

Investigating daylighting quality in educational spaces following building renovation

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Abstract. Daylighting is essential to the well-being of occupants in educational spaces. It increases students' performance and provides an opportunity for achieving energy efficiency, as well as indoor visual and thermal comfort. However, daylight performance is rarely accounted for when taking decisions attributed to building renovation. This results in increased or decreased daylighting lighting levels and glare which jeopardizes the functional requirements of the space. Hence, this study adopted a mixed qualitative/quantitative approach to compare two recently renovated educational spaces (architectural design studio drawing halls) in terms of the effect of renovation activities on daylighting and visual comfort, noting that both spaces were located in the same building and subject to similar prevailing climatic conditions. This included a sequence of site measurements, surveys and simulations. The results showed great variation between both studied spaces in terms of daylight efficiency and visual comfort. Some design proposals were tested in order to deduct learnt lessons for proper accounting of daylight during building renovation plans.

