Social and Cognitive Design in Energy Efficiency Training for NYC School Building Operators

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Building Operator Certification Program
Building Operator Certification (BOC) in the NYC Public Schools

- 1,000+ trainees over two years
- 90 hours classroom time (30 weeks)
- AGENCY COMMITMENT
Transformative Goal

Greening the grizzly skeptic
Transformative Goal

- Operators’ New mission
- new NEURON connections
Transformation

It takes TIME

- 30 week experience
- Progressive development of skills, thought-processes
Logic Model & Improvement Process

Knowledge → Skill → Behavior → Outcome

Figure 3: Training Design KSBO Pathway
The improvement process

Early experiments in transportation
Preach Behavior; Use Resistances

• Show areas where effective autonomy can flourish

• Pursue discussions of why things don’t happen
Structure DOING

• Observation
• Data

• PROJECTS

Observe and DRAW Building Systems
Energy data feedback from benchmarking data
Plan improvements
Structuring Observation, Encouraging DOING in home facilities

Simple Diagram of Boiler Lead-Lag Control

Teaching Tools – 1
What students have to do:
Schematics, Sequences & Schedules

Using Carbon Dioxide to estimate ventilation

Instruments
Use data in projects

Teaching Tools - 2
What students have to do: energy use histories

2 tables:
- Use by type
- End-use allocation

Spreadsheets

Teaching Tools - 3
What students have to do: Project Characterization
Support COMPARISON

Actions & Outcomes
Long-term On-going Process

- Social network
- Events
  - maintenance of certification “fair”
- Evaluation
  - as longitudinal research
Thank You!

Contact Information

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