

Energy-data Dashboards and Operators
Designing for Usability in New York City Schools

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IBM, through its Smarter Cities program, working with the Building Performance Lab of the City University of New York (BPL-CUNY) and New York City (NYC) government, has developed an energy dashboard drawing upon the city's database of information from the U.S. EPA EnergyStar Portfolio Manager and other sources, such as local weather stations, for the city's 1,400 public schools. A unique aspect of the dashboard design process has been conscious integration with a training program for school operating (custodial) engineers. The dashboard is designed to easily display specific kinds of information that is emphasized in the training program, such as energy use breakdowns by source, end-use breakdowns, greenhouse gas (GHG) emissions, benchmarking, performance rating, normalized projections versus actuals, measurement tracking, local peer comparisons, forecasting and simulation. Information is used as the basis of practical projects to fulfill requirements for the national Building Operator Certification (level 1), addressing specific energy management and retro-commissioning learning objectives. Learning objectives and their relation to specific information types from the dashboard are described. The paper reports on this integration and initial experience with over 300 trainees in classroom, computer lab, and practical project application. Implications are developed for the appropriate use of information technology (IT) tools and analytics in providing insights and feedback for operators engaged in energy use reduction programs.

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