

Towards *enlightened* students of architecture

What type of lighting strategy – integrating daylight and electric lighting – is necessary to support the pedagogy of architectural design studios and the learning experience of students?

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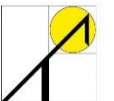
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TFE Thesis

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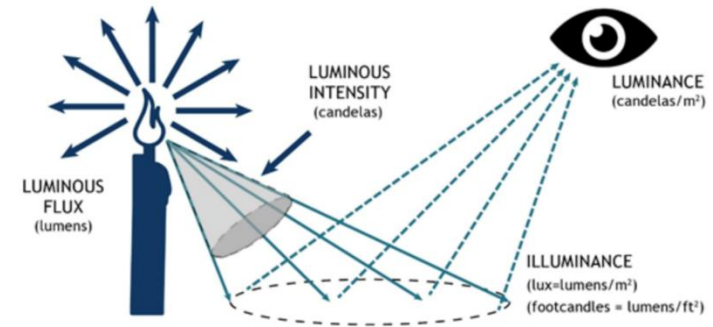
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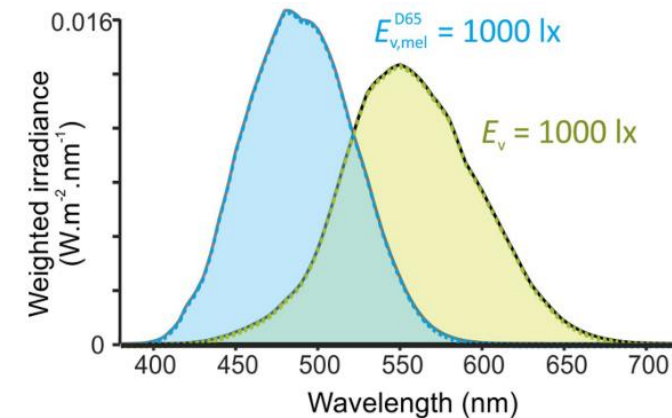


Aim and objectives

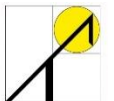
- The **general aim** of this thesis is to provide a **design framework** for the lighting strategies of architectural design studios, supporting the pedagogy and learning experience of students of architecture.
- Its **specific objectives** are:
 - *In the design studios of architectural schools, how to support the students with an **appropriate lighting strategy** in order to respond simultaneously to their **visual comfort** and the needs of **non-visual well-being** and to their diversified working/living schedule?*
 - *In the design of architectural studios, which lighting strategies (natural and electric) sustain **different pedagogical methods** and **spatial dynamics**?*



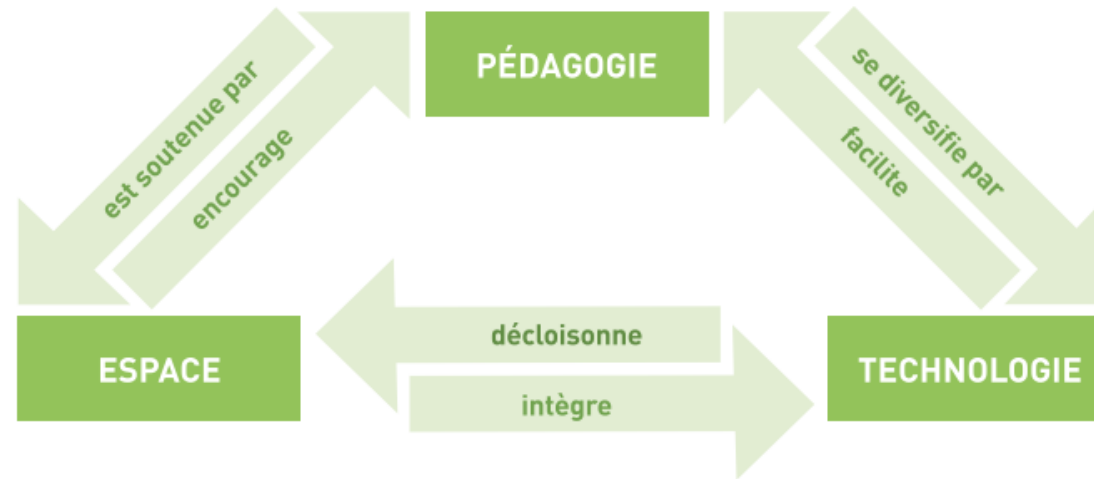
Photometric Measures. Source:Google images



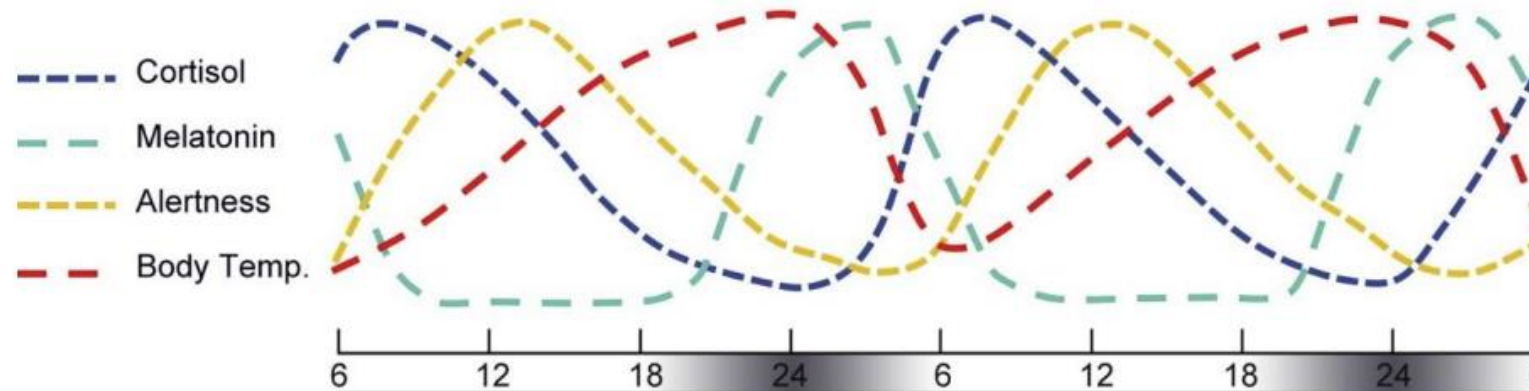
Circadian and Visual Spectral Sensitivity. Source: Brown et al., 2022



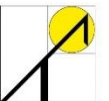
The human aspect of pedagogy



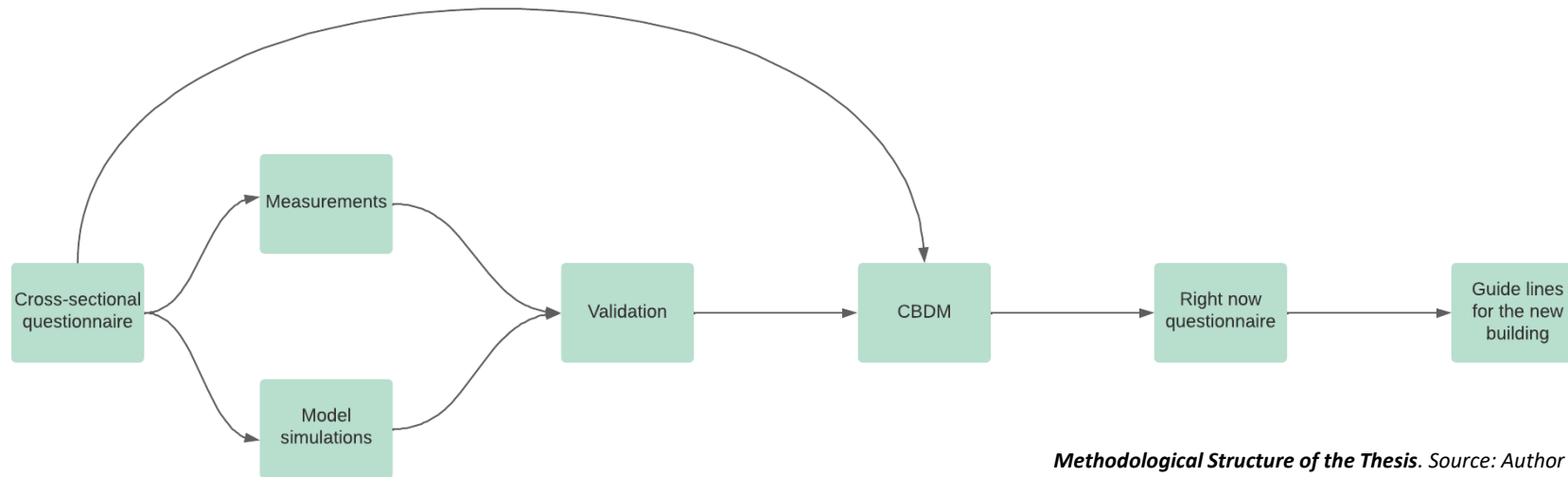
Source: Vangrunderbeeck, 2020



Source: Altomonte, 2009



Materials and Methods



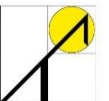
Methodological Structure of the Thesis. Source: Author



Case Study 1: The Vinci Building. Source: Baldwin et al., 2023



Case Study 2: Les Halles de l'Architecture. Source: F. Andrieux and Y. Lepère



Conclusions

Key **lighting issues** to consider in **architectural design studios**:

1. Preference for **daylight** as the primary light source
2. Adequate horizontal and vertical **distribution** of light
3. Adequate **colour rendering**
4. Unobstructed **view** to the outside
5. Avoiding **discomfort glare** – based on orientation, times of day, and seasons – by direct control of **adjustable blinds**
6. Adjust **luminous intensity** and **colour temperature** of lighting
7. Adaptable lighting to address **different pedagogies**
8. Consideration of **differences** in individual light requirements, chronotypes and lifestyles
9. **Task lighting** to accommodate various working needs
10. Importance of **personal control** and **appropriation** of spaces.



Architectural design studios, University of Nottingham. Source: Altomonte, 2012

