

Eight Disciplines of Problem-Solving Training Syllabus



Purpose of the Course

This workshop will introduce the 8D Problem Solving Process to provide you and your team an effective methodology and basic tools to identify underlying root cause(s) of a problem or performance gap.

Basic Information

Instructor's Name:	• Michael Arnold
Instructor's Title	• Lean Six Sigma Master Black Belt
Phone Number:	• (864) 437-4664
Email Address:	• michael@themichaelarnold.com
Class Period:	• 8 hours
Certification:	• Attendance and completion of class along with passing grade on final assessment

Course Objectives

- Understand the 8D Problem Solving Process by learning the purpose and function of each phase of the 8D Problem Solving Process, including using customer forms.
- Describe the purpose and benefit of key problem-solving tools for each phase of the 8D Problem Solving Process including using 5 Whys, Ishikawa Diagram and Plan – Do –Check – Action Cycle.
- Follow a case study throughout the course so you can apply and practice the key learning points.
- Use assessing questions effectively for each phase of the 8D Problem Solving Process

Course Outline

Phase 1: Establish the Team

How to establish a team of people with product/process knowledge. Teams provide new and different ideas when it comes to problem solving.

- Defining the roles of the team, Lead, Member, Facilitator, Champion
- Guidelines for effective teams, including team rules
- Checklist Questionnaire

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Phase 2: Describe the Problem

How to specify the problem by identifying in quantifiable terms the who, what, where, when, why, how, and how many (5W2H) for the problem.

- Review Clue Generation Tools; check sheet, Pareto, histogram, stratification diagram
- Develop a Problem Statement (5 Why's)
 - Felt Tip Marker Case Study
- Understand critical process steps by developing a process flowchart
 - Joystick Factory Case Study
- Use the "IS-IS NOT" matrix to develop a problem description
- Collect and analyze data (Ishikawa (Fishbone) Diagrams)
- Establish project goals and objectives
- Checklist Questionnaire

Phase 3: Develop Interim Containment Actions

How to define and implement containment actions to isolate the problem from any customer.

- Plan-Do-Check-Act (PDCA) Cycle
- Checklist Questionnaire
 - Before Implementation
 - Planning
 - Post Implementation

Phase 4: Define and Verify Root Causes and Escape Points

How to identify and verify potential causes using 5 Whys or Ishikawa diagrams against the problem identified to explain why the problem occurred and was not detected

- Comparative Analysis – "IS-IS NOT" Matrix, including hypothesis test
- Root Cause Verification, including A-B-A Test
- Escape Point Identification, including 3X5 Why
- Checklist Questionnaire
 - Root Causes
 - Escape Points
 - Project Management

Phase 5: Choose and Verify Permanent Corrective Actions

How to select and verify the corrective action, using trials, to quantitatively confirm the selected correction will resolve the problem.

- Six Mistake Proofing Principles
- Solution Selection Matrix
- Checklist Questionnaire
 - Solution Selection
 - Solution Verification
 - Project Management



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Phase 6: Implement and Validate Permanent Corrective Actions

Define and implement the best corrective actions. Also, validate corrective actions with empirical evidence of improvement.

- Solution Implementation Plan
- Verify Solution Effectiveness, using run chart
- Checklist Questionnaire
 - Planning
 - Validation
 - Project Management

Phase 7: Prevent Recurrence

Modify the management systems, operation systems, practices, and procedures to prevent recurrence of this and similar problems.

- Understand the purpose and use of a Control Plan
- Learn the use of Pre-Control to react prior to future recurrences
- Checklist Questionnaire
 - Occurrence and detection methods
 - Development of preventive actions
 - Development of standardization

Phase 8: Recognize Team and Individual Contributions

Recognize the collective efforts of the team. The team needs to be formally thanked by the organization

- Perform final review of the project, including documentation
- Recognize and celebrate team and individual contributions
- Capture lessons learned
- Checklist Questionnaire
 - Communication of project completion
 - Public recognize the team's accomplishments
 - Lessons Learned identified and implemented

Student Assessment & Evaluation

The workshop's effectiveness will be measured through two factors. Student comprehension done with a final assessment and an instructor's evaluation completed by the students.

- Student Assessment: 20-25 question final examination, scoring will determine successful certification
- Instructor Evaluation: Student feedback on the material and presentation of the class, feedback used for continuous improvement of training.



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