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Implementation of Observations Skills Regarding Safety and Cleanliness in Small Scale Industry

B. S. Marle[1,*], V. A. Nivagire[2], A. J. V. Borkar[3], A. A. Mutwalli[4], ArifMohammad Attar[5], Raju Kumbar[6]

[1-4]Students, [5,6]Professor

Department of Mechanical Engineering, Sanjay Ghodawat Polytechnic, Kolhapur, Maharashtra, India

***Email:** *marlebhavesh@gmail.com, abduljabbarborkar@gmail.com*

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Abstract

Safety and cleanliness, these are the major factors in the lean manufacturing system. This paper deals with the implementation of 'safety and cleanliness' in the small scale industry, according to guidelines given by 'JICA' (Japan International Co-Operation Agency). By following the methodology which is given by the Japanese organization called 'JICA', it improves the safety, cleanliness as well as productivity, efficiency and housekeeping of the industry. The improvements before implementation and after implementation of 'safety and cleanliness', is shown by various pictures. It also improves a stronger work ethic within the organization and the employees who would be expected to continue the good practices by implementing 'safety and cleanliness'.

***Keywords:** Cleanliness, JICA, Lean Manufacturing, Observation skills, Productivity, Safety.*

INTRODUCTION

Safety and cleanliness, both are mainly responsible for efficient workplace. If there is a clean workplace but if it is not safe then the time efficiency of the same workplace is lesser or if there is a safe workplace but there is no type of housekeeping or cleanliness then at that time the efficiency of the workplace is lesser. The aim of this paper or the intension of this paper is to implement safety and cleanliness and measure the existing and after implementation performance of the industry. This includes the smaller methodology which was given by 'JICA'. Observation is main key through which this implementation was done. 'Labeling' of the observations, 'Grouping' of the observation and then removing out or identifying one of the fulfilled statement of same category from those observations called 'revised statements'. These statements are in the '4W1H' form. It is the quantitative, qualitative method or technique used to facilitate decision that involves multiple competing criteria. This technique of quality management or quality improvement which was given by the 'JICA' is very different from any other quality management or quality improvement techniques like 5S, 6- Sigma, Kaizen and Kanban, etc.

What is meant by Safety?

It is the precaution to be taken to avoid the injuries to the man or machine.

What is meant by Cleanliness?

It is the act which keeps the entire thing in very neat, clean and proper condition.

What is meant by Observation?

It is the action or process of surveying or inspecting or monitoring something or someone.

METHODOLOGY

Flow Chart

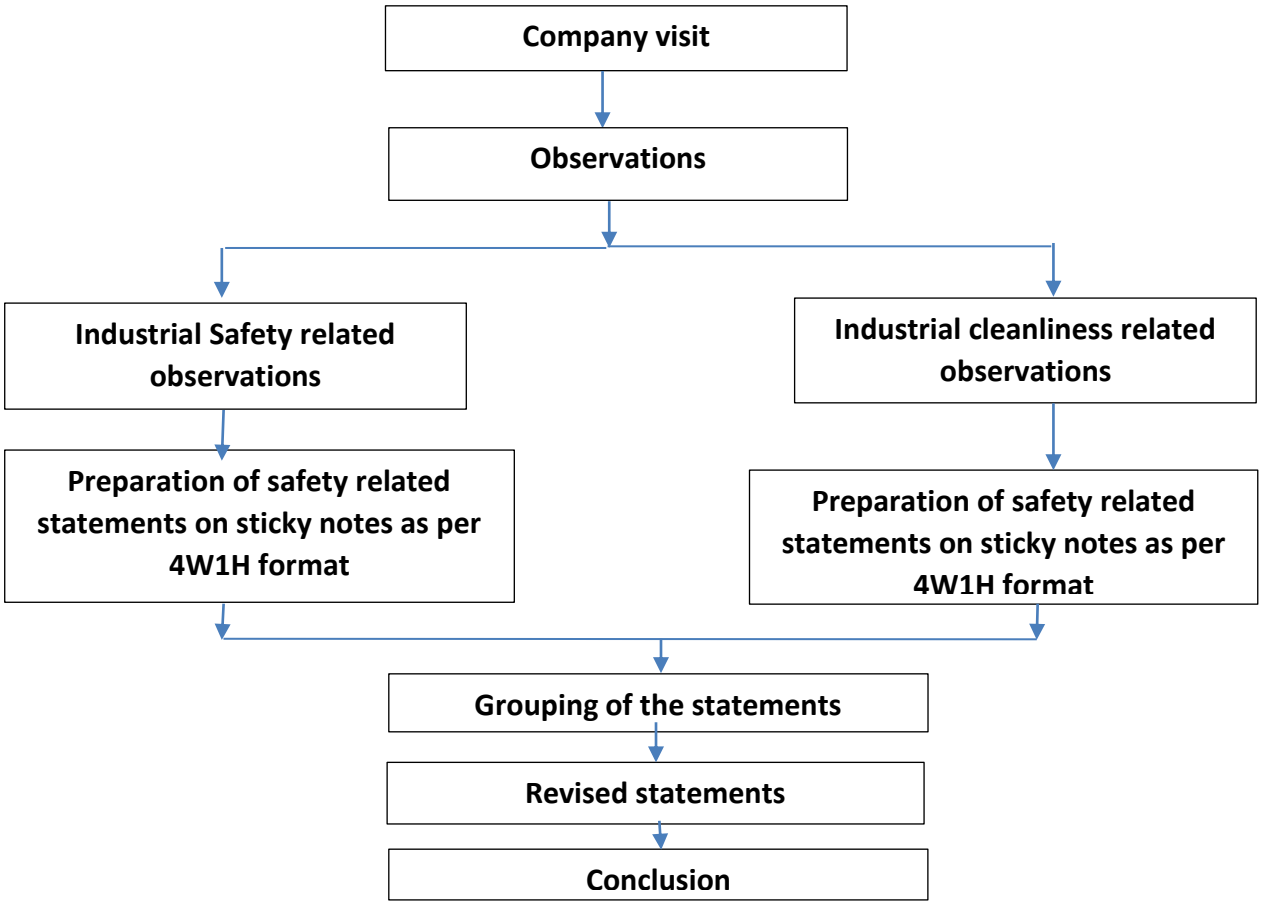

Figure 1: *Flow chart*

Safety Observations

We observed a lot of safety related issues in the industry.

Following are such observations:

- Open wire joints
- Expired fire extinguishers
- Open connector box
- Broken electric panel
- Safety shoes, goggle, apron, gloves were missing

Crack in the floors

Figure 2: *Improper wire junction*

Figure 3: *Expired fire extinguisher*

Figure 4: *Missing gloves*

Cleanliness Observations

We observed a lot of cleanliness related issues in the industry.

Following are such observations:

- Dirt and dust on the floor

- Oil spilled out
- Metal chips fallen on the floor

- Rack of luggage was in improper condition.
- Dispatching boxes not placed in proper condition

Figure 5: *Leakage of coolant.*

Figure 6: *Improper racks.*

Figure 7: *Fallen metal chips.*

Label Writing

A label is a "Post-It" on which noted observations are presented to provide key information to others. It is important activity through which students will able to present the facts.

What is the language of label writing?

Language is the communication medium to express observations. It is important to write the observed information in specific language and particular sequence to present the data to others. Learn to use language of report.

What are the steps in label writing?

It is important activity through which student will be able to present the collected data in 4W1H format.

Key Steps in Making

- Decide theme-it is central to observations.
- Follow 4W-1H format.
- No judgment or inference, only facts to be recorded.
- Do not conclude or give opinion.
- Only one issue in one label.

Figure 8: *Label writing.*

Label Grouping

Once you make labels, post it on a large paper. Next step is label grouping in which you identify similar labels in content.

Example

The labels below are grouped together as you can see the content in all three labels are related to electrical wiring.

Table 1: *Examples of label grouping*

A WIRE HANGING AT THE ENTRANCE OF INDUSTRY OBSERVED BY BHAVESH ON 29 OCTOBER 2018 AT 4.35 PM
AC WIRES ARE OPENING AT VMC MACHINE NO.2 OF MACHINE SHOP OF the INDUSTRY OBSERVED BY VAIBHAV ON 29 OCTOBER 2018 AT 4.31 PM
LOOSE WIRING NEAR CNC MACHINE NO.1 AT THE INDUSTRY OBSERVED BY ABDUL ON 29 OCTOBER 2018 AT 4.20 PM

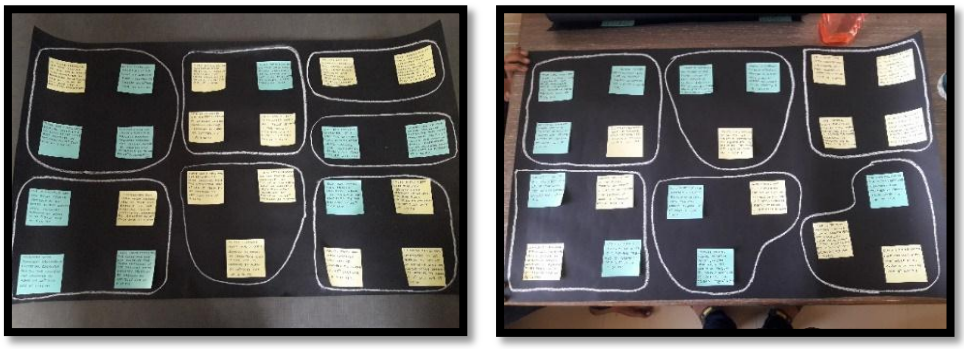

Figure 9: *Grouping of safety and cleanliness labels*

Revised Statements

Figure 10: *Grouping of safety and cleanliness labels*

RESULTS OBTAINED AFTER IMPLEMENTATION

Following results obtained after implementation:

- Increased Productivity.
- Improved Safety.
- Improved Cleanliness.
- Reduction in Waste.
- Improved Morale of the Workers

Following are the figures which show the condition after implementation of safety and cleanliness on that place.

This implementation of safety and cleanliness is very advantageous for all the company employs and it is very useful for company's further growth.

All the employees were happy by seeing the new look of company and they told us by giving the feedback, working environment of this newer company (after implementing safety and cleanliness) is very nice and also, we feel much safer and secure. This implementation will also increase our reputation in the market.

Figure 11: *Proper rack for boxes*

Figure 12: *Proper placement of boxes*

Figure 13: *Reduced leakage of coolant*

Figure 14: *Proper collection of scrap*

Figure 15: *Proper connector box* ***Figure 16:*** *Filled fire Extinguisher* ***Figure 17:*** *Proper placement of material*

Figure 18: *Proper placement of tools*

Figure 19: *Neat racks for luggage*

Figure 20: *Neat and cleaned floor*

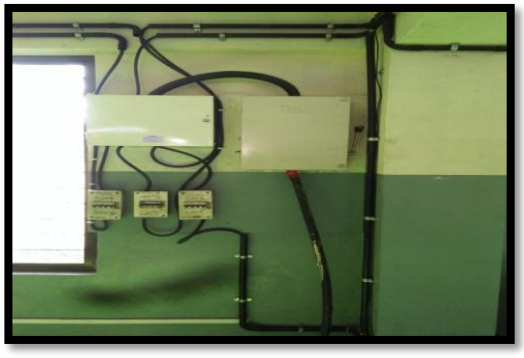

Figure 21: *Proper and safe electrical panel*

CONCLUSION

After implementation of safety and cleanliness in the industry, many more changes are happened in the industry.

The existing pictures show the unsafe and uncleansed industry, but now after implementation of safety and cleanliness, the newer pictures of industry show the safer and cleaned industry.

The main advantages from implementing the safety and cleanliness are as follows:

Chances of accidents due to lack of safety devices or equipment's are reduced.

- Morale of the workers was increased.
- Cycle time required for manufacturing the jobs was reduced.
- Quality of the product increased.
- Easy to find the required tools or any other things.
- It helps to increase the total Productivity of the industry.
- After implementation of safety and cleanliness, the feedback form was filled by the employs of company. In this feedback form, they told about the newer look of industry.

They told about the implementation in the feedback form that the new working environment of industry is very nice. They feel safer and secure after implementation of safety and cleanliness in their industry.

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