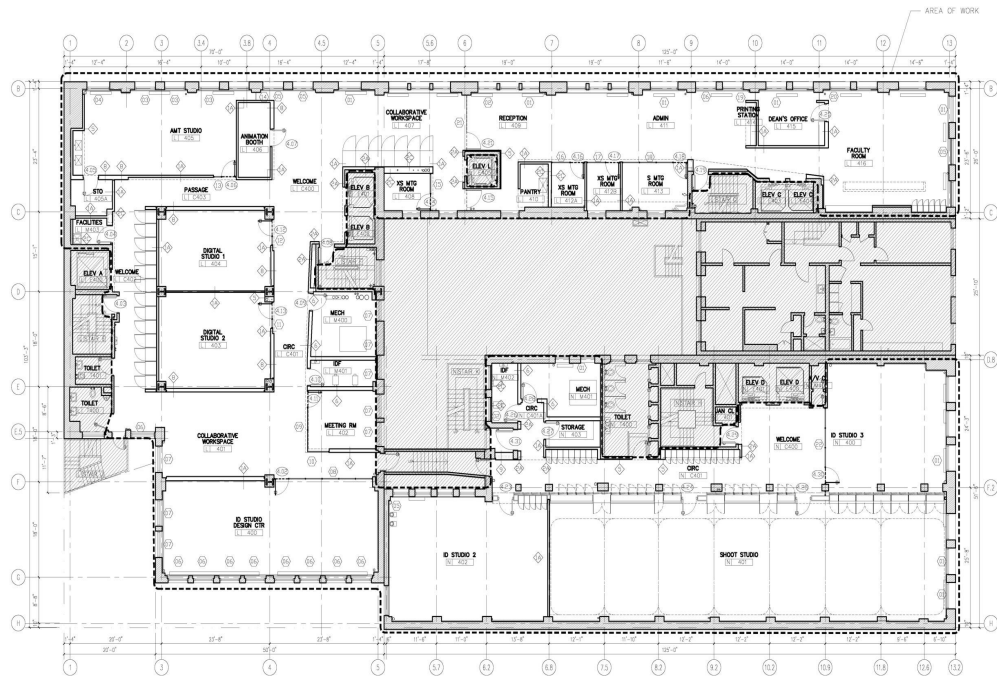
About right

Studio Project

I am attempting to redesign a class room at The New School, as well as, redefine the accepted standards for what a classroom should look like.

In order to optimize space in a classroom, one must first evaluate the current model. In my case, I will be evaluating a classroom in the Parsons School of Design 13th Street building.

I hope to eliminate any and all wasted space and incorporate sustainable and transformable space the can accommodate the needs of New School students. With my research I will develop a better understanding of how people use space, how space affects student success and motivation, and how space can become multifunction without compromising quality of design.



Barrett, Peter , Yufan Zhang, Fay Davies, and Lucinda Barrett. *Clever Classrooms: Summary Report of the HEAD Project*. Rep. N.p.: n.p., n.d. *University of Salford Manchester: Clever Classrooms*. University of Salford, Feb. 2015. Web. May 2017. <<https://www.salford.ac.uk/cleverclassrooms/1503-Salford-Uni-Report-DIGITAL.pdf>>.

New Teachers: Designing Learning Environments." *Edutopia*. N.p., 07 May 2015. Web. 18 Apr. 2017. This website article simply defines how aspects of design influence learning outcomes. It further develops my projects thesis by exploring more effectively designed spaces for students to learn in.

Gurzynski-Weiss, Laura, Avizia Y. Long, and Megan Solon. "Comparing Interaction and Use of Space in Traditional and Innovative Classrooms." *Hispania* 98, no. 1 (2015): 61-78. <http://www.jstor.org/stable/24368852>.

HASWELL, RICHARD, and JANIS HASWELL. *Hospitality and Authoring: An Essay for the English Profession*. University Press of Colorado, 2015. <http://www.jstor.org/stable/j.ctt14jxwqx>.

"The impact of classroom design on pupils' learning: Final results of a holistic, multi-level analysis." *The impact of classroom design on pupils' learning: Final results of a holistic, multi-level analysis*. N.p., n.d. Web. 18 Apr. 2017. Copyright © 2017 Elsevier B.V. This is a study that analyzed the impacts of classroom design on learning outcomes. This will serve my research by providing numerical evidence of affected students.