

SEIKETSU, STANDARDIZING – THE FOURTH STEP OF THE 5S METHODOLOGY

Nicolae MORO, Ghiță BÂRSAN

“Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania
nicu.moro@yahoo.com

Abstract: *A useful tool for organizing jobs is the 5S methodology, which is essentially a program structured in five stages to obtain systematically: organization, cleanliness and standardization in the workplace, thus contributing to improving productivity, reducing quality nonconformities and job security problems, being a method that involves employees from all hierarchical levels using standards and discipline. Seiketsu is the fourth S in the 5S series and resets a suitable environment for safe and efficient work by establishing a set of standards to maintain optimized conditions and practices in the work area. Seiketsu aims to maintain high standards of organization in the workplace and should be understood as a set of well-defined work rules. Standards must make deviations visible, so visual management is often used.*

Keywords: Seiketsu, Standardizing, 5S Methodology

1. Introduction

5s is a cyclical methodology of continuous improvement in the workplace so it is important to develop standards that are flexible and open to continual improvement. Determining best practices and creating standardized procedures takes time and thought but the benefits are great. Daily cleaning of the workplace by employees is a matter of respect for themselves, for their colleagues, for the organization where they work and a sign of respect for work in general. Daily cleaning of a machine / office is also a way to inspect that place being associated with the concept of industrial hygiene. Standardization may consist of using a set of safety, security, quality, or any regulatory or formal standards. Giving stakeholders the opportunity to define their standard helps overcome resistance to change and encourages commitment to these self-imposed rules. The standards are meant to be periodically revised after a

certain time, because Seiketsu (Standardizing) does not block change for the better but encourages improvement to better, higher standards.

2. The need for the fourth step

The fourth step of the 5S process consists in defining the standards (written or unwritten but communicated and accepted rules, customs and standard operating procedures, codes of conduct and behavior, standardized documentation, etc.) to which they must refer personally in measuring and maintaining the degree of order and cleanliness and ensuring the permanent maintenance of the situation at the level reached by reducing or eliminating the occurrence of an abnormal situation. The purpose of this approach is to make the employee aware of the specific responsibilities that have been assigned to him, the periodicity, the method of implementation and any reward granted so that the non-compliant

situations of implementation in the work of the 5S methodology will not be repeated.

The objective of this stage is to create a system of attributions and procedures to ensure compliance with the 5S principles for each process / subprocess / activity.

Implementation involves a set of activities to ensure:

- developing work procedures that support the new practices and are part of the daily routine;
- ensuring that all employees know their responsibilities in sorting, organizing and cleaning;
- the use of images and other elements of control / visual management that contribute to the preservation of what has been achieved;
- the use of checklists and audits for the periodic examination of the implementation stage of the 5S methodology [1].

This stage is marked by several defining elements that add value to this qualitative approach with beneficial effects on the general aspect of the workplace, but especially on the normal conditions for carrying out daily activities at the workplace.

1. The first defining element of this stage is visual management. Uniform and standardized color coding of different elements can be an effective way of identifying abnormalities present at a workplace. This color coding is achieved by means of markings, signage and signposts installed in the appropriate place. Standardized visual process management guides employees to perform set tasks the same way, every time, using a clearly defined process. It combines and effectively uses the shape and size of signs used for markings and labels with the meaning of identification codes of:

- 1.1. objects (equipment, furniture, access and mobility routes, operational stocks, utility installations);
- 1.2. limits of responsibility;
- 1.3. restricted areas;

1.4. areas for waste (observing the rules for sorting and storing waste), etc.

2. The second element in represents the maintenance (preserving) of aspects related to security, comfort and health at the workplace which are achieved through:

2.1. workplace safety (signaling of areas or operations “in work” or objects “in motion”, maximum height/weight allowed, positions with security risk, voltage of the electric current, etc.);

2.2. ergonomics, the placement of items needed at the workplace and the limits of “personalization” of the workplace (the position, shape and size of each item needed at the post and in the work area, the place of personal items, posters, photos, mugs, etc), rules for using the rooms or relaxation spaces;



Figure 1: Workplace according to the 5S methodology [2]

2.3. health and environmental factors (temperature, humidity, lighting, smell, level, direction and frequency of ventilation, location of smoking areas and special areas for meal breaks, etc.).

The way to implement this step of the 5S methodology must compulsory engage all employees at all hierarchical levels of the organization, thus:

- a. leaders (formal and informal) must develop the strategy and set themselves as examples to follow;
- b. managers must initiate, support the approach to implementing the methodology, ensure the resources necessary to apply change solutions to maintain the results of the first three stages of the 5S methodology and, periodically or when necessary, organize and conduct

training for knowledge and application standards;

c. employees must consciously and willingly accept (rewarded or not) the principles and rules of 5S and when it is necessary to initiate actions at his workplace.

Since the application of this stage of the 5S methodology requires the creation of a mandatory behavior for each employee, this “routine” can be achieved through successive actions of the PDCA improvement cycle type (figure 2).

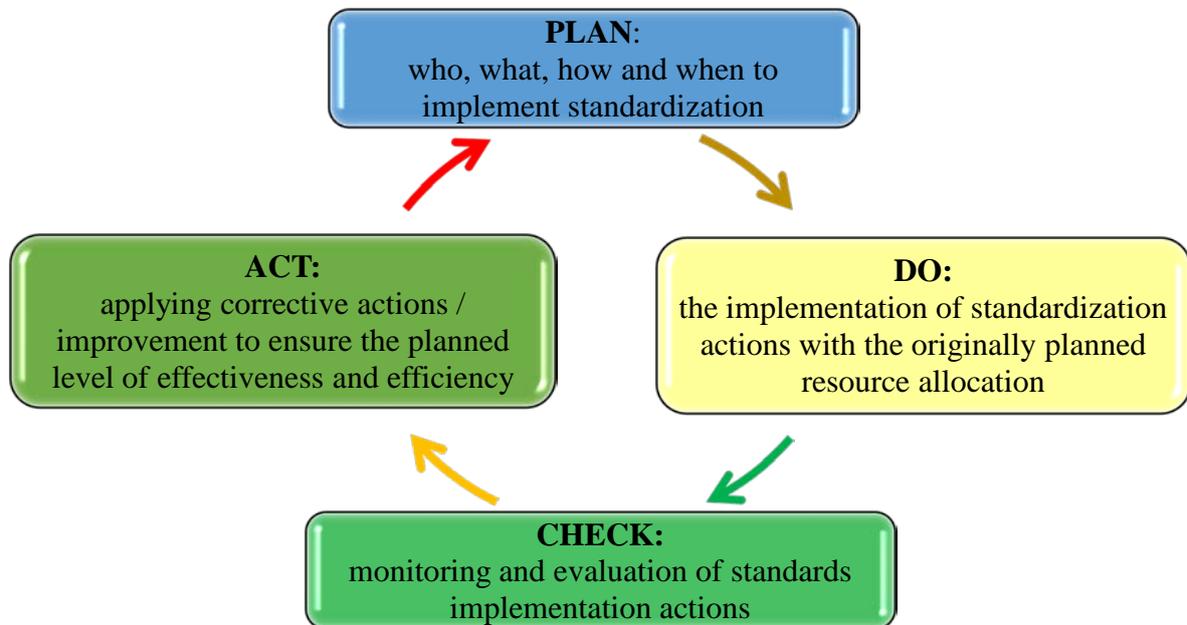


Figure 2: PDCA cycle for implementing 5S standards

The success of such an approach depends on a series of variables and unknowns that primarily relate to the ability and desire of employees to comply with a series of rules imposed by these standards that must be applied [3]. The challenge to which the management of the organization must act is complex because the level of understanding and assumption of these duties differs from one hierarchical level to another hierarchical level and within the same level will differ from employee to employee. There is a set of recommendations based on the best practices identified in those organizations that have succeeded in implementing these standards, recommendations that can also be taken into account in military-specific organizations:

- pay attention to the way of signaling in the sense that overloading with unnecessary signs will be avoided (it can

- create confusion) as well as to the way of fixing them (it is recommended to use adhesive tapes to the detriment of paint or fixing with screws);

- an intuitive color code and a unique and clear marking/coding/labeling system will be used, established on the basis of a visual management standard;

- it is recommended to use cabinets with glass/plastic/polycarbonate doors that allow the contents to be viewed in order to check the internal order and monitor the availability of materials needed for a quick replenishment;

- avoid the common use and in different places of some objects/tools because the dissipation of responsibility leads to its evasion and inevitably to the loss/disappearance of that object over time;

- excessive personalization of the workplace will be avoided because it will

create difficulties with accommodation for a possible temporary replacement (during vacations, secondments of the holder);

- communicate and visibly display the established rules and monitor their compliance (procedures/standards will be visually presented on clearly visible boards, placed in places where they can be read correctly and easily);

- it is advisable to identify a generally valid work method that combines elements from the work methods of different employees;

- standardized equipment will be used: containers and folders of different colors but of the same size, etc.

- the recording of observations and audits on 5S will be done according to standardized checklists;

- everything suitable for suspension will be suspended at a comfortable height (shelves, shelves, connection sockets, etc.);

- everything that is not mobile will be fixed (the different tools or devices will be attached to the benches/worktables);

- relieving and freeing up the work space by grouping and integrating various elements of the type 2 in 1, 3 in 1, etc;

- waste containers will be located at a maximum distance of 6 steps (3.5 m) from the employee's place of disposal (in order to avoid unnecessary movements);

- prior testing of standardization measures in order to identify attempts to evade them (Poka Yoke).

Standardization activity must be carried out with discernment without eliminating

the possibility of flexibility and adaptation to reality. The 48-hour rule can be adapted to the 72-hour rule for certain jobs. If an object is used intermittently several times in half an hour at the same workplace, it does not need to be taken to the location each time, but can stay on the work table for a maximum of “n” minutes [4]. The central idea is that the application and compliance of the 5S methodology ultimately means the reduction of the 7 identified losses and not only a compliance with some strict rules.

3. Conclusions

Seiketsu is the fourth S of the series of five and comes logically after Sorting out, Set in order and Sweeping. If the first three S establishing an environment suitable for safe and efficient work, the fourth S sets standards so to keep these good condition and practices in the work area. Without appropriate standard the deficiencies and old habits would return. Seiketsu aims to maintain high standards of cleaning and workplace organization at every moment, by everybody. Standards should also be understood as a set of very well defined rules for entire working time . Standards must make deviations visible, that's why visual management is often used. The daily cleaning of the workplace by employees themselves is a matter of respect to themselves, to their colleagues and, of course, a way to keep the place tidy and orderly. The 5S standards at large are usually associated to industrial hygiene.

References List

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