

# Lillis Business Complex: The Question of Perception



## Abstract

This study researched occupant perception of environmental quality in four case study classrooms and a lecture hall in Lillis Business Complex at the University of Oregon. The classrooms in the complex were designed to utilize daylight and natural ventilation to optimize learning and energy efficiency.

Gauging the perception of the resultant environmental quality of these rooms is an important part of the evaluation of the innovative design's success. A short anonymous questionnaire was implemented in courses held in Lillis classrooms, then compared to concurrent studies on quantitative measurements of temperature, light levels, and ventilation to gauge perceptions of environmental quality in these rooms. Evaluation of perceived environmental qualities could then be compared to industry standards for thermal and visual comfort.

Study of the perceptions of environmental quality of Lillis spaces, designed to optimize sustainability, energy efficiency, and support of learning activities, is a valuable way to obtain information to lend itself to the post-occupancy evaluation of the building. In a building where passive and highly sophisticated electric lighting and mechanical systems are combined, occupant awareness, knowledge and manipulation of the environment play a considerable part in the efficacy of the systems. The information collected from this questionnaire reinforces the importance of sharing knowledge with building occupants, especially where sustainable design and occupant satisfaction are concerned.

## Hypothesis

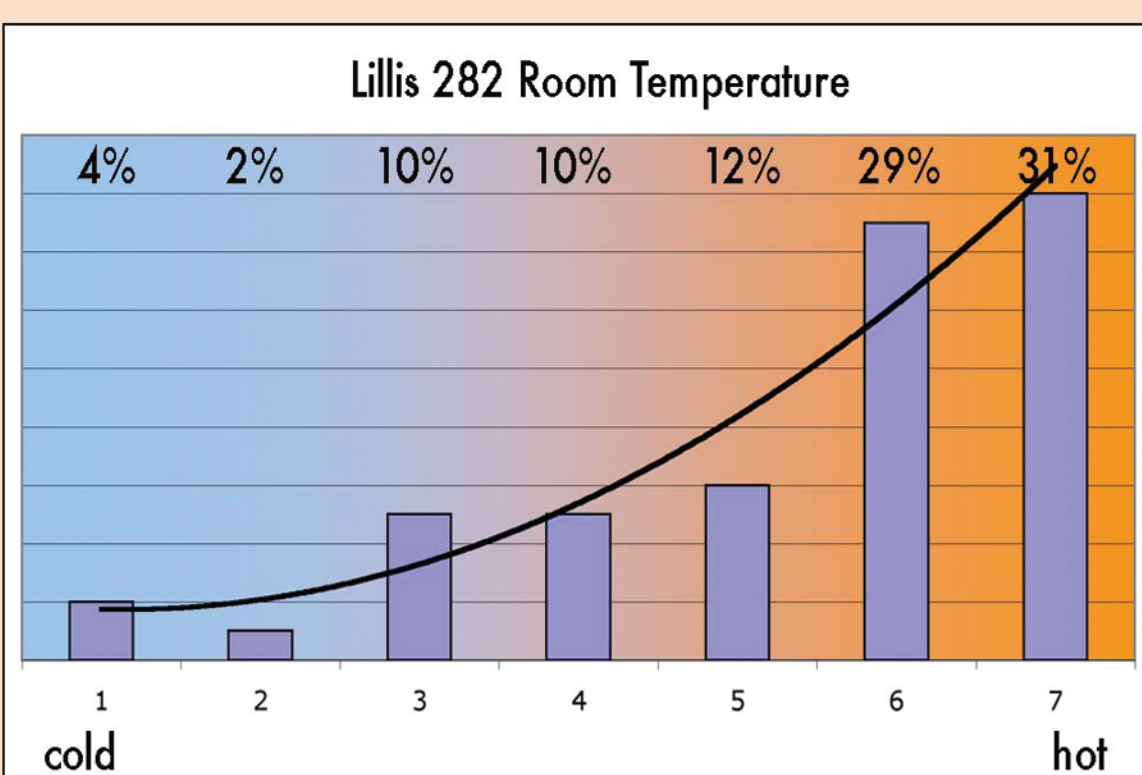
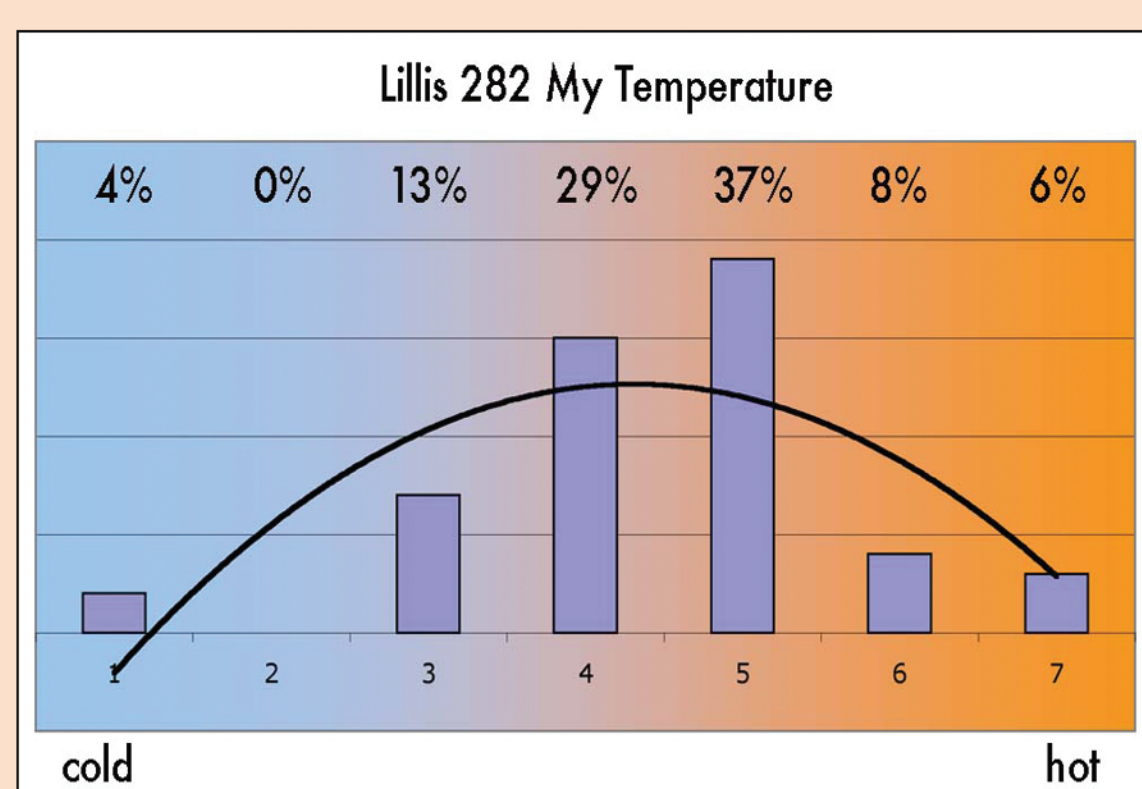
**Students will feel environmental quality factors including lighting, temperature and air quality are generally at comfortable levels.**

Questions to be answered:

- \* Do respondents' opinions fall within industry standards of occupant satisfaction?
- \* How do respondents' opinions compare to actual data collected in classrooms and lecture hall?
- \* How does perception of light, temperature, and air quality compare with level of alertness?
- \* Is there a perception that environmental qualities of rooms impact alertness in any way?

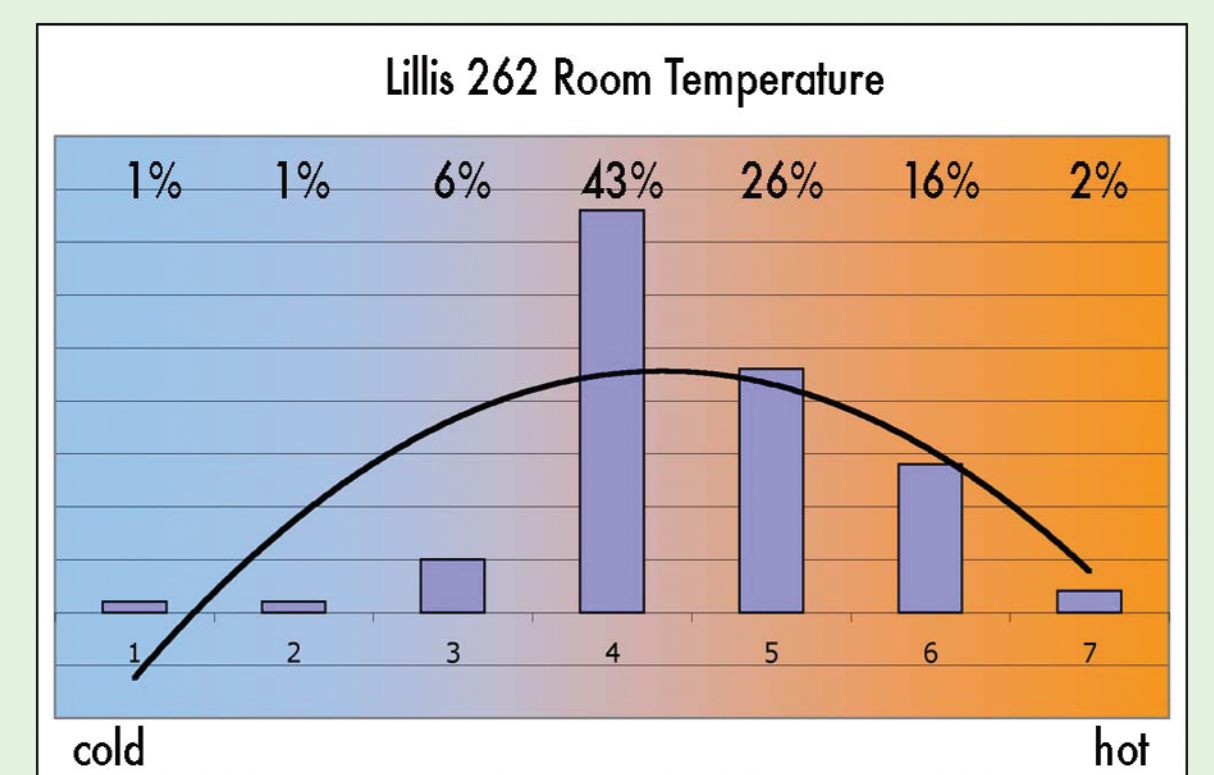
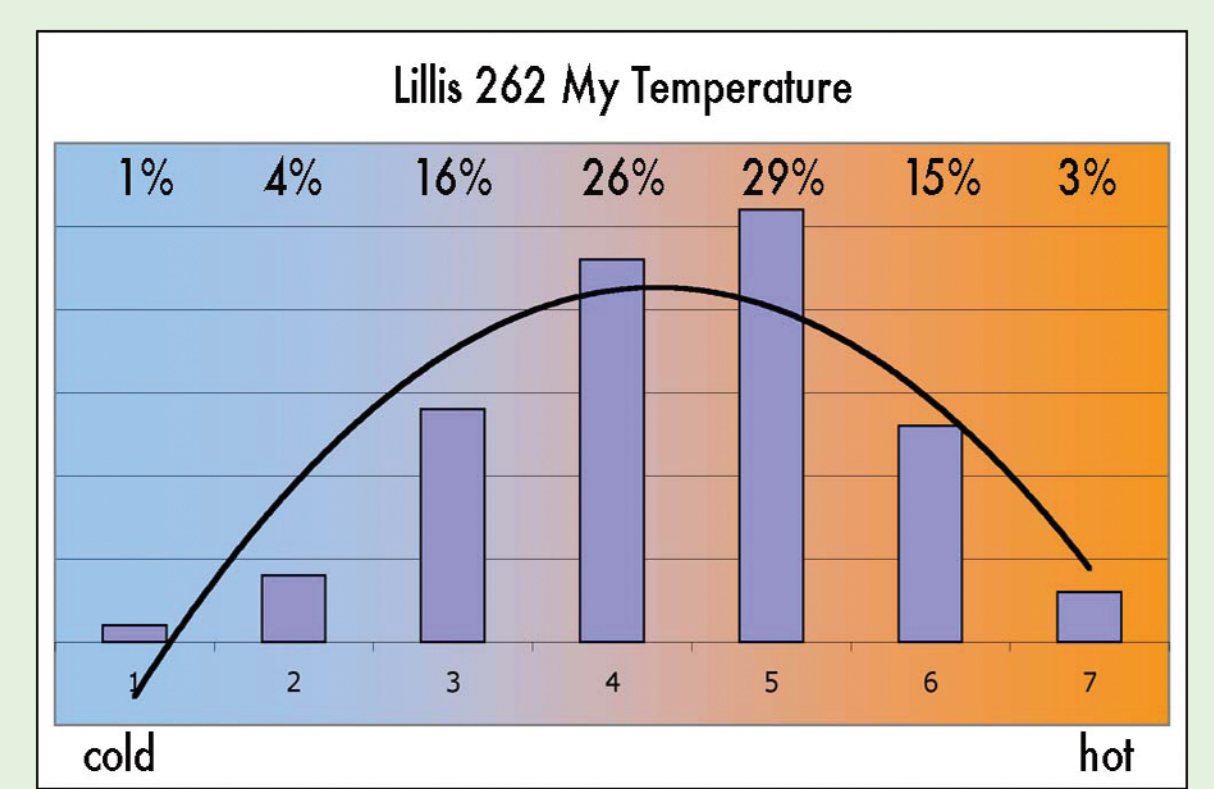
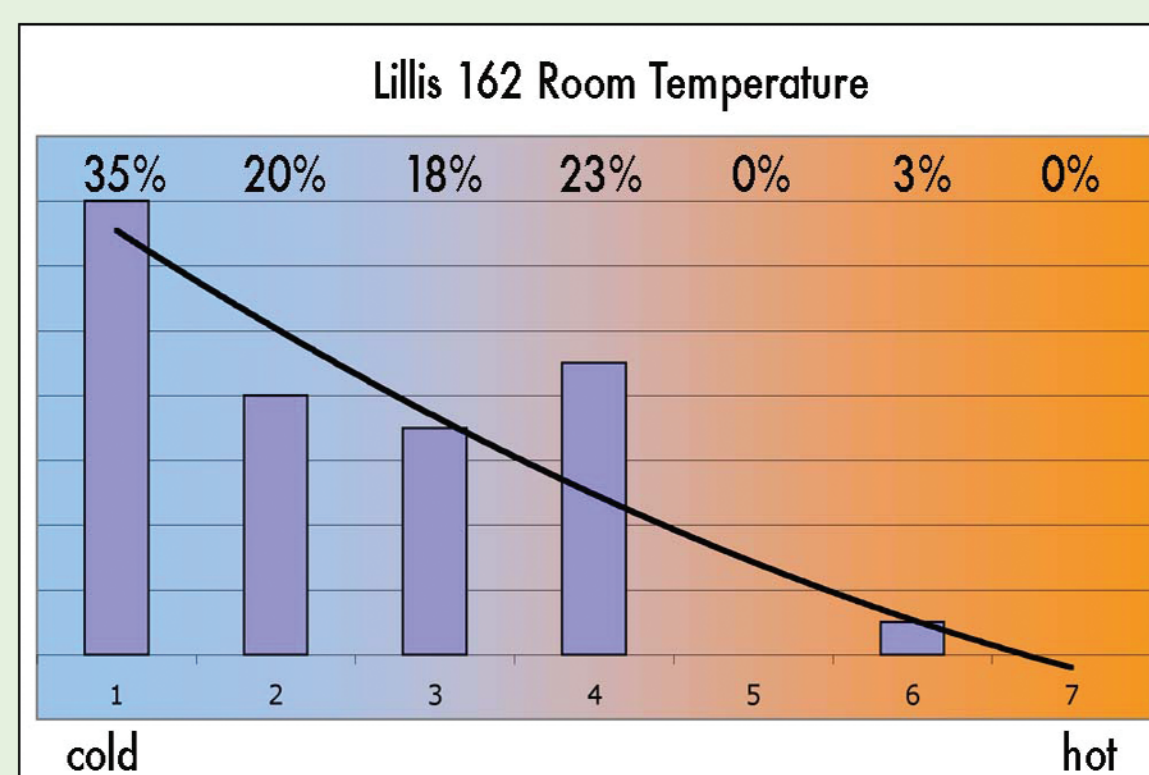
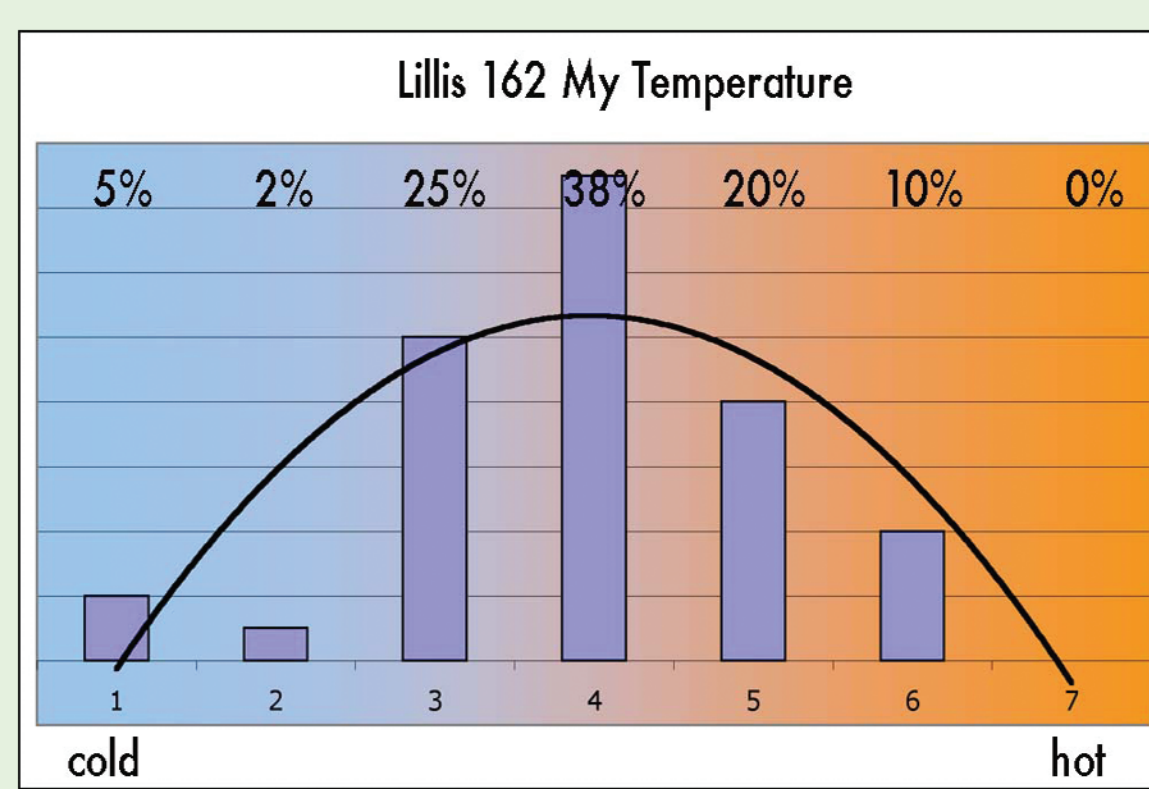
## Results

### Thermal Comfort Lillis 282



Andy McKelvey's study on thermal comfort in Lillis 282 demonstrated a 4.5°F difference in average temperatures from the front to the back of the lecture hall. These responses appear to reflect this gradient, as did individual comments.

### Thermal Comfort in Lillis 162 and 262



At least twelve individuals commented on the relative cold experienced on the first floor classrooms of Lillis, especially the north side. Above is a comparison of perception of temperature in both Lillis 162 and 262. From trending data obtained for the days surveys were implemented, it was found that room temperature in Lillis 162 was 70.75°F, and an average of 71.1°F in Lillis 262, during the time of the surveys. This reflects just 0.35 °F degrees in difference between the two rooms, but a marked difference in perception.

## Methodology

- \* Develop a short anonymous questionnaire on environmental quality.
- \* Obtain permission from the UO Office of Human Subjects Compliance.
- \* Obtain permission from professors, and administer the survey in Lillis lecture halls and classrooms under thermal study (Lillis 282) and daylighting study (Lillis 162, 185, 262, 285).
- \* Analyze data for general trends in opinion.
- \* Compare results with thermal and daylighting studies conducted in Lillis lecture hall and case study classrooms.



Lillis Business Complex Second Floor



Lillis Business Complex First Floor

a survey of opinions on environmental quality

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