



# Facilities and Educational Quality

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# Today We Will.....

- **Review Educational Objectives and Processes;**
- **Understand how the Physical Environment may enhance or diminish those Processes/Objectives;**
- **Draw conclusions and discuss how Estate/Facilities Management Practices might be affected.**

# Why do people seek Higher Education?

- **To Understand the World around them**
- **To Prepare for a Career and the World of Work**
- **To Achieve**
  - **Self-mastery**
  - **Personal Recognition**
  - **Social Acceptance**

# The Educational Process...

## .....How do we Learn?

- **Demonstration**
- **Discussion (Socratic Method)**
- **Experimentation**
- **Investigation**

# The Fundamental Objectives of Higher Education

- **Assemble faculty and students**
  - **Attract and retain high quality educators**
  - **Provide a pool of prepared and motivated students**
- **Organize and manage the educational process**
  - **Provide essential facilities and equipment**
  - **Develop and administer organization processes**

# The Fundamental Objectives of Higher Education, Cont'd.

- **Obtain needed resources and support**
  - **Philanthropy**
  - **Business and Industry**
  - **Government**

# The Role and Purpose of Estates/Facilities

- **Provides a physical environment that supports educational processes**
- **Establishes a visual statement about the quality & viability of the institution**
- **Creates an “academic’ community**

# The Role and Purpose of Estates/Facilities

- **“it is well known....what advantage to Learning accrues by the multitude of persons cohabiting for scholastic communion, whereby to acuate the minds of one another, and other ways to promote the ends of a College-Society.” (Harvard Governing Board, 1671)**

# Making the Argument for High Quality Facilities

- **Facilities are an essential component of education organization**
  - **Comprehensive curriculum/scholarly resources**
  - **Superb faculty**
  - **Exceptional and motivated students**
  - **Modern, attractive, well-equipped buildings and grounds**

# .....the Argument.....

- **The design of a college or university's physical environment reflects its goals and values**
  - **Form follows function**
  - **Institutional and societal priorities**
- **The condition of the buildings and grounds directly affects educational outcomes**
  - **Facilities must support the learning process**
  - **The environment must be safe, secure, and comfortable**

# Question!

- **Can the argument for high quality and well maintained facilities be sustained by independent research?**
- **What information is available regarding the effect of the physical environment on higher education outcomes?**

# Research Related to the Question

- **Human Motivation**
- **Human Factor Engineering/Ergonomics**
- **Pedagogical Studies**
- **Environmental Psychology**
- **Targeted Research**

# The Physical Environment and Human Motivation

- **Maslow et al**
- **The Hawthorne Studies/Behaviorists**
- **Expectancy Models**

# Human Physiology and Teaching and Learning

- **Temperature**
- **Lighting**
- **Noise**
- **Security**
- **Ergonomics**
- **Rest**

# Pedagogical Factors and Facilities

- **Rote Learning Methods (recitation. memorization)**
- **Lecture & Demonstration**
- **Interactive Learning**
- **Information Technology**

# Environmental Effects on Human Performance and Behavior (Environmental Psychology)

- **Person-Environment Fit Theory**
- **Perception and Aesthetics**
- **Attention**
- **Environmental Stressors, Personal Space, Scale**

Has anyone studied the effect of the physical environment on education?

- **Brain-based Learning Research**
- **Secondary Education Condition/Achievement Studies**
- **Carnegie Commission Studies**

# Theoretical Conclusions

- **The physical environment affects human motivation, behavior, and performance**
- **There is a “bandwidth” of environmental conditions that a human finds “neutral” (provides no stimulus/no distraction)**
- **There are physical conditions which create a sense of security, well-being, and aid brain development**
- **Education requires a physical environment to support its educational processes and objectives**

# Inferences for Facilities Practice

- **Maintenance of a campus in “like new” condition may enhance investment protection, but not educational objectives**
- **Effective facilities design (types and usefulness of space) may have a greater impact on educational outcomes than facilities condition**

# Inferences for Facilities Practice, Cont'd

- **Natural settings influence human condition (grounds, art, atriums)**
- **All facilities maintenance is not the same; there may exist an order of priorities which maximizes educational quality**

# Questions for Further Consideration

- **What is the optimal balance between economics (maintaining building values) and enhanced educational processes (facilities redesign, renovation or replacement)?**
- **What impact does technology have on useful building life?**

# Questions for Further Consideration, Cont'd.

- **What is the minimal level of maintenance required to protect learning processes?**
- **How does the introduction of natural settings affect educational outcomes?**
- **What should be the design and maintenance priorities to maximize “curbside” appeal for recruitment objectives?**

# Conclusion and Summary

- **There are diminishing returns for building maintenance with respect to educational quality.**
- **A comprehensive Facilities Management strategy needs to consider all factors related to the educational process**
  - **Economics**
  - **Learning processes**
  - **The role of facilities in the total educational enterprise**

# Conclusion and Summary, Cont'd.

- **Targeted, relevant research is needed to aid strategy development**
- **Facilities master planning and design should shift from “best land use” to “best educational environment”**
- **Good, flexible facilities design and effective facilities maintenance are integral to the success of higher education outcomes**