

Final Project

Submitted to:
Professor Frazier
COMM721X – The Teaching Craft
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Submitted by:
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Introduction:

5S Implementation in Your Workplace

(Sort – Set in Order – Shine – Standardize – Sustain)

A properly implemented 5S System is the base upon which a Lean Organization is built. 5S an integral part of the Japanese system called Lean Manufacturing. Lean Manufacturing is a set of concepts and tools that form a system that is used throughout the world to enhance productivity and reduce costs in business systems. Originally implemented in manufacturing plants, the principles of Lean can be applied to virtually any business regardless of the product it produces.

This course is designed to teach the basics of 5S and how to perform an implementation within your workplace. Starting with introductions to each of the elements, your knowledge will increase as you see real life examples and perform exercises utilizing your newfound knowledge. The course culminates with you preparing a plan to roll out 5S in your organization.

I am designing this course to be given as training within a corporate environment. The format will be a traditional setting within a classroom that has multimedia presentation capabilities. The audience will be engineers, managers or supervisors who will actually run the 5S implementation program. Due to the constraints of time within the “corporate world” it is not practical to make this course full day sessions. Instead I am dividing it up into ½ day (4 hour) sessions. I hope that this will increase the interest, and the ability for people with busy work schedules to attend. Furthermore it will span multiple weeks so that the students can do homework and get examples from their workplace for use in class as either examples or exercises.

I am relying on two main texts for the course; 5 Pillars of the Visual Workplace by Hiroyuki Hirano and 5S for Operators by Melanie Rubin. 5 Pillars of the Visual Workplace is a detailed textbook that goes into the fine details of the 5S system, and is a good reference source for the student after the class. 5S for Operators is a quick study guide that can be used by the person implementing the system to give to the people working on the floor to understand the concepts quickly and efficiently. It is geared more toward the “working people” rather than the engineers or managers.

The people who attend this training may not have any knowledge of Lean Manufacturing principles or 5S, so I have outcomes that start with knowledge on the hierarchy of Bloom’s Taxonomy. The training will need to move up the hierarchy though, because the students will ultimately formulate a plan to implement a 5S program within their workplace. Therefore I have set the outcomes with the following progression:

- List the 5S elements (knowledge – 1)
- Understand the principles of 5S (comprehension – 2)
- Apply 5S principles to your workplace (application – 3)
- Develop a plan to implement a 5S program in your organization (synthesis – 5)

The schedule of this course as well as the content and exercises will allow the attendees to learn the material at a slower pace so that they can understand the principles and exercises. This slower pace will allow them to go back to their workplace and find real life examples to use in class and start formulating their own 5S implementation.

Syllabus:

5S Implementation in your Workplace

(Sort – Set in Order – Shine – Standardize – Sustain)

October 6, 2007

Loren S. Evers, M.S. (Senior Manufacturing Engineer, Medtronic Inc.)

Course Description:

A properly implemented 5S system is the base upon which a Lean organization is built. This course will teach the basics of the 5S system by using real life examples and exercises to prepare the participant to implement a 5S program within their organization. This course is suitable for engineers, managers or even executives that wish to learn more about 5S principles with the framework of Lean.

Course Outcomes: As a result of this course the participant will be able to:

List the 5S elements (knowledge – 1)

Understand the principles of 5S (comprehension – 2)

Apply 5S principles to your workplace (application – 3)

Develop a plan to implement a 5S program in your organization (synthesis – 5)

Texts

Hiroyuki, Hirano. 5 Pillars of the Visual Workplace. Productivity Press, (1990)

Rubin, Melanie. 5S for Operators. Productivity Press, (1996)

Additional readings and resources as assigned in syllabus.

Requirements

This course is based upon 20 hours of class time spread over 4 sessions. The course materials are directed to engineers and managers who wish to implement a 5S program within their organization or workplace. It is also suited for executives who would like to learn more about Lean Manufacturing Principles and 5S. There will be no formal grading for this course, but in order to receive credit in the SABA training system the student must attend at least 16 of the 20 hours of instruction time, and complete all assignments whether present in class or not. If you will miss a session it is critical that you contact me so that you do not fall behind. The course material is cumulative, and builds upon prior information.

We are here to learn and participate with minimal distractions. Please turn your cell phones to vibrate, and leave the room if you must take calls. No other work should be performed while in class such as reading of e-mail or other computer work. I appreciate your cooperation and respect for the learning environment.

Calendar:

Session One:

- A. Introductions of class participants
 - Your position, background, why are you here?
 - What do you want to get out of this class?

- B. Lean Principles
 - What is Lean Thinking?
 - How does Lean fit into your organization.
 - Exercise:** Discuss with the person next to you two ways that Lean Thinking could help your work area.

Break

- C. Waste
 - What is waste?
 - The Japanese way of looking at waste – muda
 - Examples of waste

- D. Introduction to 5S
 - What are the 5S's

Homework: Based upon our discussion of muda (waste), bring two examples of muda from your work area, and be prepared to discuss them.

Session Two:

- A. Discussion of muda from homework.

- B. Sort
 - Sort Principles
 - Red Tag System

- C. Set in Order
 - Set in Order Principles – flow within the workplace
 - Organizing your workplace

Break

- D. Shine
 - Shine Principles
 - Cleaning up the workplace
 - Exercise:** Small group discussion – Why and how does a workplace get to the point of needing “Shine”.

Homework: Bring specific examples from your workplace of items you would red tag, and how you would disposition them. Be prepared to defend your actions.

Session Three:

A. Standardize

Standardize Principles – Visual Aids in the workplace

What is the value in standardization?

B. Sustain

Sustain Principles

Exercise: Class discussion – why is Sustain the hardest of the 5S elements?

Break

C. Discussion of Red Tag Homework.

D. 5S Implementation (introduction)

How to pull this together

Implementation in your workplace

Homework: Outline a plan for implementation in your workplace. Focus on how you will sustain the 5S implementation. Be prepared to share your thoughts with the class.

Session Four:

A. 5S Implementation in your organization

B. Share Implementation Plans

C. Class discussion – what will be the hardest part of Your Implementation Plan

Break

C. Final words about 5S and Lean

Online resources – tips and tricks

Hand out Certificates of Course Completion

Annotated Bibliography:

COURSE TEXTS

Hiroyuki, Hirano. *5 Pillars of the Visual Workplace*. Tokyo, Japan: Productivity Press, 1990

5 Pillars of the Visual Workplace is a good text for a 5S course because it comes from the source of Lean Manufacturing and 5S, which is Japan. It is filled with examples and good suggestions on how to make a 5S implementation successful. Hiroyuki has many attempts at humor within the book, but they seem to be lost in the translation to English. These attempts make the book all the more entertaining and are able to keep the interest of students.

Rubin, Melanie. *5S for Operators*. New York, NY: Productivity Press (1996)

5S for Operators is a book written specifically for the people who “do the work”. It is in simple language for operators, and gives many illustrations and examples. It is based upon *5 Pillars of the Visual Workplace* and pulls the contents of this larger textbook into a simple quick reference guide to be used on the production floor.

ONLINE RESOURCES

I warn students that online resources can be very valuable and provide up to date information, but they must understand the agenda of the site they are visiting. Many of the sites including the ones below are companies that are selling products. They may have a slant that shows bias toward their specific product. These sites have been reviewed closely by me, and represent a reasonable balance between useful information and sales pitches. I urge students to send me sites that they find so that I can take a look at them to insure the quality of the material they present.

5S Resource Center. (2007). What You Need to Know About 5S's. Retrieved September 29, 2007 from <http://www.qualitytrainingportal.com/resources/5S/>

The Quality Training Portal hosted by Resource Engineering, Inc is a very useful site for information on many topics used in manufacturing facilities. Although they are a company that wants to sell their own courses, they do have a good resource center that is accessible without charge. They provide sample checklists and forms for use in a 5S implementation program, again without cost. Although the person implementing the program will ultimately come up with their own forms tailored to their organization, the forms on the 5S resource center are a very good place to start.

Lean Advisors Inc. (2007). Lean Implementation Program. Retrieved September 29, 2007 from http://www.leanadvisors.com/lean_implementation.cfm

The Lean Advisors Inc. webpage is a good resource for understanding Lean principles and how to apply it to your organization. Again it is a company that is pushing

their specific training program, but they give a very detailed outline that provides the basis for starting your own program. They discuss a phased implementation strategy that looks to be very workable. As with most online sources, information that is gleaned from the Lean Advisors site could be used as a skeleton to formulate a program, or as a tool for basic understanding of Lean.

ENNA. (2007). 5S Training Materials. Retrieved September 29, 2007 from <http://www.enna.com/>

ENNA is an online company that provides forms and training materials for a variety of Lean Manufacturing based programs. They have very little actual information, but they do have very good packages of forms and items that would be used in a 5S implementation. I used them specifically for the red tag system. Although one could create their own forms and tags, it was cost effective to just purchase the materials from them. The forms, logs, and tags fit easily into standard 5S programs, and are good quality.

Lesson Plan for one Day:

Session One:

- A. Introductions of class participants
Your position, background, why are you here?
What do you want to get out of this class?

Subject: Introductions of class participants
Specific Objectives: Understand backgrounds of students for my information as well as the class <ul style="list-style-type: none">• Position in company• Background information• What does student want to learn from this class
Materials: None
After introductions Go over Syllabus and class mechanics (breaks)

- B. Lean Principles
What is Lean Thinking?
How does Lean fit into your organization.
Exercise: Discuss with the person next to you two ways that Lean Thinking could help your work area.

Subject: Lean Principles
Specific Objectives: Give students an overview on Lean Manufacturing Principles and way of thinking. <ul style="list-style-type: none">• What is Lean• How it originated in Japan• How it helps organizations
Materials: Information from Lean Advisors Website
Exercise: Two person discussion about how Lean Principles can help them specifically in their work area.

Break

- C. Waste
What is waste?
The Japanese way of looking at waste – muda
Examples of waste

Subject: Waste
Specific Objectives: Understand waste (Muda) from the Japanese perspective in relation to Lean. <ul style="list-style-type: none">• What is Waste (Muda)

<ul style="list-style-type: none"> • Cultural Discussion – how it applies in Japanese cultures (simple lifestyle) • What waste does to companies – productivity, safety, cleanliness, etc.
Materials: 5 Pillars – Page 21-22
Exercise: There will be homework assigned on finding muda in your organization, will be discussed at the end.

D. Introduction to 5S **
What are the 5S's

Subject: Introduction to 5S
<p>Specific Objectives:</p> <p>Give students an overview on the specific parts of 5S, and the methodology .</p> <ul style="list-style-type: none"> • Chapter 2 talks about value of the 5S system • Discuss Chapter 3 for the specifics • Use Graphic of 5S and how it works • Simple yet effective – before and after
<p>Materials: 5 Pillars Chapter 2 and 3</p> <p>Graphic of the 5S system</p> <p>Card handouts to Students</p>

Be sure to ask for questions at the end of the session, and assign Homework as outlined in Syllabus.

Homework: Based upon our discussion of muda (waste), bring two examples of muda from your work area, and be prepared to discuss them.

**Blue text indicates information I will cover in my in class presentation.

Executive Summary:

5S Implementation in your Workplace

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Today's Session:

The session you will see today is taken from the last topic in the first class session. Below is the outline for the topic (D) from my lesson plan. I will cover the material in blue text. There will be a quick introduction for background on the 5S Method to bring you up to speed on the topic. I will then go straight into the material.

- D. Introduction to 5S **
What are the 5S's

Subject: Introduction to 5S

Specific Objectives:

Give students an overview on the specific parts of 5S, and the methodology .

- Chapter 2 talks about value of the 5S system
- Discuss Chapter 3 for the specifics
- Use Graphic of 5S and how it works
- Simple yet effective – before and after

Materials: 5 Pillars Chapter 2 and 3

Graphic of the 5S system

Card handouts to Students