

Analysis of the 5S Principles in Forming a Safety Culture at MI Muhammadiyah 1 Kradenan

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Abstract: Safety Culture has not been a concern in certain companies and institutions including educational institutions. The 5S principle (Seiri, Seiton, Seiso, Seiketsu, Shitsuke) is one of the work principles originating from Japan that can be applied as a foundation for safety culture. This study aims to analyze the implementation of 5S in every facility and infrastructure in MI Muhammadiyah 1 Kradenan. The type of research used is qualitative descriptive with data collection techniques are observation, interviews and documentation. The results of the study prove that the 5S principle in forming a safety culture in MI Muhammadiyah 1 Kradenan has been optimal in the application of the 5S principle, there is a sorting of facilities and infrastructure that are not suitable for use because they are feared to endanger school residents, and are taken to the Muhammadiyah multipurpose building in Kradenan village, this fulfills the principle of seiri. The principle of seiton neatness in MI Muhammadiyah 1 Kradenan has been maintained and all school members are orderly in using the facilities that have been used; seiso in terms of cleanliness at MI Muhammadiyah 1 Kradenan there is a picket schedule to clean the classroom and surrounding area and community service is held once a month on Friday by all school residents to avoid diseases that can be caused by the environment; seiketsu for school cleanliness standards, there are many posters to remind school residents to keep the school environment clean and tidy; shitsuke to ensure the quality of facilities and infrastructure is maintained once a year a meeting is held to evaluate the operations of MI Muhammadiyah 1 Kradenan. The results of this study can be used as insight into safety culture and can be a reference for other educational institutions in implementing 5S.

Keywords: 5S Principle, Safety Culture, Infrastructure

Introduction

The success of schools such as MI Muhammadiyah 1 Kradenan is greatly influenced by a safe and comfortable atmosphere for students and teachers. The 5S principle, consisting of Seiri, Seiton, Seiso, Seiketsu, and Shitsuke is one approach that can be applied to create such an environment. The purpose of this principle is to improve the efficiency and effectiveness of space management. According to (Bhasin & Bhanot, 2020), implementing 5S can increase awareness of workplace safety and reduce the risk of accidents. Studies by (Chin & Goh, 2016) show that 5S can create a strong safety culture in the health care sector. In addition, research by (Kaneko, Tanaka, &

Saito, 2018) shows that implementing 5S in education also improves student safety. As a result, the implementation of 5S in MI Muhammadiyah 1 Kradenan is expected to create a more orderly and safe learning environment.

In addition, the 5S principles include mental and behavioral hygiene in addition to physical hygiene. According to (Ishikawa & Karaki, 2018) 5S helps create a culture of safety in which every member of the organization participates. Schools can teach students about the importance of maintaining a safe and orderly environment and build discipline using these principles. The study (Wardhani & Realita, 2022) found that good management practices, such as the implementation of 5S, are the foundation of a strong safety culture.

Another study by (Widodo, Rahayuningsih, Tripariyanto, & Indrasari, 2019) also emphasized that continuous training is essential for the implementation of 5S to become a sustainable safety culture. Therefore, the analysis of the implementation of 5S in MI Muhammadiyah 1 Kradenan helps improve cleanliness and safety awareness among students and employees.

It is also expected that the implementation of the 5S principle in schools will encourage students to act more caringly towards their surroundings. According to (Rhaffor, Azizul, Jamian, & Shukor, 2019) the implementation of 5S in schools can form students who are responsible and care about safety. In situations like this, building a culture of safety will have a positive impact on social interactions in the school environment. The study by (Chandra, Ardianto, Novika, Angeli, & Agnia, 2024) emphasized the importance of instilling safety awareness from an early age. The study by (Kauffeld & Lehmann, 2020) also found that participating in the 5S program can increase students' sense of responsibility for safety and environmental cleanliness. Therefore, an analysis of the implementation of the 5S principle at MI Muhammadiyah 1 Kradenan is very important to build a sustainable safety culture in the educational environment.

Materials and Methods

This study uses a qualitative descriptive method to analyze the implementation of the 5S principle in forming a *safety culture* at MI Muhammadiyah 1 Kradenan. The qualitative method was chosen to analyze the implementation of 5S comprehensively and how each concept can influence the formation of a safety culture in the school environment. This study was conducted at MI Muhammadiyah 1 Kradenan, with research subjects including the principal, teachers, and students who contributed to the implementation of the 5S principle.

Data collection is conducted through direct observation focused on the condition and tidiness and cleanliness of the school environment, the orderliness of the placement of equipment and facilities, and discipline in implementing

cleanliness and safety standards. Interviews will be conducted with the principal and teachers to understand the process of implementing 5S, the challenges faced, and the contribution of 5S to cultural safety. Meanwhile, students will be interviewed to explore the extent to which they are involved in implementing 5S and their perceptions of the impact of the policy on comfort and safety at school. Documentation in the form of photos of the school environment, written rules related to 5S, and school activity reports will also be collected as supporting data.

The collected data will be analyzed using thematic analysis method, where data from interviews, observations, and documentation will be reduced, arranged, and interpreted to identify key themes related to the implementation of 5S and safety culture. This analysis will cover the relationship between the implementation of 5S and increasing school community awareness of safety, efficiency in the use of school facilities, and its influence on daily safety behavior.

Results and Discussion

Results

1. *Seiri*. Based on observations at MI Muhammadiyah 1 Kradenan, there are no unused facilities and infrastructure but they are still in the school environment, based on the results of interviews with teachers that the type of furniture infrastructure in the school that is no longer suitable is temporarily stored in the multipurpose building owned by Muhammadiyah Desa Kradenan. While school facilities such as books that are no longer used will be sold.
2. *Seiton*. Based on the observation results, the items used, such as stationery for teachers and cleaning equipment are neatly arranged. Based on the results of interviews with teachers and several students, it is mandatory for school residents to tidy up and be disciplined in using facilities and infrastructure so that they are better maintained.
3. *Seiso*. Based on the results of the observation, there was a broken bathroom door so that it

could not be used, but as the research progressed, it turned out that the school had repaired it so that it could be used again. The teacher stated that there was a daily schedule for cleaning the classroom and once a month on Friday for cleaning the entire school environment. Which is expected to overcome problems caused by environmental cleanliness.

4. *Seiketsu*. For the standardization of cleanliness in MI Muhammadiyah 1 Kradenan, there are many posters displayed in the school area to remind the school community of the importance of maintaining order and cleanliness of the environment, such as above the sink that says "Wash Your Hands Diligently With Soap!" and in front of the bathroom "Use Sufficient Water, and Leave the Toilet Clean!"
5. *Shitsuke*. MI Muhammadiyah 1 Kradenan always conducts evaluations in order to replace and remove facilities and infrastructure that are not used routinely once a year to prevent the use of items that are no longer suitable and can endanger school residents.

Discussion

5S Principle

5S is a principle adopted from Japan, namely *Seiri*, *Seiton*, *Seiso*, *Seiketsu*, and *Shitsuke*, a culture in which someone treats the workplace well, maintains and keeps the workplace neat, clean and orderly so that it becomes easier to work (Rinandiyana & Sumaryana, 2015).

Seiri (Abridged)

Seiri is the activity of getting rid of unnecessary items so that only the items that are really needed in the workplace are there (Osada, 2004). In another explanation, *Seiri* means making a distinction between what is needed and what is not needed, making clear decisions, and using management stratification to get rid of what is not needed (Bekti & Cahyadi, 2023). It is not only important to dispose of items according to priority, but it is also important to recognize and dispose of damaged or defective items (Kristyanto & Kusdiantini, 2021).

Seiton (Neat)

Seiton means storing items in the right place and neatly so that they are easy to take when needed (Osada, Sikap Kerja 5S, 2018). In addition, items

that are used are placed in easy-to-reach locations, while items that are rarely used are placed further away. This can help reduce the time spent searching for items and increase efficiency.

Seiso (Clean)

Seiso (clean) is the next stage after the room is tidy, namely cleaning the workplace, work space, equipment, and work environment so that no dust, dirt, and garbage are found scattered around. The purpose of *seiso* is to make the workplace clean and comfortable for workers who are carrying out their duties (Kurniyawati & Susanto, 2019).

Seiketsu (Treatment)

Seiketsu means maintenance, namely ensuring all conditions of equipment, machines, environments and other conditions are in accordance with the agreed rules and maintaining them. The purpose of *seiketsu* is to create consistency in the implementation of *seiri*, *seiton*, and *seiso*. The targets to be achieved in (Osada, 2004).

Shitsuke (Discipline)

Shitsuke means diligent in the sense that all 5S work procedures can be carried out ideally and productively accompanied by improvements to achieve better results. The main objective of the *Shitsuke concept* is to ensure the success of the continuity of the 5S program as a discipline.

Analysis of the 5S Principle in Forming a Safety Culture at MI Muhammadiyah 1 Kradenan

In this discussion section, researchers can analyze how the implementation of the 5S principle in MI Muhammadiyah 1 Kradenan has contributed to forming a safety culture. Based on the results of the study, each principle of 5S *Seiri*, *Seiton*, *Seiso*, *Seiketsu*, and *Shitsuke* has been optimally implemented in this school environment. The following is an analysis of each principle and its impact on the safety and comfort of the school environment:

Seiri (Abridged)

Seiri aims to sort necessary items from unnecessary ones, which is very important in reducing the risk of accidents due to the use of improper equipment. At MI Muhammadiyah 1 Kradenan, the implementation of this principle is demonstrated by the sorting of facilities and infrastructure that are no longer suitable for use, such as damaged furniture that is moved to another building. This

proves that the school has a system to maintain safety by ensuring that the work environment only contains items that meet safety standards. This process also avoids the use of items that could endanger school residents, proving that the seiri principle has succeeded in reducing potential risks in the school environment.

Seiton (Neat)

The arrangement and orderliness of school equipment is also implemented through the principle of seiton. Observation results show that stationery, cleaning tools, and other items are neatly arranged in easily accessible places. This arrangement facilitates efficient access and use, while reducing search time and the possibility of accidents due to improper use of items. This principle builds awareness among students and teachers to be orderly and regular in placing items, which is an important part of safety culture.

Seiso (Clean)

The cleanliness of the school environment is also highly considered through the seiso principle. MI Muhammadiyah 1 Kradenan has a regular schedule for cleaning classrooms and other areas, as well as community service activities carried out every month. This routine cleaning not only improves physical cleanliness, but also prevents the spread of disease, which supports the health and comfort of the school community. The application of this seiso principle underlines the importance of cleanliness as part of a safety culture.

Seiketsu (Standardization)

Standardization of cleanliness and orderliness is done by installing posters that remind school residents to protect the environment. The posters help remind school residents of the importance of maintaining cleanliness, such as in sinks and toilets. This standardization step makes the cleanliness and orderliness process consistent throughout the school area, so that a culture of safety becomes part of the daily routine for all school residents.

Shitsuke (Discipline)

Finally, the principle of shitsuke is related to discipline in complying with safety procedures and order in the school environment. MI Muhammadiyah 1 Kradenan holds annual

evaluations to monitor the condition of facilities and infrastructure and ensure that damaged or obsolete items are no longer used. This evaluation encourages discipline and responsibility among all school residents in maintaining environmental safety. With regular evaluations, schools can also ensure that safety and order standards are continuously updated, so that cultural safety can be sustainable.

Conclusions

The implementation of the 5S principle at MI Muhammadiyah 1 Kradenan has made a significant contribution in forming a safety culture in the educational environment. Each element of 5S plays a role in creating a safer, more comfortable, and more efficient school atmosphere. With the system of sorting, arranging, cleaning, standardizing, and discipline, the school not only provides a more orderly learning environment but also instills a sense of responsibility and discipline in students and teachers. The implementation of 5S can be a reference for other educational institutions in building a sustainable safety culture.

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