



Creating Child-Friendly Sports Through Sign Systems: Visual Innovation at SDS Sawitan, PT. Bangkitgiat Usaha Mandiri (BUM)

Chabib Novianto¹, Hevon Pheriantsih Janos², Fikri Adriansyah³, Marshanda⁴, Dwinta Noval Rahardian⁵, Athaya Zafirah Djohan⁶, Rizka Sevia⁷, Azfa Naufal Purnomo⁸, Muhammad Andhika⁹, Rama Wijaya¹⁰, Dea Novitasari¹¹

^{1,2} Affiliation of Authors 1 and 2 (if they share the same affiliation)

³ Affiliation of Author 3 (listed separately if different)

 widie.has@gmail.com

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ABSTRACT

This community service program aims to implement a child-friendly sign system at SDS Sawitan PT. Bangkit Giat Usaha Mandiri (BUM) to support the Child-Friendly School concept in accordance with the Regulation of the Ministry of Women's Empowerment and Child Protection (PPPA) No. 8 of 2014. The activities were carried out using a participatory method, involving teachers, students, and the KKN team in four stages: planning, production and installation, socialization and education, and evaluation. The signs were designed with bright colors, simple illustrations, and easy-to-understand language, and were printed on safe and weather-resistant materials. As a result, students were able to understand the signs without additional explanations, showed improved orderly behavior and compliance with rules, and required fewer verbal instructions from teachers. Socialization efforts with students and parents extend the educational impact into the home environment. The evaluation indicated the need to adjust the position of several signs to enhance visibility. Overall, this program successfully created a safer, more informative, and conducive learning environment, while instilling the values of discipline, cleanliness, and care from an early age. This success underscores the importance of cross-sector collaboration in producing sustainable educational visual solutions for elementary schools.



A. INTRODUCTION

Schools serve not only as learning facilities but also as crucial spaces for children's holistic growth and development. The Child-Friendly School (CFS) concept, as stipulated in Regulation of the Minister of State for Women's Empowerment and Child Protection Number 8 of 2014, is intended to create safe, healthy, and inclusive educational environments that guarantee the protection of children's rights. While CFS implementation has focused more on policies, curricula, and learning methods, infrastructure, particularly the design of the school's physical environment, also significantly impacts student comfort and safety.



One element of the physical environment that is often overlooked is the visual information system or sign system. The existence of a sign system plays an important role in helping spatial orientation, providing a sense of security, and being an informative and navigable educational medium for students. The results of initial observations at SDS Sawitan PT. BUM, Tumbang Kalang Village, Antang Kalang District, East Kotawaringin Regency, showed that there were still problems in this aspect, namely (1) the absence of adequate directions (sign system), making it difficult for students and visitors to find certain spaces, and (2) the lack of consistent visual information regarding school rules and regulations.

A number of previous studies have shown that sign systems have great potential to support the creation of a child-friendly school environment. According to Fahminnansih et al (2025) Through research at SD Labschool Unesa 1, it was found that designing a sign system based on design thinking can increase students' awareness of cleanliness and the environment through educational visual media. A similar finding was demonstrated by Erdiana (2025) who designed a sign system to introduce an environmentally friendly lifestyle (eco-friendly) in elementary schools as an effective visual educational media to support the Eco Green School concept.

This situation prompted the KKN team to develop a solution in the form of a comprehensive and child-friendly sign system. Sign systems, or visual markers, are a crucial element in creating an informative, navigable, and educational environment. With the right design, sign systems can function not only as directional signs but also as a learning tool and for character building. This program is expected to make a real contribution to realizing the concept of child-friendly schools through a practical, effective, and sustainable visual innovation approach.

B. METHOD

This community service activity was carried out at SDS Sawitan PT. Bangkit Giat Usaha Mandiri (BUM) during the Real Work Lecture (KKN) program. The method used was participatory, involving the school, 12 teachers, 60 students, and 10 KKN teams directly in the planning, manufacturing, and installation of the sign system. To evaluate the effectiveness of the sign system, a purposive sampling technique was used. This method was chosen because only relevant parties such as teachers, students, and school administrators can provide information regarding the effectiveness of the implementation of the child-friendly sign system. With purposive sampling, the research can be more focused on obtaining in-depth data that is in line with the objectives. (Lenaini, 2021). The stages of activity implementation are as follows:

1. Planning Stage
 - a. Identified strategic areas in the school environment that require a sign system (classrooms, libraries, toilets, canteens, play areas, and evacuation routes).
 - b. Discuss with the school to determine the type of visual message that suits the child's characteristics (for example, instructions, prohibitions, motivation, and education).
 - c. Creating a child-friendly design concept, utilizing bright colors, simple illustrations, and easy-to-understand language.
2. Production and Installation Stage
 - a. The sign system is made using materials that are safe, weather-resistant, and have no sharp edges.
 - b. Signs are installed at strategic points according to the planning results.
 - c. Each sign is tested for readability and comprehension by students of various grade levels.

3. Socialization and Education Stage
 - a. The teacher explains to students the meaning and function of each sign.
 - b. Simulation activities using signs, for example disaster evacuation simulations with the help of directional signs.
 - c. Providing visual education sheets to students to take home, so that parents also understand the function of signs.
4. Evaluation Stage
 - a. Conducting observations of student behavior after the installation of the sign system to see its effectiveness in forming orderly, safe, and comfortable behavior.
 - b. Collecting input from teachers and students through short interviews.
 - c. Refine the design or position of the sign based on the evaluation results.
 - d. Provide pre-test and post-test to see behavior before and after installing the sign system.

C. RESULTS AND DISCUSSION

The community service program at PT. Bangkit Giat Usaha Mandiri (BUM)'s Sawitan Elementary School focused on the creation and installation of a sign system to support the creation of a Child-Friendly School. The process was carried out in a participatory manner, involving teachers and students. The activity was divided into four main stages, from planning to evaluation.

1. Planning Stage

The activity begins with the identification of strategic areas that require the installation of visual signs, including spaceclassrooms, libraries, restrooms, canteens, play areas, and evacuation routes. Observations revealed that several critical areas lacked clear signs or warnings, potentially causing confusion or safety risks. Discussions with the school administration were then conducted to determine the types of visual messages to be created, such as signs for guidance, prohibitions, motivational messages, and educational messages. The design was child-friendly, with bright colors, simple illustrations, and easy-to-understand language, in accordance with the findings.Wang et al (2025)that visuals with contrasting colors and simple symbols improve readability for elementary school children.



(a)



(b)

Figure 1. Planning (a) School Identification (b) Discussion with School Officials

2. Manufacturing and Installation Stage

The design was printed on PVC foamboard, a safe, lightweight, weather-resistant, and sharp-edged material, to minimize the risk of injury to children. Installation was carried out

at strategic locations based on the planning. After installation, each sign was tested for readability by involving students from various grade levels. The test results showed that students could understand the sign's meaning without further explanation, indicating the effectiveness of the design.



(a)



(b)



(c)



(d)

Figure 2. Stages of Making and Installing (a) (c) Making Class and School Names (b) (d) Installation in the School Area

3. Socialization and Education Stage

The socialization was carried out by teachers who provided direct explanations to students regarding the meaning and function of each sign. To strengthen understanding, simulations of sign use were conducted, including a disaster evacuation simulation using installed directional signs. In addition, students were given visual education sheets containing images and explanations of the signs to take home, so that parents could also understand the function of the signs and support their implementation at home. According to Kelty & Wakabayashi (2020) Family involvement in understanding visual messages can extend the educational effects beyond the school environment.



(a) (b)
Figure 3. Socialization and Education Stages (a) Socialization to Teachers (b) Education to Students

4. Evaluation Stage

An evaluation was conducted two weeks after installation through observations of student behavior. Observations showed increased compliance with school rules, such as correct use of evacuation routes during simulations, orderly queuing in the cafeteria, and maintaining the cleanliness of the play area. Brief interviews with teachers indicated that the visual signs helped reduce repetitive verbal instructions, allowing teachers to focus more on the learning process. Some feedback was received regarding the signs' placement being less visible in certain areas, leading to adjustments in their position and size.

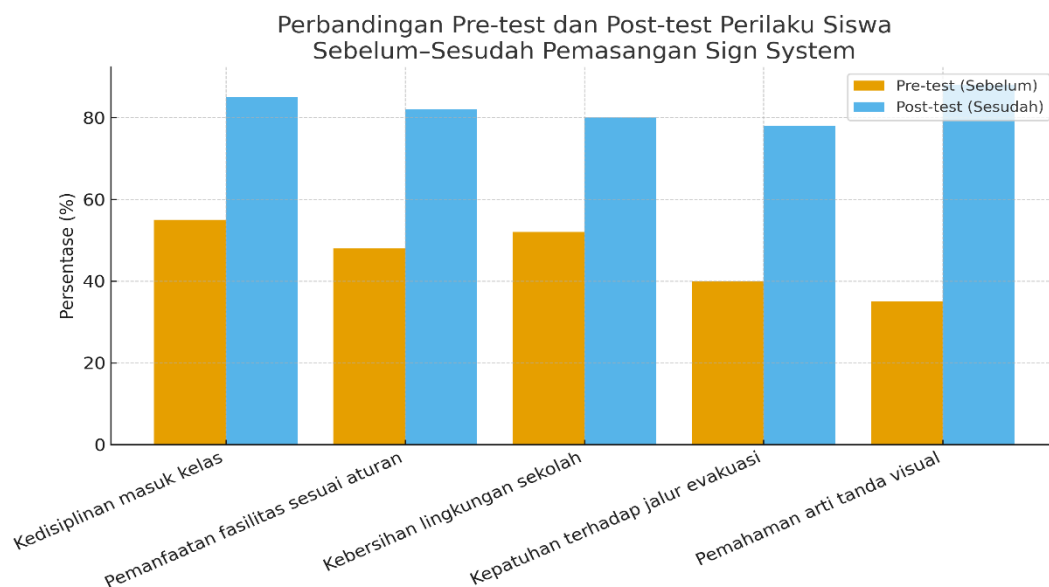


Figure 4. Bar Chart of Pre-test and Post-test Before-After Sign System Installation

The pre-test and post-test results displayed in the bar chart reinforce these findings. Discipline in entering class increased from 55% to 85%, facility utilization according to regulations increased from 48% to 82%, school environment cleanliness increased from 52%



to 80%, compliance with evacuation routes increased from 40% to 78%, and understanding the meaning of visual signs increased from 35% to 88%. These data confirm that the sign system installation has had a significant impact on changing student behavior.

Overall, this signage system program has had a significant positive impact on the school environment. Clear and easy-to-understand signs help students navigate, understand rules, and adapt their behavior accordingly. This contributes to a more orderly, safe, and conducive learning environment for the entire school community.

In addition, the implementation of the sign system also encourages the growth of students' concern for Environmental awareness. Visual messages encouraging cleanliness, energy conservation, and mutual respect can instill positive values from an early age. This behavioral change is evident in students' increased awareness of maintaining school facilities and disciplined behavior in public areas.

The success of this activity is inseparable from the active participation of all parties, from teachers, students, parents, and the KKN team involved. Collaboration from the planning stage through production, installation, and final evaluation ensured that the resulting solution truly met the school's needs. This participatory approach made the program more sustainable, as all parties felt ownership and responsibility for maintaining the results.

D. CONCLUSION

Community service activities through the creation and installation of a sign system at SDS Sawitan PT. Bangkit Giat Usaha Mandiri (BUM) have succeeded in creating a more child-friendly, orderly, and safe school environment. The participatory method involving teachers, students, parents, and the KKN team has proven effective in ensuring the design, message, and placement of signs are in accordance with the needs and characteristics of elementary school children. This program is able to improve the readability of information, facilitate orientation in the school environment, and shape positive student behaviors such as discipline, concern for cleanliness, and obedience to rules. The presence of visual signs also reduces the burden of verbal instructions from teachers, so that learning time can be utilized more optimally. The success of this program demonstrates that cross-stakeholder collaboration is crucial in creating sustainable educational solutions. The active participation of all school members makes the sign system not only a means of information, but also a medium for character building and a culture of order in the educational environment.

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