

Highly Effective Training Guidelines

A large industrial bakery oven with multiple racks of golden-brown breads. The breads are arranged in neat rows on metal racks, and the oven's interior is brightly lit, highlighting the texture and color of the loaves.

Benefits of Structured On-The-Job Training

SOJT

Structured On-The-Job Training

formalized system that breaks training down in manageable units

standardized work system outlining well-written procedures, work instruction packages and job aids

designated On-the-Job training specialists are provided tools needed to become successful trainers and leaders

provides consistency from shift to shift on a daily basis

SOJT specialist can reduce training times in excess of 50%



"This is where you'll be working. Don't worry if it's a little confusing at first. We'll have a few training sessions."

Informal On-the-Job Training vs. Structured On-The-Job Training

• Informal

- No consistent instruction for new employees
- Poor habits passed from employee to employee
- Different expectations from multiple team managers
- Partial instruction
- Often training is performed in a hurry
- No systematic feedback about job performance

• Structured

- Formalized system breaking training down in manageable units
- Consistency from shift to shift
- Well written procedures
- Work instruction packages
- User friendly job aids
- Provides designated on-the-job specialists with tools needed to become highly effective managers and leaders

Organizational Knowledge Creation and OJT

Explicit Knowledge can be transferred through formal language or written documents in a classroom setting.

Tacit Knowledge is usually connected to actions or involvement in specific context and transferred by formal instruction on a plant floor.

Example: A trainee receives training in the actual “doing” part of the job, resulting in realistic work experiences. Through discussions with the On-the-Job Training Specialist, the trainee can share observations and job experiences after repeated practice, elicit immediate feedback from the OJT, and therefore make better decisions on the job. This allows the trainee to reach full operating potential faster and with more accuracy. Research indicates knowledge is transferred 85% faster with a SOJT system in place.



Elements of a Successful OJT System

A clear understanding of the criteria for success in the process

Problem solving

Pre-shift inspections

Procedures

Quality inspections

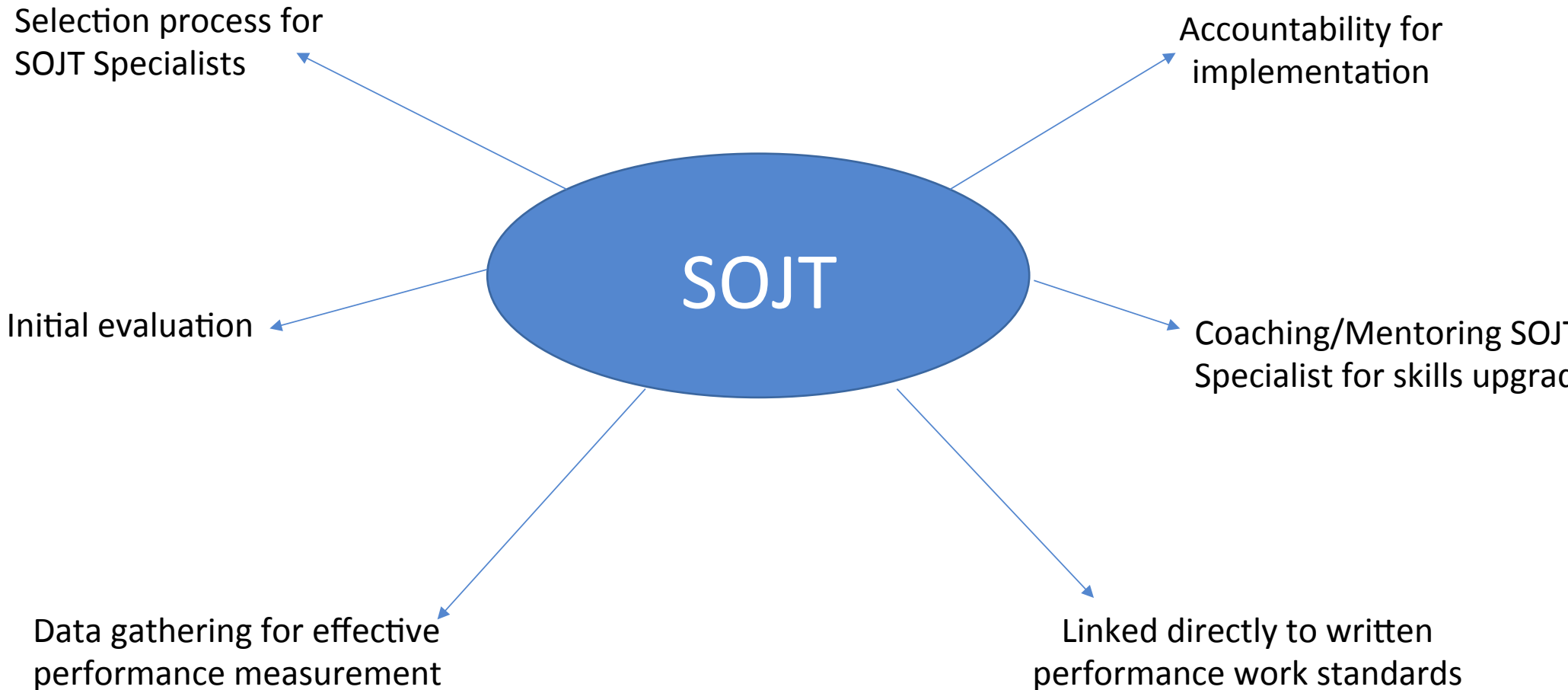
Actual operation of equipment

Troubleshooting

Show/Tell checklists

Upset condition of scenarios

SOJT Elements that Promote Organizational Learning





Implementing a Successful SOJT System

1. Step by step procedures associated with each job
2. Job proficiency code system
3. Qualifications cards
4. Includes testing for task performance and task knowledge
5. Job aids and administrative tools
6. OJT product and process checklists



The SOJT System can also benefit from collaboration among instructors and operators in work/machine centers.

Changes regarding the updating of qualification cards, job-aids and procedures will only enhance knowledge creation elements.

Employees also need detailed instruction on the upstream and downstream ramifications of performing their jobs well.

CASE STUDY #1

Problem: Supervisors were applying different meanings to changing conditions in the factory. In turn, this led to different actions when conditions changed. These different responses led to inconsistent production levels and corresponding product losses.

Solution: Management provided training and job-aids which allowed the operators of all shifts to make the same adjustments when the production process became out of balance. Once the changes were identified, the team updated all training materials. As a result, the collaboration promoted faster knowledge transfer to the rest of the team.

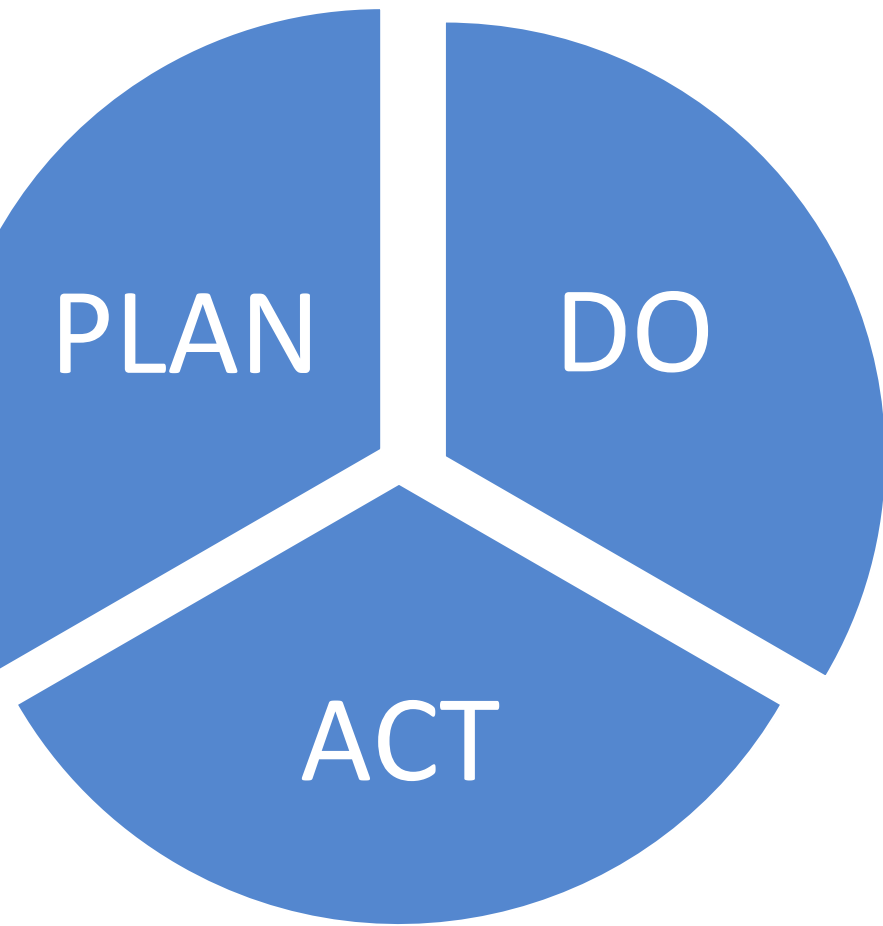
Case Study #2

Problem: The union plant had an open bid process that allowed workers to move among departments. This created a situation in which workers were continually seeking new positions within the plant. The OJT instruction was informal, given by an experienced worker on the same shift as the trainee. Supervisors loosely monitored OJT and recording was spotty. As a result, quality defects were on the rise as trainees with little practical experience often made errors. It was management's desire to build a multi-skilled workforce. Multiple production lines were selected as part of the study to provide a good cross section of hiring and influx of new operators for more than one production line.

Solution: Detailed training programs were developed and training was provided by SOJTs. The specialist trained inexperienced operators as they entered their respective departments. One goal was to have each worker complete tasks without outside help. Analysis showed that the SOJT system was five times more efficient than the old system. Proficiency was attained in 1/5th the time required with the informal OJT system.

Narrowing the “Knowing-Doing Gap”

1. People who develop performance curriculum involved in implementation
2. SOJT specialist provide updated qualification cards, procedures and training manuals.
3. Attention is focused on teaching “Why are we doing this?”
- 4. Learning philosophy and importance of task prior to instruction.
- 5. Workers ability to describe correct sequence of tasks.
- 6. All managers and team leaders support SOJT process and their ability to listen attentively to opinions and concerns.



Shewhart's PLAN, DO, ACT cycle reinforces the importance of the feedback loop.

Research has shown that plants that have focused initial Continuous Improvement (CI) efforts on quality, human resources, and supply chain are highly successful. This is partly due to their ability to provide a structure to create organizational knowledge at all levels of operations, especially on the plant floor. Focus on these areas first, will assure plants have positioned themselves well to advance with technology and process innovations later in the drive for High Performance Manufacturing (HPM).

Total Productive Maintenance and SOJT

is an equipment focused improvement effort. The cornerstone for any TPM program is equipment readiness and availability. By preparing a workforce to respond to these demands while simultaneously reducing knowledge gaps in equipment maintenance or operations, the plant can create the ideal equipment state. The use of SOJT specialists is essential to the implementation of TPM to be focused, timely and consistent across machine centers and departments.

Additional performance improvement applications include:

Technicians learning regularly scheduled PM work

Technicians learning troubleshooting for mechanical breakdowns / job-aid use

Team based training issues for joint production/maintenance job planning

Operators being trained more fully in housekeeping to reduce machine downtime

Operators included in performance management system for maintenance operation

Reduced line stoppages through effective technician troubleshooting skills

Continued use of root cause analysis and problem-solving skills for technicians and

operators

Lean Manufacturing and SOJT

Use of SOJT specialists in each work area or cell allows for the continued analysis and update of work practices or procedures. The ongoing analysis of procedures, troubleshooting guides, and job-aids will allow operators to identify waste and improvement opportunities. These opportunities are at the heart of lean manufacturing principles.

Additional performance improvement applications include:

- Develop new manufacturing processes, systems and techniques through problem solving
- Reduced lead times through training of manufacturing and supply chain personnel
- Ensuring proper use of process equipment and machinery
- Reduced manufacturing variation through standardized work procedures
- SMED system training and job-aid development to reduce changeovers
- Predictive and preventative maintenance training, improved record keeping
- Team-building and use of CI hard and soft data from plant floor
- Maintaining in use of Pull (Kanban) systems for work in process
- Internal plant customer training and value stream operations

Six Sigma and SOJT

udies and literature regarding the training for DMAIC (Define, Measure, Analyze, Improve and Control) and Six Sigma implementation often focus on Black Belts and Green Belts. However, in order to implement new policies and procedures a consistent message must be delivered to operators or customer service personnel. In addition, defect collection, system monitoring, schedule changes, and other production adjustments are accomplished through the actions of operators and technicians. Control charts are also sometimes used to make adjustments to current processes and production runs.

Additional performance improvement applications include:

SPC (Statistical Process Control) related training at different levels of organization
plant

Sustainability of Six Sigma projects through skills upgrade of all operators and technicians in particular work areas

Use of DMAIC tools during the production process

Team based training issues such as story board development

Job-aid use for new procedures, work standards and defect correction

“Customer-focused” employee training in manufacturing process and equipment maintenance to reduce finished product damage

Implications for Service and Other Non-Manufacturing Sectors

Concepts of SOJT translate very well and offer opportunities for value-added continuous improvement when applied to the manufacturing sector itself.

PDCA cycle remains at the heart of any successful continuous improvement/change management initiative and is vitally important when considering the training and knowledge transfer needs for process improvement.

The same needs discussed here relate to the Production employee or the Maintenance Department. Firms that share knowledge throughout other sectors within the company can expect to gain competitive advantage in the new economy.

Procedures

Job-Aids

Troubleshooting
Guides

Conclusion

These three standards are a requirement for the success of any Continuous Improvement Initiative. These all-important work standards drive organizational knowledge creation and permanent change because they:

- ✓ Provide a clear illustration of a desired condition
- ✓ Highlight process irregularities, or “upset conditions,” so that corrective action can be taken
- ✓ Are designed to be straightforward, clear and visual
- ✓ Are easily modified and updated to reflect system or machinery changes

OJT Specialist can also help enhance team problem solving skills by utilizing team ideas, testing new hypotheses, learning-by-doing, and avoiding risks improves collaboration and the permanence of learning. Development of a SCOP (with feedback loop receiving careful attention) will greatly assist in realizing these goals for HPM, and in a broader sense High Performance Process Execution.

Organizations that have a systematic approach and structure to involving workers and OJT specialists together as a team to improve product quality and reliability are less likely to fail with innovations of this type.



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