



Improving Asset Management and Aesthetic Aspect of the Milk Laboratory Division via the 5S Framework and Arts-based Intervention

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Abstract: To improve the efficiency and effectiveness of processes, procedures, and tasks of a Government-Owned and Controlled Corporation's Milk Laboratory Division, the researcher and his collaborators underwent a two-cycle action research project. Using action research tools, the team identified the lack of proper asset management and aesthetic aspects in the laboratory as the issues preventing them from delivering their services to the general public in the most effective, efficient, and timely manner. For this action research, several frameworks, such as the Integral Human Development (IHD) framework, 5S framework, the new model of Artful Creation, Kurt Lewin's Force Field Analysis (FFA), and the three-step change model, were used to address their main concern and achieve the desired future state. The group deemed the two-cycle project a success, which saw the incorporation of art improving the overall 5S implementation. The team became more mindful and responsible for the laboratory items. It enabled them to express their creativity, resulting in a more profound sense of accountability and commitment to their work and organization.

Keywords: Action Research; Integral Human Development; 5S; Artful Creation

Introduction

The Agency is a Government-Owned and Controlled Corporation (GOCC) that monitors the safety and quality of milk and milk products before, during, after its production, and before consumption. With the enactment of the Food Safety Act of 2013, which strengthens the food safety implementation in the country, the Agency is mandated to regulate the local milk producers and dairy farmers in terms of food safety practices in their dairy farm operations.

The Milk Laboratory Division (MLD) is one of the divisions under the Operations Department of the Agency. It is tasked to conduct laboratory analyses of local milk and milk products in the market. As one of the pillar programs of the Agency, the objective of the Division is to implement safety and quality assurance monitoring of the said products for the welfare of the consumers. As a critical aspect of food safety implementation, assurance of safety and quality of products serves to verify the level of food safety the dairy farms or business operators implement in their operations.

From a broader perspective, consumers are protected from unsafe consumption of local milk and milk products. Meanwhile, dairy farmers improve their competence by upgrading their adoption of technologies to comply with the regulations.

However, the Milk Laboratory Division members found it challenging to deliver their services to the general public in the most effective, efficient, and timely manner because of poor asset management within the laboratory.

The main proponent of this Action Research project is a Food Technologist 1 and is responsible for supervising the whole laboratory operations of the Division and his colleagues and consolidating and analyzing the reports of other regional laboratory departments.

The team conducted the two-cycle Action Research to organize their workplace, tidy up and maintain the laboratory to perform its mandated duties. Using tools such as a realistic ORJI, Ladder of Inference, Four Parts of Speech, and Ladder of

Inference, the lead investigator and his collaborators were able to identify the key issue and design the needed intervention to change their workplace.

Stories and Outcome – First Cycle

The first few signs of the issue started during the visit of the inventory committee to conduct a physical count of the laboratory's properties and tangible assets. During this inventory count by the inventory committee in the Milk Laboratory Division, the team met problems and issues. Some of the instruments, apparatus, and materials were difficult to locate. Even expensive pieces of equipment were not retrievable during their inspection, which made the head of the committee call the team's attention to the matter. Moreover, some items were available yet were not utilized for their purpose, if at all.

This dilemma also caused problems in the aesthetic appearance of the laboratory. An ideal laboratory conducive to working must only have instruments and materials that are relevant and in good condition. It must also be free from clutter and any unnecessary items not related to the laboratory operations. The Milk Laboratory is quite far from this model, and this concern proves to be a hindrance to their efficient operations.

Often, organizing workplaces, de-cluttering of areas, and cleaning and tidying up offices are strongly linked to utilizing the potential of organizations to gain optimum performance (Randhawa & Ahuja, 2017; Bayo-Moriones et al., 2009; Khan et al., 2019). This is undeniably evident, especially in industries where numerous pieces of equipment, tools, materials, processes, and tasks are undertaken and require simultaneous operations of these apparatus and execution of the relative activity. As provided in his article, James Patten (2006) stressed that more than mere housekeeping, a continuous improvement tool focusing on workplace organization is a philosophy to attain total cleanliness and workplace and work process standardization. A clean and organized area gives a delightful ambiance to the workplace environment, leads to motivation, boosts morale, and encourages ownership of responsibility among employees practicing it (Randhawa & Ahuja, 2017).

The team used the Integral Human Development (IHD) framework to validate the issue,

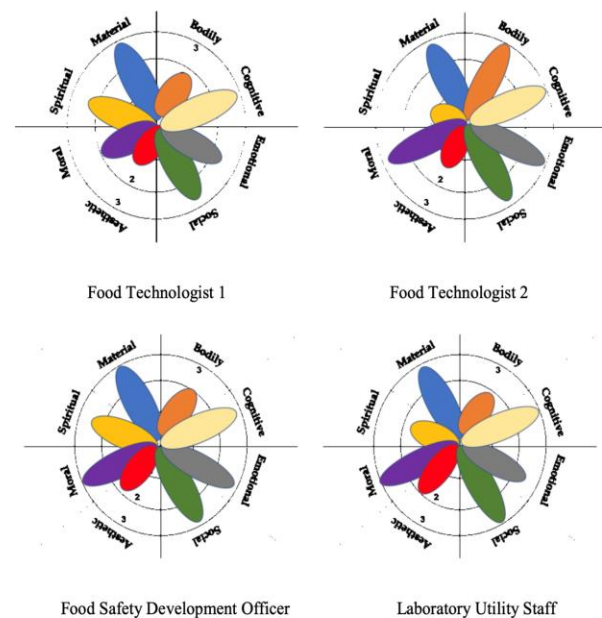
which was adapted from Alford & Naughton's (2001) book, *Managing as if Faith Mattered*. B. Teehankee (personal communication, July 3, 2021) interpreted the seven dimensions, Bodily, Cognitive, Emotional, Aesthetic, Social, Moral, and Spiritual, as petals of a

flower, which is appropriate because the goal of IHD is development in all its dimensions, a flowering of not only the material but also social, cultural and spiritual human being.

The collaborators drew their IHD flower (Figure 1), and almost everyone identified aesthetic (the red petal) as the dimension that needed the most nurturing. Thus, the team agreed that the lack of aesthetic facet affected their human development and hindered their operational performance. They could not easily account for their assets due to the lack of organization in their laboratory.

Figure 1

The team's IHD Flowers



Aesthetic can be defined as a "pleasing appearance." Therefore, with the outcomes obtained from the collaborative discussions with the team and the IHD flowers, the intervention identified was the use of the 5S framework that would aid in addressing the issue of asset management and the aesthetic appearance of the laboratory.

The five principles of the 5S framework are seiri, seiton, seiso, seiketsu, and shitsuke. They can be roughly translated as sort, set in order, shine, standardize, and sustain in English.

According to Osada (1989, as cited in Kobayashi et al., 2008), 5S can apply to individuals and organizations as the philosophy involves participatory efforts among the individuals and groups involved. The philosophy is also not limited to any business functions and environments. It can include workplaces, offices, homes, universities, and communities, as well as the functions involved in each unit, regardless of the industry type or size (Kobayashi et al., 2008; Randhawa & Ahuja, 2017). As defined by Bayo-Moriones et al. (2010), 5S is a systematic method of organizing, cleaning, standardizing, and integrating discipline in the workplace to reduce waste and lead the productivity and quality of the workplace and environment at its optimum performance.

Before proceeding with the actual conduct of the 5S, the team plotted the activities that will be involved to reach the desired state of an organized and pleasant work environment. The activities are summarized in Table 1.

Table 1

Schedule of Activities of MLD for weeks 1 and 2

Week	Date	Activity
1	Dec. 28, 2020	Work: Calibration of equipment 5S activity: 5S orientation
	Dec. 29, 2020	5S activity: 5S Planning
2	Jan. 04, 2021	5S activity: Sorting
	Jan. 05, 2021	5S activity: Setting in order
	Jan. 06, 2021	5S activity: Shine
	Jan. 07, 2021	5S activity: Standardize
	Jan. 08, 2021	5S activity: Sustain

Note. Activities in green texts are primary work related activities

Figures 2 and 3 show the team performing some of the 5S activities.

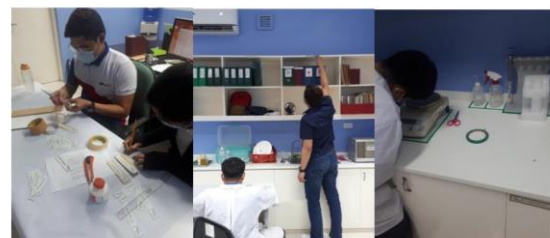
Figure 2

Sorting Activities



Figure 3

Standardizing Activities



Using the 5S framework, the team successfully reached its desired state of improving its ability to account for the laboratory's assets and create a more aesthetic workplace. The laboratory has improved its asset management and aesthetic appearance compared to what it was before. Table 2 presents some of the team's comments as they assessed the effectiveness of their 5S activities.

Table 2

Reflections and Feedback at the end of Cycle 1

Team Member	Shared Reflections and Feedback
Laboratory Utility Staff	“Nag 5S din kami sa bahay, sir. Sabi ko nga parang ganito din yung ginagawa namin sa office.”

Team Member	Shared Reflections and Feedback
Food Safety Development Officer	“Iniisip ko nga sir mag 5S din sa kwarto ko...”
Food Technologist 2	“Super effective ng 5S, Kuys! Alam ko na kung saan hahanapin yung mga gamit, like gunting...”

Meta-Learning After the First Cycle (Dan Guban’s Reflections)

Being in the organization for about four years, I have already observed this persistent asset management problem. I am not quite sure if this problem also occurs in other divisions. Still, I believe this issue has the most significant impact on our Division, as our pieces of equipment and materials are not just ordinary office items or consumables. These items are rather expensive than our other departments, and the team must practice extreme care in handling them. This was not apparent yet during the past years I have been with the organization. These expensive pieces of equipment were left immobile and unused for quite a time. There is no assurance if it is still working or not. Besides, these items were bought using government funds, which the Filipino citizens have contributed.

It was probably timely that everything fell into place during this period in my career. I was taking my Management Action Research (MAR) course, which taught us tools of action research and how I can utilize these tools in making organizational changes. It was also this time that I was taking the Integral Human Development (IHD) course, where the objective of the subject is to develop various integral human aspects of an individual and positively influence others in developing theirs and eventually contribute to society as a whole. It also required us to conduct action research that will integrate the IHD principle into our objectives. Therefore, these two subjects complemented each other, which helped me not only in both subjects per se but also in the action research in my organization. I could not have wanted any other circumstance than this one. Coincidence or not, this situation was an excellent opportunity to achieve all of our objectives.

The planning part of the action research was also challenging but interesting at the same time. None of us is an expert on the 5S principle and

its practices, yet we managed to develop an action plan to implement it. We started by conducting an orientation, which I led, then proceeded with a short exercise to assess our understanding of the principle. In the subsequent days, I conducted brief orientations for each step before executing the actual steps.

Implementing our planned action was both exciting and physically straining. On one part, it was physically exhausting moving and transferring items from one part of the lab to another. Counting consumables was also tiring, as well as arranging them in an organized manner. It was laborious work. On the other hand, it is exciting when you see the immediate results the principle delivers.

One of the most valuable outputs we generated in the standardization step is the inventory master list spreadsheet. In the spreadsheet, we can easily track all the pieces of equipment, apparatus, materials, and consumables in one registry. Essential parameters include product name, brand, description, model/serial number, date purchased/obtained, unit/total cost, initial and remaining quantity, supplier, location, and status (condition). This is particularly beneficial for us, especially in our compliance with the Commission on Audit (COA) requirements on the inventory of tangible assets, and ultimately for the transparency to the Filipino citizens. The audit activity was also a fruitful affair. I thought I had implemented 5S in the best way possible, but you will see a lot more when you change your perspective as a critic of your work. Although that might be the case, this has not disheartened us in continuing the 5S program. Instead, it motivated us to apply corrective actions and improve our practices.

Evaluating our activity was like tasting the fruit of our hard labor. From the audit process, we already saw the immediate results of the action. The whole laboratory seemed like it was a different place than what we were used to. I appreciated the appearance of the laboratory more than it was before.

I believe this was also the case for my colleagues, as they have attested in the 5S post-survey questionnaire. Also, we affirmed the success of our intervention based on the survey results; therefore, we did improve the asset management and aesthetic appearance of the laboratory. The overall activity was a fun ride, and we will be

continuing the journey as long as there is still room for improvement.

Stories and Outcomes – Second Cycle

An emergent opportunity that manifested during the first cycle was how the team used their creativity to expose their artistic side. Although Cycle 1 focused on improving asset management through the 5S framework, the collaborators have been subconsciously integrating their creative abilities into our intervention. Figure 4 shows how the team expressed their creativity and the 5S interventions.

Figure 4

Artistic Outputs in 5S implementation



Note. The 5S Story board and Red Tag folder.



Note. Scratch paper box and sticky flags for folders.

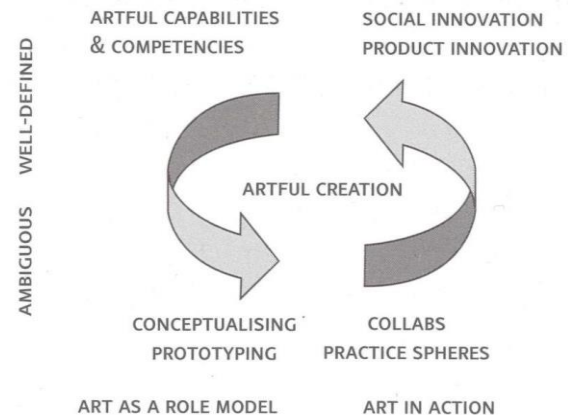
The final step in the 5S of good housekeeping, sustain, is the most challenging part. The team agreed that adding the artistic effect would help motivate them to sustain their 5S effort. As scientists, the team felt that they needed to capacitate their artistic aspects by exposing themselves to art concepts and resources through free online courses about art and creativity.

To guide the team in their goal of incorporating art and creativity to sustain their 5S efforts, they used the revised conceptual model of artful creation. This framework expounds that incorporating arts within an organization is not merely going through the whole process of using and integrating arts to create the desired output or a new type of service; instead, it explains how the interconnected relations among the matrix

categories and of the whole process can bring about new ways of knowledge and action to the organization (Darsø, 2004, as cited in Antal, 2014).

Figure 5

The new model of artful creation



Note: Original figure from L. Darsø (2004). Artful creation: Learning-tales of arts-in-business, p. 150. Copyright 2004 by Lotte Darsø and Samfundslitteratur. Reprinted with permission.

After finding a Coursera course that promised a thorough discussion of theories on art, virtual demonstrations of art installations, and practical applications of art techniques through hands-on activities, the team decided to enroll in the course. In this manner, they expected to learn a few art concepts, be inspired to develop their artistic side, and apply it in their continuous 5S intervention.

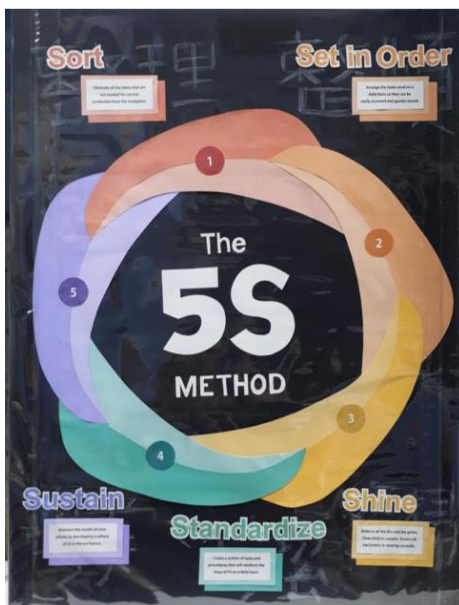
They agreed to take the course at their pacing and at their most convenient and available time. They also held micro-sessions after accomplishing a weekly activity in the course to share insights about the conducted activity for that particular week. Finally, for the culminating activity of Cycle 2, the team visited the National Museum of Fine Arts in Padre Burgos Avenue, Ermita, Manila, to have experiential learning and apply the principles and concepts learned from the course.

In conclusion, all of these activities have led the team to be inspired and creative in implementing the 5S framework. Figure 4 shows how the team used their new art skills to create the 5S collage art. Each principle is provided with a

description below it. Some materials used include white scratch papers, old colored papers from previously unused materials, chalk (for the Japanese letters/characters), an illustration board, and a plastic cover.

Figure 4

5S framework collage art in illustration board



Meta-Learning After Second Cycle (Dan Guban's Reflections)

I was expecting that the offshoot of the 5S implementation would introduce us to our second cycle. We found it quite challenging to sustain the 5S implementation, given the situation resulting from the effects of the pandemic. We were reporting on an Alternative Work Arrangement, meaning not all of us are physically present and available at the office. Moreover, one of our colleagues has resigned from duty, leaving us with one less teammate to assist us.

This presented a problematic situation because the 5S method requires physical work. The more personnel present and working towards its objectives, the easier the team would accomplish it. Nevertheless, with the tenor of Nick Nissley's (2010) article, adversity creates innovative people. Therefore, facing such hurdles, we have turned these

events in our favor by being creative in our 5S implementation.

The whole art-based intervention was quite perplexing since this is fairly a different territory to us, and, not to undermine the artistic skills of my collaborators, none of us are comparable to people with exceptional talents, let alone professional artists. This was also greatly emphasized and evident during our visit to the National Museum of Fine Arts. Regardless, we have treaded this new environment to develop our aesthetic aspect both in the laboratory and our personal development. My collaborators and I have felt a sense of gratification budding as we humbly develop our human aesthetic aspect.

Eric Gill, a famous artist, once said, "The artist is not a different kind of person, but every person is a different kind of artist" (Gilbert et al., 2009). Defining the artist in its strictest sense would be an inevitable debate in the world of arts as a profession, but interpreting the quote more loosely, and probably in accordance with a layperson's inference, I would instead think that art is personal. It is often grounded on the artist's social boundaries and liberties, their perception of the world, and their interpretation of it. It is birthed from the constant chaos and harmony of an individual's personal values, which are persistently influenced by the environment (social, cultural, economic, etc.). Simply put, we create and perceive art in our unique ways. We may emulate other artworks through exposure and practice, but ultimately, it is from our examination and synthesis that we make and express art the way we want it to be.

Contemporary approaches in organizational development have seen shifts from traditional skill-based development to transformational learning. Nowadays, the aim is to produce developmental experiences that enhance human potential, one of which can be furthered by artistic interventions (Darso, 2004, as cited by Kerr, 2013). On a personal observation, I usually notice art installations in luxury hotels, private business entities, or multinational corporate settings, where expensive paintings facade on the walls, in meetings rooms, or in conference halls of executives.

Our art-based interventions fall under the three options provided by Dario (2004, as cited by Kerr, 2013). The use of arts as an instrument for capacity-building applies to our first intervention when all of us have enrolled in a Massive Open

Online Course (MOOC) on arts and art-related activities. The primary objective of the first part of the intervention is to learn basic concepts and theories about art and its application. Since most of my collaborators have already expressed their creativity during our 5S implementation, the crash course on art exposed us to several methods of exploring and assessing the arts and how we can apply some of the techniques taught in the course in our everyday lives. The in-course activities were more enjoyable than looking at it as a mere task to be accomplished. This was apparent as we progressed through the course. The more we take on the weekly activities together, the more we learn about the course, ourselves, our capabilities and inner creativity, each other, and our relationships in and out of the Division.

The last phase of our intervention was to apply our learning from the art course and museum visit. We used our newfound artistic skills from the techniques taught in the class and inspirations from the art appreciation activity to incorporate them into our 5S intervention. This art-based intervention falls under arts used as a strategic process of transformation. This last part was a bit tricky since, as previously mentioned, 5S is primarily used to streamline activities, remove wastes, and decrease downtime of operations caused by disorganized systems and workplaces. It also aims to avoid confusion among implementers and users, especially in undertaking and applying the five principles in the workplace or organization.

However, the key to our intervention is to be as creative as possible without steering too far from the objectives of the principles. The 5S method still gives ample room for innovation through visual controls that deem it effective when it can constantly and consistently catch the user's attention. But beyond visual controls, given that this action research is empirical, we tend to widen our space for innovation to think of unique and artistic ways to apply the arts in our 5S intervention.

Transformation: Faith, Service, and Communion in Mission

The lead researcher became more reflective of his actions and reactions through the action research. With his developed aesthetic aspect, he is now more creative in his work. And after going through the whole action research process, he became more understanding of people and

situations. Consistent with 'faith' as a Lasallian Core Value, he aims to impact others by helping them achieve their positive transformation.

For others, specifically, the collaborators, they were now more responsible for dealing with their assets. They can express their creativity more freely with their developed aesthetic aspects as the team created collabs and practice spheres in their laboratory. Everyone is more participative than ever. Relative to the Lasallian core value of communion, these collaborative actions ultimately improve the quality of their lives and of the people they serve.

As for the organization, their collaborative efforts resulted more transparently in terms of adherence to the requirements of COA in asset reporting. This collaboration also resulted in a more harmonized asset management and asset utilization. They also gained a more profound sense of accountability as we all became responsible for taking care of the laboratory and its assets. With these transformations, the Milk Laboratory is more dedicated to becoming more effective in their operations. Their organization is committed to building a more progressive Filipino nation through a transparent, effective, and efficient service to the people in the spirit of service.

Conclusion

Traditionally, the world of businesses and art were kept separate. The world of art has its codes, behaviors, and values, and these are usually perceived to be very different, even opposed to those that operate in organizations (Berthoin Antal, 2014). However, when arts enter organizational spaces, the learning is not only around specific capabilities but also around intangible, elusive qualities, especially "energy" (Darsø, 2004, p. 152). As seen in this project, this energy has triggered the team's creative juices to produce tangible outputs and utilize it to make the 5S method more enjoyable to use, thus, more sustainable for the organization.

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