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Developing Site-Specific, Performance-Based Training Programs

Make training part of your “best practices.”

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An absolute best practice for critical facilities is a site-specific performance-based training program. A performance-based training program is more than a set of classes, it is a structured curriculum based on proven instructional strategies and techniques that develop student’s skills and knowledge. It focuses on the specific skills and knowledge that students need to fulfill the duties and responsibilities associated with their job descriptions by use of instructional techniques including a combination of academics, demonstration, and on-the-job supervision. And, as with most “best practices,” it requires pre-planning, programming, design and development, implementation, and a continuous improvement process to keep it current and optimized.

A key part of developing a quality performance-based training program for a facilities management organization is to start with a clear understanding of who the target audience is and what their respective job requirements will be. The starting point for the training has to be defined. This is done by establishing the assumed pre-requisites that each student must have to qualify for entering the training program. Many of these pre-requisites should also be included in the new hire job posting and base-level job description under candidate “qualifications.”

Some examples could be:

- High school graduation or GED equivalent
- Basic understanding and proficiency with PCs and Windows® Office® programs
- No color blindness (especially for red, green, and amber) or hearing impairment
- Complete fluency and literacy in English
- No physical disabilities that preclude performance of established duties
- Apprentice level competency in the required trade (mechanic, electrician, controls technician, etc.)

The next step is to complete a work analysis that clearly defines what tasks and duties each job position entails. Some organizations have “jack-of-all-trades” where all operating staff are expected to have the same duties and responsibilities. Other organizations segregate positions by trade and/or duties such as mechanics, electricians, and controls technicians; critical operating staff vs. non-critical

operating staff; or operations vs. maintenance. It becomes apparent that the curriculum needs to be tailored to the job description. A mechanic on the operations staff does not necessarily need to be trained to troubleshoot and repair electrical equipment if that's not in his defined duties. The job analysis should result in a set of clearly defined tasks and associated skills and knowledge required for each task.

Even when the facilities management organization has multiple position descriptions, as mentioned above, there is most likely a fundamental scope that is common to all positions. These are typically the first topics and classes that students should complete. They would include site orientation subjects such as human resource classes on company policies and procedures, security classes on protection of site assets and access control, and possibly classes on fire protection, first aid, and accident prevention. These topics would be followed by specific topics relevant to the mission and objectives of the facilities management organization such as workorder assignment and closeout, alarm response and escalation, and work safety and PPE (personal protective equipment) use such as confined space entry, lock-out/tag-out, arc flash protection, HAZMAT procedures, etc. Again, if only select positions are required to perform specific duties and tasks, not everyone should be required to complete the respective training.

In the case of a "jack-of-all-trades" organization, the result is basically one curriculum that covers all the skills and knowledge required. As the organization becomes more diverse and segregated, the need for position-specific curriculums increase. Regardless, the training program needs to include a means to prove each student has actually gained the minimum proficiency required to perform the assigned duties and responsibilities expected of his position. Another way to say this is the student must prove he is qualified. When formalized, this becomes a certification process and should again be tailored to the actual tasks and activities to be assigned.

A characteristic of a performance-based training program is that the student typically either passes or fails. They either meet the minimum qualifications or they don't. So the first thing to develop after the training topics have been sequenced is the certification exams. Depending on the topic and content, these exams may include written or verbal tests, simulated or "shop" task performance, or supervised on-the-job demonstration to qualified staff or management. The exams should cover all of the critical skills and knowledge that were identified during the job analysis phase.

Once the certifications are defined, required training materials can be developed to teach the student's the required skills and knowledge to pass the tests. Again, these training materials can take on a variety of forms and media. The key is to ensure each skill and knowledge has a respective "learning objective" that forms the basis for developing the training materials. (It should be noted that site-specific training does not mean all training must be developed from scratch or on-site. It is usually prudent to include vendor provided training and other reputable training sources where appropriate.)

Academics are typically taught in a classroom setting using slide presentations, workbooks, or videos. Skills are usually more suited to a shop environment, simulators where available, or on-the-job training supplemented by videos that demonstrate proper procedures and techniques. Pre-qualified staff should then work under direct supervision until they have demonstrated retention and comprehension of the core knowledge and successfully completed the expected tasks and activities without supervisor intervention. This should then culminate in a test or examination process ideally by someone independent of the actual training.

The certification process should be formalized and objective to the extent possible. Written exams can be supplemented with verbal exams where student's knowledge can be challenged with thought

exercises such as “what if” scenarios to see if they can apply their acquired knowledge coupled with established policies and procedures to achieve desired results. Students can be required to execute procedures with the examiner acting as a witness and again, “what if” questions can be included to ensure the student doesn’t just follow the procedure steps blindly, but understands what the expected outcome is for each step and what the appropriate action is when steps fail or unexpected results occur.

But even these scenarios should be scripted in advance and should not be subjectively based on the examiner’s opinions. Some proven training programs such as those used in the nuclear navy and in some commercial power plants use “qual cards” that track each student’s progress toward achieving certification for defined positions. In these programs, the examiner is typically not involved in the actual training so there is no bias or other conflict of interest in executing the exams.

Once the training program is implemented, the effectiveness should be monitored and measured to the extent possible. This can be accomplished by student feedback, management and supervisor feedback, and tracking the performance of trained staff. Feedback should be solicited immediately after training has been completed and again after a set period such as three to six months later so it includes the perspective of how effective the training was after the student has performed in the respective job position. When operations or maintenance errors occur, a review of the associated training should be performed to determine if the associated training can be improved to preclude recurrence. Likewise, whenever the site policies, procedures, organization, or infrastructure is changed, the training program should be reviewed and updated accordingly.



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