



Massachusetts School Building Authority

Module 9
Post Occupancy
Evaluation

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9.0 Welcome to Module 9

Module 9 was developed in part to assist the Massachusetts School Building Authority ("MSBA") in understanding that MSBA-funded school building projects are operating as intended and performing as designed. In addition, the collection of technical data accompanied by school district and occupant feedback enables the MSBA, school districts, and the consultant community to apply lessons learned to future school building projects as well as to the ongoing maintenance and operations of MSBA-funded school buildings.

The MSBA and its consultants collaborate directly with district representatives to collect qualitative and quantitative data associated with the performance of recently completed MSBA-funded school buildings. MSBA staff distill, summarize, and aggregate data into various formats to provide actionable insight for school districts and the broader architecture and construction communities. Said formats include building-specific reports, summary reports, public-facing data dashboards, and MSBA project advisories.

The groundwork for Module 9 begins during the feasibility study, detailed design, and construction phases of Core Program projects, with information compiled during each of these phases used to form the basis of a Post Occupancy Evaluation ("POE"). Approximately three years after an MSBA-funded school building reaches substantial completion, the MSBA and its consultants will coordinate with districts to distribute post occupancy surveys and pre-visit questionnaires, and to schedule building visits with district representatives.

The value of the MSBA's POE process is the cumulative data it gathers from multiple projects, and the trends and experiences it compiles. It is not intended to single out the performance of individual designers, owner's project managers ("OPMs"), contractors, or school districts.

9.0.1 Post Occupancy Evaluation Overview

A POE is a systematic assessment of occupied buildings or facilities. While there is no single industry standard for what constitutes a POE, the architecture and construction communities use a POE process to document and evaluate the technical, functional, and experiential performance of the buildings they design and construct. The MSBA's POE will serve as an opportunity for the MSBA to ensure that its policies and processes support its stated mission: to partner with Massachusetts communities to support the design and construction of educationally appropriate, flexible, sustainable, and cost-effective public school facilities.

By capturing building performance data and end-user feedback, the MSBA seeks to collect, archive, and share information about how educational priorities, design decisions, product types, installation methods, and maintenance protocols inform the building performance and occupant experience of the school facilities it supports. By capturing and sharing lessons learned, the MSBA aims to provide information for its

school districts and consultants that can be used to improve certain aspects of design and construction.

The MSBA's POE methodology has been developed to dovetail with the MSBA's existing processes, and to draw on the latest industry best-practices for POE implementation. To this end, Module 9 will:

- Create a baseline to establish a point of comparison for post occupancy measurements of whether MSBA-funded school buildings are performing as designed.
- Incorporate multiple perspectives from multiple audiences to gain a comprehensive understanding of how a building is functioning. These audiences will include district and school leadership, faculty and staff, students, and parents/guardians.
- Allow for anonymous responses to performance surveys to increase response rate, improve accuracy of feedback, provide unbiased data, and create actionable outcomes.
- Use mixed-method data collection tactics to collect both quantitative and qualitative data points.

Data collected will include qualitative user satisfaction information as well as quantitative building system performance metrics including water usage, electricity usage, natural gas usage, and energy use intensity ("EUI").

9.0.2 Criteria and Timing

The MSBA's POEs will be performed for new construction and/or addition/renovation projects, which are classified as MSBA Core Program projects, unless otherwise indicated.

Completed projects will be considered eligible for a POE once a building has been operational for a minimum of three years. For consistency, the MSBA will measure the three years from the point of substantial completion. Data will be collected during Modules 1-8 for the purposes of establishing a pre-occupancy baseline, however, this data collection will not impact the timing of the POE.

9.0.3 Participants

Primary participants should include:

- **District Administration, Faculty and Staff**, as identified by the district as having substantial familiarity with the facility being studied. The district should identify a dedicated point-person to work with MSBA staff throughout Module 9.

This person will be responsible for coordinating the submission of all POE documentation to the MSBA.

- **District Students, Parents, and Guardians**, as identified by the district as having first-hand experience with the MSBA-funded school building.
- **The MSBA**, through the assigned MSBA Project Manager and Project Assistant.
- **MSBA Consultants**, as identified, engaged and managed by the MSBA for the purpose of collecting qualitative and quantitative information during site visit(s) to the MSBA-funded school building during Module 9.

Supporting participants may include:

- **City/Town/Regional School District facilities and maintenance personnel**, as identified by the district as being involved in the maintenance and operations of the MSBA-funded school building.
- **The Owner's Project Manager**, involved with the MSBA-funded school building during design and construction (MSBA Core Program Modules 3-8).
- **The Designer**, involved with the MSBA-funded school building during design and construction (MSBA Core Program Modules 3-8).
- **The Contractor**, involved with the MSBA-funded school building during construction only, or during design and construction (MSBA Core Program Modules 3-8).
- **The Commissioning Agent**, as assigned to the MSBA-funded school building during project construction and close-out (MSBA Core Program Modules 6-8).

9.1 Module 9 Documentation

Documentation for a MSBA POE shall include the following:

- **Modules 1-8 Data Collection** (completed by MSBA staff)
- **Online Survey** (completed by district)
- **Pre-Visit Questionnaire** (completed by district)
- **Site Visit** (completed by district, MSBA staff, and MSBA consultants)

Note that additional documentation may be required. If additional information is required, MSBA staff will notify the district and coordinate the appropriate means and methods of data collection.

9.1.1 Modules 1-8 Data Collection

MSBA staff will review the information provided by districts, OPMs, and designers during Modules 1-8 and extract key data points to create a pre-occupancy baseline point of comparison for data collected during Module 9.

9.1.2 Online Survey

Once three or more years have passed since substantial completion of an MSBA-funded school building, MSBA staff will reach out to districts to kick-off the POE, including the distribution of an Online Survey to key district stakeholders.

The Online Survey will be provided to the district's dedicated POE point person, for distribution to the superintendent, principal of the MSBA-funded school building, district- or building-specific facilities manager, staff, faculty, students, and parents/guardians. The MSBA will tailor the Online Survey that will be sent to each of these groups in order to limit the number of questions each respondent is asked to answer, and to focus the questions on topics appropriate to each group of stakeholders. Respondents will only be asked questions about building elements with which they have direct experience. Note that responses will remain anonymous.

Districts will have two weeks, unless otherwise specified, to respond to the Online Survey. Questions about the Online Survey content, access, or troubleshooting should be directed to the MSBA's POE team.

9.1.3 Pre-Visit Questionnaire

Upon receipt of the district's completed Online Surveys, MSBA staff will prepare for a Site Visit by providing a Pre-Visit Questionnaire to the district's dedicated POE point person. That point person will gather and compile answers from a range of project stakeholders including the superintendent, principal of the MSBA-funded school building, and district or building-specific facilities manager.

The Pre-Visit Questionnaire will focus on more detailed questions about the educational and technical performance of the MSBA-funded school building.

Districts will have two weeks, unless otherwise specified, to respond to the Pre-Visit Questionnaire. Questions about Pre-Visit Questionnaire content, access, or troubleshooting should be directed to the MSBA's POE team.

9.1.4 Site Visit

Once MSBA staff has received completed Pre-Visit Questionnaires from the district, a member of the MSBA's POE team will reach out to the district to coordinate a POE Site Visit.

The Site Visit is an opportunity for MSBA staff and consultants to collect data about the MSBA-funded school building by observing items including, but not limited to, the physical condition of building components and systems, spatial utilization and configurations, and overall building and site circulation.

Required participants include the superintendent, the principal of the MSBA-funded school building, and the district or building-specific facilities manager. The MSBA suggests that department heads, and faculty and staff associated with specific building spaces and/or roles be available for consultation on the day of the site visit. Such faculty and staff might include librarians and media center specialists, science and STEM/STEAM instructors, nurses, physical education instructors, vocational technology instructors, art and music instructors, cafeteria staff, and security personnel, among others.

The Site Visit will be scheduled for a single, full day. The school should be in session during the Site Visit so MSBA staff and consultants are able to observe students and administration personnel occupying and utilizing spaces within the building. Under normal circumstances, MSBA's preference is not to schedule POE Site Visits during school vacations or holidays. Site Visits will need to be rescheduled in the event of weather cancellations or other unanticipated events that result in the facility not being unoccupied. However, under extenuating circumstances, the MSBA will work with districts and its consultants to coordinate observations by an alternative means such as virtual meetings, district-supplied recordings, and photographic documentation, among other techniques.

The required district participants will be scheduled to meet with MSBA staff and consultants for approximately one hour prior to a building walkthrough. This meeting typically happens early in the day for the convenience of key district personnel, however, it can be scheduled during a time that is most appropriate for each individual district or may be conducted in advance of the visit and remotely in some circumstances. For the remainder of the site visit, MSBA staff and consultants will tour the school and document their observations.

9.1.5 Submission Procedures

All documents and materials required from the district as part of this Module should be submitted directly to the district's assigned member of the MSBA's POE team.

9.2 Review of Documentation

MSBA staff will review the data collected through the Online Survey, Pre-Visit Questionnaire, and Site Visit for completeness. Subsequently, the MSBA staff will then enter the data into the MSBA's POE Database. If clarifications or additional detail are required, MSBA staff will reach out to the relevant district parties and will add the updated information into the POE Database along with the other information collected.

9.3 Summary Results and Reports

The MSBA will share its findings of its POEs in the form of a draft summary report provided to each district in order for districts to understand and interpret the findings.

These findings may also be aggregated and shared with the design, construction, and education communities so that the lessons learned may be incorporated into future MSBA-funded school projects.

9.4 Conclusion of Module 9

Module 9 concludes with the distribution of a final Post Occupancy Evaluation Report prepared by the MSBA to each district visited and evaluated.