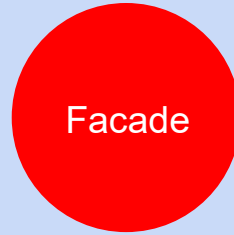


**Graduate Research Option Studio**  
**Focused on Facade Design/Engineering**

supported by DeSimone Consulting Engineers



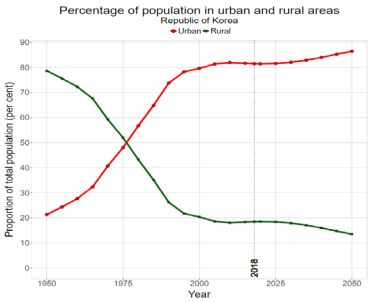
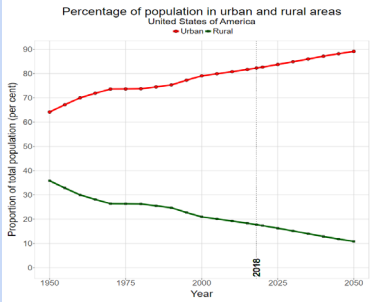
# Vertical Paradox : From 'High' School To Something Else

## Instructors:

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DeSimone Facade Engineering Team (Rok Lee, Daniel Chung, Benjamin Reich,  
Whitney Boykin)

# 1. Urbanization And Vertical Schools.



<https://population.un.org/wup/Country-Profiles/>

Examples of conventional 'horizontal' schools:

<https://docs.google.com/presentation/d/1crT33HXZ1OT6M9NcuHgTrejS365eXWHfMkz0xZxNv0l/edit?usp=sharing>



**Vertical schools are increasingly common. This is what students want in 'high' school design**

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Author supplied.

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**Disclosure statement**  
Fateme Aminipour receives funding from Council on Tall Buildings and Urban Habitat (CTBUH).

**Partners**

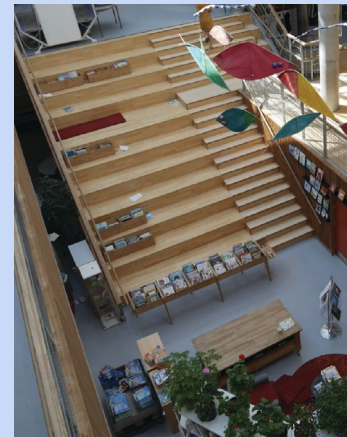
The traditional idea of a one-or-two-storey school, spread over a vast campus is no longer an option for some new schools. Population growth and a lack of land in urban areas mean some schools have to go up.

This has seen vertical schools become increasingly common. These are schools that tend to have more than four storeys.

Some academics argue vertical schools are not well suited to children's need for space and learning. But what do children want?

**I asked students for their opinion**

<https://theconversation.com/vertical-schools-are-increasingly-common-this-is-what-students-want-in-high-school-design-207321>



Matthews, T., Newton, C., Guaralda, M. and Mayere, S., 2023. Vertical Schools as Community Hubs. In *Schools as Community Hubs: Building 'More than a School' for Community Benefit* (pp. 217-232). Singapore: Springer Nature Singapore.

## 2. Vertical Schools in Asia

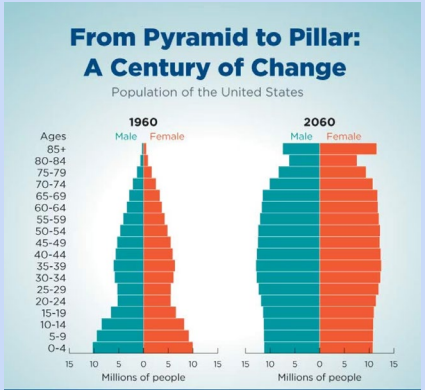


Private institutions in a typical commercial street in Korea. There are more than 2000 institutions only in Gangnam-gu, Seoul. \$26 billion is paid to these education businesses, which constitutes 1/3 of Korea's national education expenses—equivalent to Iceland's GDP.



Photos:  
<https://www.newsjoy.or.kr/news/articleView.html?idxno=211278>

# 3. Aging Society and Adaptability of Architecture

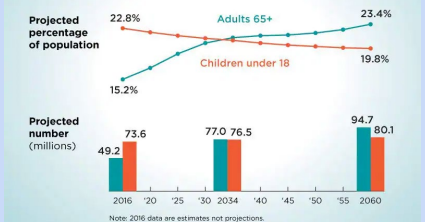


United States Census Bureau  
U.S. Department of Commerce U.S. Census Bureau census.gov  
Source: National Population Projections, 2017 www.census.gov/programs-surveys/popproj.html

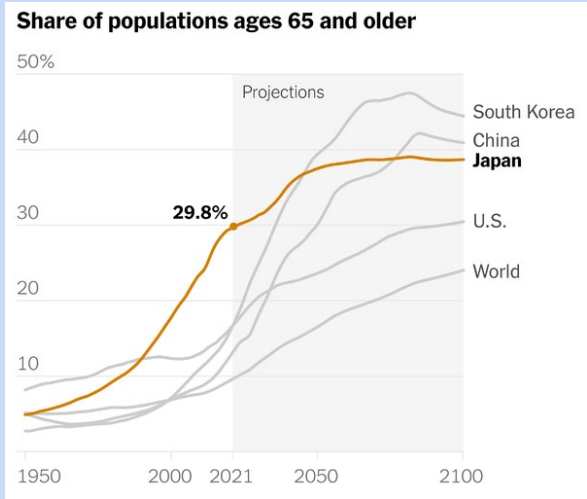
## An Aging Nation

Projected Number of Children and Older Adults

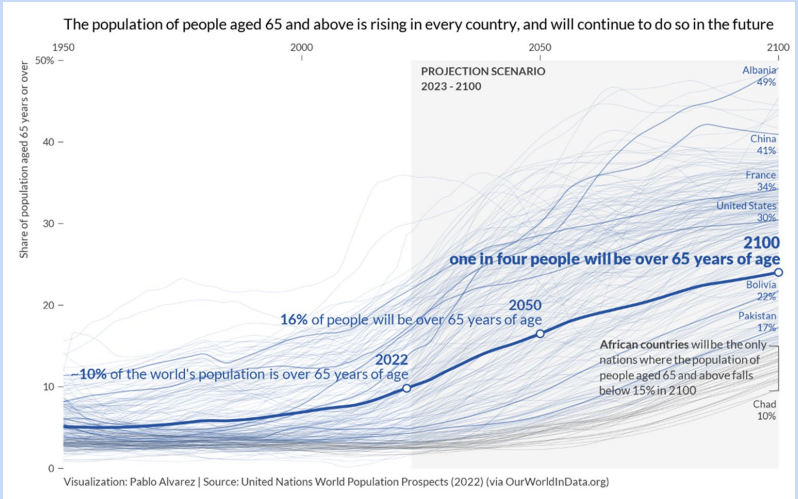
For the First Time in U.S. History Older Adults Are Projected to Outnumber Children by 2034



United States Census Bureau  
U.S. Department of Commerce U.S. Census Bureau census.gov  
Source: National Population Projections, 2017 www.census.gov/programs-surveys/popproj.html



<https://www.nytimes.com/2023/02/19/briefing/asia-aging-population.html>



<https://frankdiana.net/2023/05/31/the-worlds-aging-population/>

<https://www.census.gov/library/stories/2018/03/graying-america.html>

The studio will explore the challenges of 'Vertical School' posed by diverse private institutions housed in tall buildings. The research will be centered around the following key learning objectives:

1. **Architecture and Social Ecology.**
2. **Facade, Street, and City Dynamics.**
3. **Adaptability to Aging Society.**
4. **Regulatory Context and Incentive.**

### Key Studio Features:

- Program: Education facility (for multiple heterogeneous learning institutes). 9-12 story baseline plus suggested zoning exceptions (bonus FAR) based on the suggested architectural features. The tenant programs will transform into lifelong education centers and/or cultural/community centers.
- Site: Daechidong, Gangnamgu, S. Korea (TBD). We do NOT travel to Korea.
- Facade-focused learning: DeSimone Facade Engineering team will provide a series of seminars and individual project critiques.
- Joint studio with Chung-Ang University Seoul Campus, Department of Architecture, S. Korea. (Prof. Sewon Hwang)
- Field trip to Guardian Glass factory (arranged by DeSimone).
- Architecture trip to New York City (TBD)
- The sponsorship fund by DeSimone will facilitate the studio activities. Details TBD.
- Interdisciplinary research effort with UB Graduate School of Education and UB Asia Research Institute.

## Expectations

- ¼"=1' (or ⅛"=1') scale tower model will be required for the final review and further exhibitions. Limited model material cost will be provided.
- Teams are required to participate in the 'In-studio' lecture sequence provided by DeSimone.
- Teams are required to produce comprehensive wall section details and partial facade detail models relevant to the design project.
- Research collaborations with our partner studio in Korea.
- The studio will use **Rhino with Grasshopper, Karamba structure analysis, Climate Studio** environmental analysis, and other simulation tools.
- Strong 3d modeling, visualization, and documentation skills will be beneficial.
- Presentations to education scholars, a parallel studio in Korea, and Asia researchers.

**Cosmetic and Cosmos:** Facade Research is a platform with which we can pursue '**Big Ideas**' with broader integration across disciplines.

**i.cosmetic (n.)**

c. 1600, "the art of beautifying, art of anointing or decorating the human body," from Latinized form of Greek *kosmetike (tekhne)* "the art of dress and ornament," from fem. of *kosmetikos* "skilled in adornment or arrangement," from *kosmein* "to arrange, adorn," from *kosmos* "order; ornament" (see **cosmos**). The adjective is feminine because *tekhne* is a feminine noun.

**i.cosmos (n.)**

c. 1200, "the universe, the world" (but not popular until 1848, when it was taken as the English equivalent to Humboldt's *Kosmos* in translations from German), from Latinized form of Greek *kosmos* "order, good order, orderly arrangement," a word with several main senses rooted in those notions: The verb *kosmein* meant generally "to dispose, prepare," but especially "to order and arrange (troops for battle), to set (an army) in array;" also "to establish (a government or regime);" "to deck, adorn, equip, dress" (especially of women). Thus *kosmos* had an important secondary sense of "ornaments of a woman's dress, decoration" (compare *kosmokomes* "dressing the hair," and **cosmetic**) as well as "the universe, the world."

Thank you!!!

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Teaching Examples: <https://dionno.com/Teaching>

2020 Tower Studio :

<https://sites.google.com/view/arc608optionstudio/home>

