

The Study of 'Magic Softener' to Increase the Cleanliness, Softness and Scent of Fabrics

Nur Shafura Ramli^{1,*}, Kamelia Katrina A/P Amy², Kesya Aulia Samsudin³, Nursazerin Roni⁴, and Safiyyah Mohd Hainizam⁵

- ¹ Sekolah Kebangsaan Sungai Lui, KM40 Bandar Seri Jempol, Negeri Sembilan; nur.shafura.ramli@gmail.com 
ORCID ID: 0009-0002-5906-2735
- ² Sekolah Kebangsaan Sungai Lui, KM40 Bandar Seri Jempol Jempol, Negeri Sembilan
- ³ Sekolah Kebangsaan Sungai Lui, KM40 Bandar Seri Jempol Jempol, Negeri Sembilan
- ⁴ Sekolah Kebangsaan Sungai Lui, KM40 Bandar Seri Jempol Jempol, Negeri Sembilan
- ⁵ Sekolah Kebangsaan Sungai Lui, KM40 Bandar Seri Jempol Jempol, Negeri Sembilan
- * Correspondence: nur.shafura.ramli@gmail.com; +6012-7977855.

Abstract: In this era of globalization, clothing fabrics, curtains and sheets around us consist of various types and textures. However, in styling and using these diverse fabrics, we cannot escape from the problem of washing and cleaning clothes and fabrics. Our schools are also among the areas that have different types of cloth and fabrics. We have a lot of buildings so that have a lot of curtains and sheets. It's a bit painful to wash but the clothes still smell and wrinkle. Furthermore, the price of fabric softeners and fragrances available in the supermarket is quite expensive. Therefore, we inspired our product which is Magic Softener to make it easier for school people so that fabrics and cloths in schools can be cleaned more easily, cheaply and economically. We use vinegar, sodium bicarbonate, water and even used perfume essence. This product can not only soften the fabric but also remove stains well. Fabric softener is used when washing clothes to soften and protect the clothes. Magic Softener can also be used as a spray on thick fabrics surfaces such as mattress, cushions and carpets. Simple, cheap, economical and environmentally friendly compared to fabric softener products available in the supermarket.

Keywords: magic softener; fabrics; cleanliness; softness.



Copyright: © 2023 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. INTRODUCTION

Sekolah Kebangsaan Sungai Lui is located about 40 kilometres from Bandar Seri Jempol, Negeri Sembilan. This school is in the felda village and is a rural school. Near this school is an era where the Asli people live which consists of several villages. This school has approximately six classes and no pre-school. In 2023, the number of students is 105 with 16 teachers and two support staff. Most of the student here are from the Orang Asli Semelai race which is more than 65 percent (%) and the rest are from the Malay communities.

The school has 7 blocks and has more than 20 different rooms. Each room is equipped with various amenities and there are also curtains and sheets. Since the establishment of Environmental Club, volunteers made up of indigenous students are very excited to help the school to do community service, including washing school sheets and curtains. However, it is quite difficult to wash with limited cost. It's a bit painful if you're tired of washing, but they said fabrics still smell and wrinkle (Dennis S.

Murphy, 2015). Then the inspiration to make a fabric softener using discarded materials called 'Magic Softener' was born. Students also get support from the school and parents to overcome the problem (Ee Ah Meng, 1992).

2. METHOD & MATERIAL

The research applies the action research model (Khemmis and Taggard, 1992 model) as shown in the following diagram:

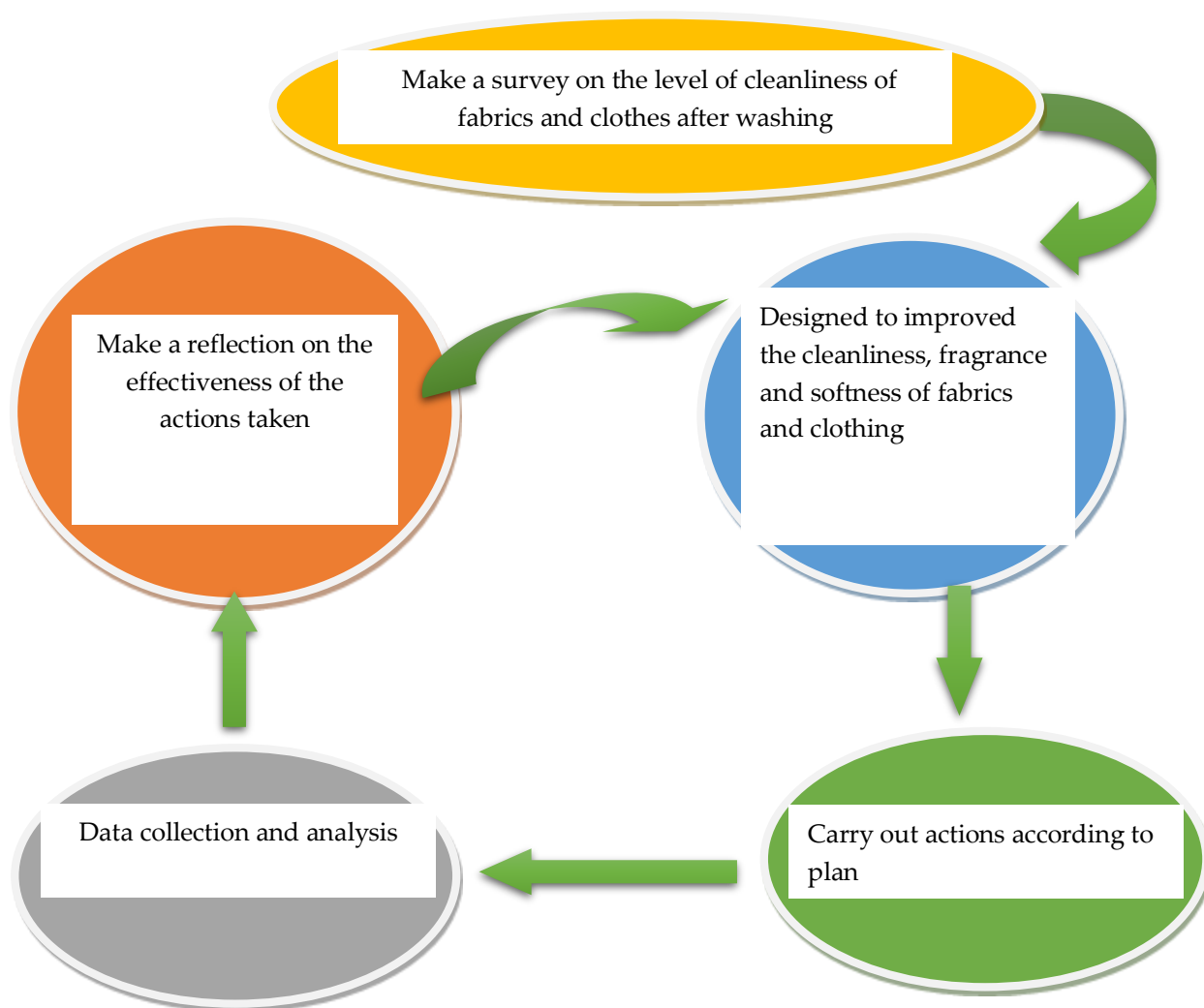


Figure 1. Action Research Model (Kemmis and Taggart, 1992).

We obtain to use materials from concern people and contributors of perfume, vinegar and bicarbonate soda. The researcher makes 'MAGIC SOFTENER' according to the prescribed measurements (MOSTI, 2015).

2.1 Perfume essence is mixed into 1 cup of water to become solution A.

2.2 40g of bicarbonate sod is mix with 250 ml of vinegar to make solution B.

2.3 Solutions A and B are combined and stirred carefully.

2.4 Solution C is formed and is called 'Magic Softener'.

At first we wash with normal laundry without using Magic Softener. We made a survey with 10 teachers and 30 students. They are our respondents and give marks on three things which are the cleanliness, softness and fragrance of the fabric. We also took survey to them after using Magic Softener on curtains and sheets.

3. FINDINGS

Table 1. The table shows the data obtained before the study.

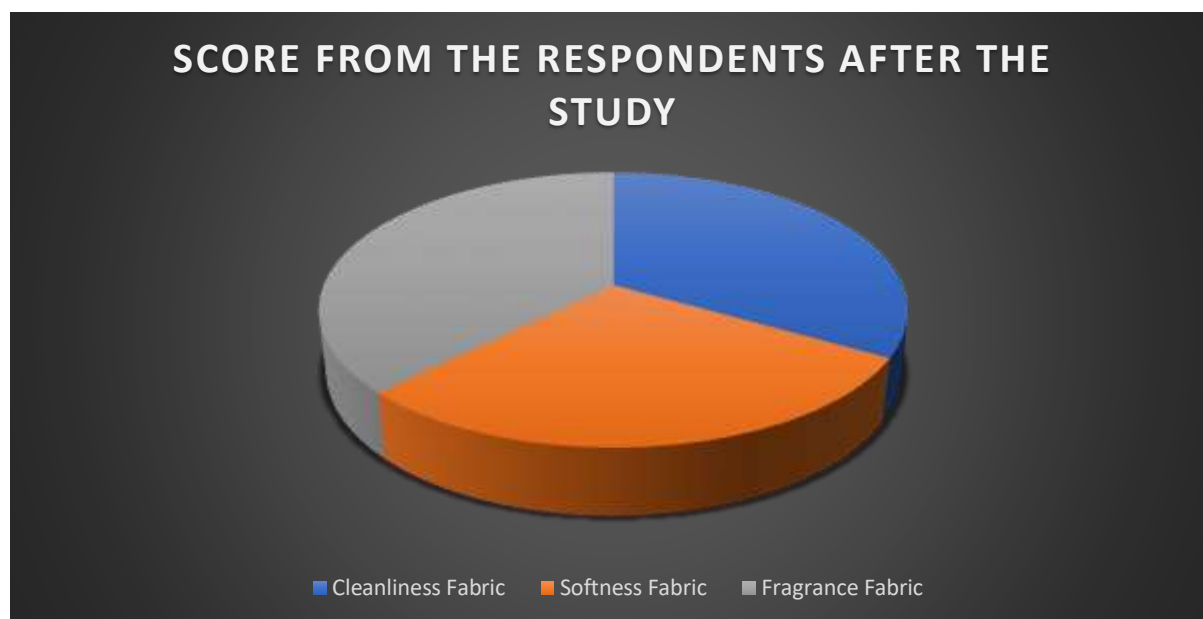
ITEM	SCORE FROM THE RESPONDENTS
Cleanliness Fabric	40%
Softness Fabric	30%
Fragrance Fabric	20%



Figure 2. The bar graph shows the results of the study before the study.

Table 2. The table shows the data after the study.

ITEM	SCORE FROM THE RESPONDENTS
Cleanliness Fabric	80%
Softness Fabric	70%
Fragrance Fabric	90%

**Figure 3.** The bar graph shows the results of the study after the study.

3.1 Survey

From the findings of the study, the Magic Softener produced is more environmentally friendly because it does not use harmful chemicals. In addition, this product is cheaper to manufacture and easily available (MOSTI, 2015). In addition, the use of fabric softener is common to give a pleasant smell however (Dennis S. Murphy, 2015). This product is also proven to quickly and effectively clean, soften and remove odours and dirt form clothes.

4. DISCUSSION

This fabric softener uses only three basic ingredients, one of which provides a huge advantage over store-bought liquid fabric softeners. Repeated treatment cycles with fabric softener using a higher pH washing media resulted in higher concentrations of fabric softener on and within the cotton fibres (Obendorf K., Vivichana D., Dong.J.W, 2008). This can be proven by the use of products such as Sodium Bicarbonate which has high pH. Store-bought fabric softener coat fabric in a thin layer of chemical softener, and over time, it can build up a stubborn layer of water-repellent residue that can prevent laundry from getting completely clean (James A. Smith, Chatham, Mass; George W, Kellet, Cranford, N.J., 1997). The addition of vinegar in our fabric softener actually breaks down that stubborn residue while helping to soften your clothes. I can also soften. It can also soften hard water and residue static as well.



Figure 4. This is a figure of Magic Softener

5. CONCLUSION

In conclusion, this product works well in term of softening clothes and fragrances them. For recommendation study in the future we plan to study antibacterial materials and direct spray method that can be used on this product so that they can solve the problem more effectively. The technologies reviewed are aimed at the consumer market (Dennis S. Murphy, 2015).

Acknowledgments: Sincere gratitude is extended to the Malaysian Ministry of Education and the Headmaster of SK Sungai Lui, Mr. Hazni bin Muhamad, for the support and the contribution given.

References

- Dennis S. Murphy. (2015, March). *Fabric softener technology: A review*.
- Ee Ah Meng. (1992). *Inovasi*. Siri Pendidikan Fajar Bakti, Kuala Lumpur, 15-20
- James A. Smith, Chatham, Mass, George W., Kellet, & Cranford, N.J. (1997, August). *Fabric treatment and softener system for in-dryer use*.
- Kementerian Sains, Teknologi dan Inovasi Malaysia (MOSTI). (2015). *Jimat dan mudah dengan inovasi*.
- Obendorf K., Vivichana D., & Dong. J.W, (2008) Microscopy study of distribution of laundry fabric softener on cotton fabric. *Journal of Surfactants and Detergent*; August 2009;2,3; *ProQuest Science Journal*, 225.
- Pusat Perkembangan Kurikulum. (1998, April). *Penulisan Inovasi Berkesan*. Kementerian Pendidikan Malaysia, 407-426.