

Adapting the 5R Culture to Optimize School Facilities and Infrastructure:

A Qualitative Case Study at an Indonesian Elementary School

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Abstract: *This study examines the adaptation of the 5R culture (Ringkas, Rapi, Resik, Rawat, and Rajin), originally developed in industrial settings, to the educational context for optimizing school facilities and infrastructure. A descriptive qualitative case study was conducted at SD Negeri Sokowaten Baru, selected because the school has implemented the 5R culture in managing and utilizing its facilities and infrastructure. Data were collected in June–July 2026 from five informants, comprising the principal, a staff member responsible for facilities and infrastructure, a classroom teacher, and two students, through observations, interviews, and documentation. Data were analyzed thematically through data reduction, data display, and conclusion drawing, with source and method triangulation used to strengthen the credibility of the findings. The findings indicate that adapting the 5R culture in the school context extends beyond maintaining cleanliness and order to supporting systematic facilities management, shared responsibility, and a conducive learning environment. The implementation of the five principles contributed to more efficient inventory management, strengthened collaboration among the principal, teachers, students, and parents, and encouraged students' discipline and responsibility in maintaining school facilities. Digital administration through the SIMAS application supported the Rawat principle by facilitating asset documentation and monitoring but did not constitute the core of the 5R culture. This study contributes a practice pattern demonstrating how an industrial-origin 5R framework can be adapted to school facilities and infrastructure management. Although the findings are context-specific, the practices identified may provide a transferable reference for other educational settings when adapted to their respective organizational and institutional conditions.*

Keywords: *5R Culture; Facilities Management; School Infrastructure; School Culture*

Introduction

The adaptation of the 5R culture (*Ringkas, Rapi, Resik, Rawat, and Rajin*) to the educational context represents an effort to apply an industrial-origin management framework to the optimization of school facilities and infrastructure. The 5R culture is an adaptation of the 5S concept (*Seiri, Seiton,*

Seiso, Seiketsu, and Shitsuke), which originated in Japan.¹ The 5S concept was initially developed and applied in industrial and corporate settings to create more efficient, clean, organized, and productive work environments.² Over time, its principles have been adopted in educational settings to support the management of school facilities, environmental cleanliness, discipline, and the development of positive student habits.³ In this study, the adaptation of the 5R culture does not simply refer to transferring the same practices from industry to schools. Rather, it refers to the contextual adjustment of the principles, functions, and practices of 5R to the characteristics and needs of educational institutions. In industrial settings, 5S is primarily oriented toward workplace efficiency, productivity, and waste reduction, whereas its application in schools also serves educational and developmental purposes. The 5R principles are therefore adapted to support not only the orderly, clean, and efficient management of facilities and infrastructure but also the development of students' discipline, responsibility, and participation in maintaining the school environment.⁴ This distinction positions the adaptation of 5R as a process of contextualizing an organizational management practice rather than merely transferring an industrial method into an educational setting.

The adaptation of the 5R culture is particularly relevant to school facilities and infrastructure management because schools require facilities that are orderly, clean, well-maintained, and effectively utilized to support learning activities.⁵ Each principle provides a practical basis for managing the school environment: *Ringkas* emphasizes selecting and separating unnecessary items, *Rapi* focuses on orderly arrangement, *Resik* emphasizes cleanliness, *Rawat* concerns maintaining established conditions and facilities, and *Rajin* encourages discipline and continuous adherence to these practices. In this context, the implementation of 5R extends beyond physical environmental management by involving school members in developing shared responsibility for the use and maintenance of educational facilities.

¹ Tamado Simbolon, MT Djamara, and Antinah Latif, "The Implementation of 5S Management At Offset Unit: Case Study At Pt Purra Barutama, Kudus," *Kreator* 3, no. 1 (2021), <https://doi.org/10.46961/kreator.v3i1.300>.

² Tita Latifah Ahmad and Anna Nita Kusumawati, "Systematic Literature Review: Implementasi Metode 5S Pada Perusahaan Manufaktur," *Jurnal Teknologi Dan Manajemen Industri* 1 (2020): 31.

³ Luthfi Karim, Ilham Arifudin, and Rizqi Argo Falah, "Penerapan Budaya 5S Di SMK Muhammadiyah 1 Wates Menjadi Pilar Penting Dalam Memperkuat Karakter Siswa," *Moral: Jurnal Kajian Pendidikan Islam*, no. 3 (2024): 1–6. <https://doi.org/10.61132/moral.v1i3.11>.

⁴ Alviatuz Subiyakto, Zahro and Friska Ayu, "Sosialisasi Penerapan Budaya 5R SD Al Huda Surabaya," *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)* 4, no. 1 (2023): 371–376. Retrieved from <https://ejournal.sisfokomtek.org/index.php/jpkm/article/view/839/656>.

⁵ Fany Apriliani, Pramono Djoko Fewidarto, and Purana Indrawan, "Implementasi Budaya 5R Sebagai Upaya Peningkatan Perawatan Fasilitas Dan Melatih Kedisiplinan Personal Di Lksa Kota Bekasi," *Jurnal Gama Societa* 4, no. 2 (2021): 1, <https://doi.org/10.22146/jgs.63799>.

The adaptation of 5R from industrial settings to educational institutions therefore presents a distinct organizational and cultural phenomenon that warrants further examination. Schools are not solely concerned with efficiency and productivity; they also have an educational responsibility to create a conducive learning environment and develop positive behaviors among student. Consequently, examining how 5R principles are interpreted and practiced within a school context can provide insight into how an industrial-origin framework is transformed to meet educational objectives. This study focuses on this adaptation process in the management of school facilities and infrastructure at SD Negeri Sokowaten Baru, particularly on how the five principles are implemented, how school members participate in their implementation, and how the practices contribute to the optimization of facilities and infrastructure.⁶

Preliminary observations at SD Negeri Sokowaten Baru indicate that the school has adapted the industrial-based 5R culture into daily educational practices through collaborative management of school facilities and infrastructure involving principals, teachers, students, and parents. Unlike industrial organizations that emphasize production efficiency, the implementation of the 5R culture in this school is oriented toward creating a conducive learning environment while simultaneously fostering students' discipline and responsibility. This unique adaptation demonstrates that the 5R culture has undergone a contextual shift from an industrial management tool to an educational management strategy. This perspective is consistent with the view that educational facilities and infrastructure should be managed not only to support administrative efficiency but also to improve the quality of the learning environment and educational outcomes.

Previous studies have demonstrated the relevance of the 5R culture in educational and social institutions. Maulidah and Haryanti.⁷ For example, examined the implementation of school culture through the 5R movement at SMK N Jambu and showed how the 5R principles can be integrated into school culture. Their study provides evidence that 5R practices can support the development of an orderly and disciplined school environment. Similarly, Apriliani, Fewidarto, and Indrawan.⁸ investigated the implementation of 5R culture in an LKSA in Bekasi City and highlighted its contribution to facility maintenance and personal discipline. These studies indicate that the

⁶ Amar Ashura Muchammad Sholeh, Rosalina, Yos Nofendri, Riyan Ariyansah, Atiqah Meutia Hilda, "Pengenalan Konsep Budaya Kerja Industri 5R Untuk Siswa SMK Taruna Bhakti," *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)* Vol. 4, no. 4 (2023): 4468-4473. Retrieved from <https://ejournal.sisfokomtek.org/index.php/jpkm/article/view/2148/1438>.

⁷ Hikmah Maulidah and Titik Haryati, "Analisis Penerapan Budaya Sekolah Melalui Gerakan 5 R Di SMK N Jambu," *Jurnal Pendidikan Tambusai* 8, no. 2 (2024): 28837-40.

⁸ Apriliani, Fewidarto, and Indrawan, "Implementasi Budaya 5R Sebagai Upaya Peningkatan Perawatan Fasilitas Dan Melatih Kedisiplinan Personal Di Lksa Kota Bekasi."

application of 5R beyond industrial settings can support environmental management, facility maintenance, and behavioral development.

However, the existing literature remains limited in explaining how an industrial-origin 5R framework is contextually adapted to the management of facilities and infrastructure in elementary schools. Previous studies have primarily focused on the implementation of 5R as a school culture, environmental practice, or means of maintaining facilities, while less attention has been given to the processes through which the five principles are interpreted and integrated into the broader management of school facilities and infrastructure. In addition, the interaction between 5R practices, the participation of different school stakeholders, and the use of supporting digital systems in facilities management remains insufficiently explored. This limitation is particularly relevant in elementary school settings, where facilities management is closely connected not only to operational efficiency but also to the formation of students' habits, discipline, and responsibility.

This study aims to analyze the adaptation and implementation of the 5R culture in the management of school facilities and infrastructure at SD Negeri Sokowaten Baru. Specifically, the study examines how the five principles *Ringkas*, *Rapi*, *Resik*, *Rawat*, and *Rajin* are interpreted and practiced within the school context, how these practices are integrated into facilities and infrastructure management, and how school stakeholders participate in their implementation. The study also identifies the supporting and inhibiting factors that influence the implementation of the 5R culture in the school. Through this qualitative case study, the research seeks to provide a context-specific understanding of how an industrial-origin management practice is adapted to the educational environment and how such practices contribute to the organization, maintenance, and utilization of school facilities and infrastructure.

Rather than testing a causal relationship between the implementation of the 5R culture and specific outcomes, this study focuses on understanding how the five principles *Ringkas*, *Rapi*, *Resik*, *Rawat*, and *Rajin* are adapted and practiced within the management of school facilities and infrastructure. The analysis examines how these principles are translated into daily practices of organizing, cleaning, maintaining, and utilizing school facilities, as well as how school members participate in sustaining these practices. Particular attention is given to the ways in which the implementation of 5R is associated with the development of orderly, responsible, and disciplined practices among students and other school members. The study also considers the supporting and inhibiting factors that shape the implementation of the 5R culture in the school context. This focus allows the research to provide an in-depth, context-specific account of the practices and meanings associated with 5R without making quantitative or causal claims about its effects.

Methods

In this research, the method used is descriptive qualitative with a case study approach at SD Negeri Sokowaten Baru. The selection of SD Negeri Sokowaten Baru as the research location was based on the implementation of

the 5R culture (Ringkas, Rapi, Resik, Rawat, and Rajin) in the management and utilization of school facilities and infrastructure. This context provides an opportunity to examine how an industrial-origin management practice is adapted to the educational environment and integrated into the daily management of school facilities. The research was conducted from June to July 2026 and focused on the adaptation and implementation of the five 5R principles, stakeholder involvement, and supporting and inhibiting factors in the management of school facilities and infrastructure.⁹

Data collection used three techniques, namely, (1) semi-structured interviews to obtain in-depth information regarding the implementation of the 5R culture, facilities management practices, stakeholder involvement, and supporting and inhibiting factors. The informants were selected purposively based on their direct involvement in or experience with the management and implementation of the 5R culture, consisting of five informants: the principal, one staff member responsible for facilities and infrastructure, one classroom teacher, and two students. (2) Observation was conducted directly in the school environment to obtain descriptive data regarding the implementation of the five 5R principles, including the organization, cleanliness, maintenance, and utilization of school facilities and infrastructure. (3) Documentation was used to complement and verify the data obtained from interviews and observations.

Data analysis was carried out using the interactive qualitative data analysis model of Miles, Huberman, and Saldaña, consisting of data condensation, data display, and conclusion drawing and verification.¹⁰ Data condensation was conducted by selecting, organizing, and coding relevant information obtained from interview transcripts, observation notes, and documents. The initial coding focused on the five 5R principles, facilities management practices, stakeholder participation, and supporting and inhibiting factors. Related codes were then grouped into categories and broader themes. Data were displayed through concise descriptions and, where appropriate, tables or matrices, which were subsequently interpreted narratively to identify patterns across the different data sources. Conclusions were drawn by interpreting the emerging patterns and were continuously verified through comparison with the collected evidence.¹¹

To ensure the credibility of the data, source and method triangulation were employed. Source triangulation was conducted by comparing information obtained from the principal, facilities and infrastructure staff member, classroom teacher, and students. Method triangulation was conducted by comparing data obtained through interviews, observations, and documentation. The researcher served as the primary instrument in the data

⁹ Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif, Dan R&D* (Bandung: Alfabeta, 2013).

¹⁰ Matthew B. Miles and Michael Huberman, *Qualitative Data Analysis: A Methods Sourcebook*, 3rd ed. (United States of America: SAGE Publications, 2014).

¹¹ Fauzan Almanshur and Muhammad Djunaidi Ghony, *Metodologi Penelitian Kualitatif* (Yogyakarta: Ar-Ruzz Media, 2012).

collection and interpretation process and directly conducted the observations and interviews.¹²

Result and Discussion

Result

The findings were organized into four analytical themes emerging from interviews, observations, and documentation at SD Negeri Sokowaten Baru: (1) adaptation of the five 5R principles in school facilities and infrastructure management, (2) stakeholder participation in implementing 5R practices, (3) supporting and inhibiting factors in implementation, and (4) the role of digital administration in supporting asset management. The findings are presented based on empirical evidence from the field and are distinguished from the interpretation of the researcher. The analysis focuses on how the five principles *Ringkas, Rapi, Resik, Rawat, and Rajin* are practiced within the school's organizational and educational context.

Data Source	Fill Data	Coding
Related Journal Articles	• The 5R cultural approach (<i>Ringkas, Rapi, Resik, Rawat, and Rajin</i>) is a systematic strategy to create a clean, organized environment and encourage positive behavior in communities and institutions, including educational institutions. • The 5R culture (<i>Ringkas, Rapi, Resik, Rawat, Rajin</i>) is a systematic approach to the organization and maintenance of the work area as a whole, with the aim of creating an orderly, efficient and disciplined work environment. This approach, also known as 5S (<i>Seiri, Seiton, Seiso, Seiketsu, Shitsuke</i>), originated in Japan and has been implemented by various organizations and companies in various countries.	5R culture is a strategy to optimize school facilities and infrastructure.
Interview with Head of Sarpras	• The school has implemented the 5R concept in a manner such as sorting items, storing neatly, and maintaining cleanliness.	Implementation of 5R culture in schools.
Interview with School Operator	• Damaged items are reported by class teachers, then inputted into	Application-based asset write-off system.

¹² Bachtiar S Bachri, "Meyakinkan Validitas Data Melalui Triangulasi Pada Penelitian Kualitatif," *Teknologi Pendidikan* 10, no. 1 (2010): 46–62.

Data Source	Fill Data	Coding
	the SIMAS application and retrieved by district officers.	
Interview with Head of Sarpras	• The placement of items is adjusted to the needs and location, for example LCD in class 4-5, computers in the lab.	Layout based on function and efficiency.

Table 1. How the 5R Culture Shifted in School

Based on the results of interviews and observations conducted at SD Negeri Sokowaten Baru, it was found that the application of the 5R culture (*Ringkas, Rapi, Resik, Rawat, Rajin*) in optimizing facilities and infrastructure has a positive impact on the effectiveness of school asset management. The 5R concept, which was originally applied in the industrial and corporate sectors as an effort to create an efficient, clean and organized work environment, has now been adopted by various educational institutions as an optimal learning environment management strategy.¹³ SD Negeri Sokowaten Baru is one of the institutions that has successfully implemented this culture adaptively and sustainably.

Implementation of *Ringkas*

The implementation of the *Ringkas* principle at SD Negeri Sokowaten Baru is reflected in the identification and separation of facilities that are no longer relevant or usable. Classroom teachers monitor the condition of classroom inventories and report unusable items, such as books from previous curricula and damaged furniture, to the staff responsible for school facilities and infrastructure. The reported items are then recorded and processed through the school’s asset management procedure. Based on the interview with the facilities and infrastructure staff, the reported damaged items are entered into the SIMAS (System Management Assets).¹⁴ Application and subsequently processed by the relevant district officers for further action. Thus, the implementation of *Ringkas* involves a sequence of identifying unusable items, reporting their condition, recording the assets, and submitting them for further administrative processing.

The findings also show that the process is not limited to physically removing unused items from classrooms. Instead, the identification and reporting of unusable assets are connected to the school's administrative asset-management process. However, the available interview and observation

¹³ Rachmad Santoso et al., “Membangun Budaya 5R : Langkah Strategis Untuk Mendukung Perbaikan Terus Menerus Di MTs Amdadiyah Kweden,” *Jurnal Pengabdian Masyarakat Nusantara* 2, no. 2 (2023): 56–64, <https://doi.org/10.29407/dimastara.v2i2.20510>.

¹⁴ Mas Nurul Hamidah, “Design and Construction of Infrastructure Asset Management Information Systems Using the Rapid Application Development (RAD) Method,” *Journal of Electrical Engineering and Computer Sciences* 9, no. 2 (2024): 109–18, <https://doi.org/https://doi.org/10.54732/jeeecs.v9i2.3>.

data do not yet provide sufficient evidence regarding the specific documents used, the formal authority responsible for approving asset write-off, or the criteria for determining whether an item is eligible for deletion. Therefore, these aspects are not interpreted beyond the available empirical evidence. Similarly, rather than claiming that the process improves asset-management efficiency, the findings indicate that the procedure provides a mechanism for identifying and administratively processing assets that are no longer usable.

Implementation of Rapi

The implementation of the *Rapi* principle at SD Negeri Sokowaten Baru is reflected in the arrangement and placement of facilities according to their function, location, and accessibility. Items such as LCD projectors, computers, and laboratory equipment are placed in spaces appropriate to their intended use, including classrooms and laboratories. Interview data indicate that the placement of facilities is adjusted to the needs of each room and the activities conducted within it. Teachers also encourage students to return learning equipment to its designated place after use, with teachers and school staff providing supervision to maintain orderly arrangements.

However, the findings also reveal that the implementation of *Rapi* is not yet supported by standardized rules or procedures governing the layout of facilities. Each classroom teacher has considerable discretion in arranging the facilities in their respective rooms, primarily based on aesthetic considerations, available space, and ease of access. This condition indicates that *Rapi* has been practiced operationally but has not yet been fully institutionalized as a standardized facilities-management procedure. The absence of common standards for labeling, storage zones, and facility placement may result in differences in arrangement between rooms and make the continuity of the practice dependent on individual teachers. Thus, while functional and accessible arrangements have been established, the findings also point to a need for clearer guidelines or standard operating procedures to ensure consistency in facility organization across the school.

Implementation of Resik

The implementation of the *Resik* principle at SD Negeri Sokowaten Baru is reflected in routine activities aimed at maintaining the cleanliness of classrooms and the school environment. Based on interview data and school activity documentation, the school conducts Clean Friday and Healthy Friday activities on a scheduled basis every two weeks. These activities are carried out as part of the school's routine efforts to maintain environmental cleanliness and involve both students and teachers. Students participate directly in cleaning their classrooms and surrounding areas, while teachers provide direction and supervision during the activities.

In addition to these scheduled activities, each class has a daily cleaning duty schedule (*piket kelas*) that assigns students responsibility for maintaining classroom cleanliness. Observation of the school environment showed the availability of cleaning equipment, including brooms, mops, buckets, and dusters, in the classrooms. Teachers also reinforced cleanliness

practices by reminding students to dispose of waste properly and to use school facilities appropriately. These practices indicate that *Resik* is implemented through a combination of scheduled collective activities, daily classroom routines, teacher supervision, and the availability of supporting facilities.

The findings, however, do not yet provide sufficient evidence to conclude that the Clean Friday and Healthy Friday programs are evaluated through a formal monitoring mechanism. Therefore, their implementation is described as a routine cleanliness practice rather than as evidence of a formally evaluated program outcome. The involvement of students and teachers, together with the daily cleaning schedule and supporting equipment, demonstrates the operational implementation of *Resik*, while the extent of its consistency and effectiveness requires further evidence from evaluation records or other school documentation.

Implementation of Rawat

The implementation of the *Rawat* principle at SD Negeri Sokowaten Baru is reflected in the routine monitoring and maintenance of school facilities and infrastructure. Classroom teachers are involved in monitoring the condition of facilities such as tables, chairs, LCD projectors, and other equipment used in classrooms. When damage is identified, the condition of the facility is reported to the staff responsible for facilities and infrastructure for further action. Based on interview data, the school distinguishes between minor and more serious damage when determining the appropriate maintenance response. Minor damage can generally be handled by school staff, whereas facilities requiring more extensive repairs are referred to professional repair services.

For more serious damage, the repair is supported by the school's BOS budget. The use of BOS funds is therefore connected to the maintenance process when the required repair cannot be handled internally. The maintenance process can be described as beginning with the identification of damage by classroom teachers, followed by reporting to the facilities-management staff, assessment of the condition, and determination of the appropriate repair response. Minor repairs are handled internally, while more serious repairs are carried out by external repair personnel using the allocated school budget.

However, the available data do not yet provide sufficient evidence regarding the formal verification procedure, the specific authority responsible for approving the use of BOS funds, the documents used to record maintenance activities, or the mechanism for monitoring facilities after repairs have been completed. Therefore, these aspects are not presented as established procedures. The findings indicate that *Rawat* has been implemented through a basic maintenance and repair mechanism involving teachers, facilities-management staff, school personnel, and external repair workers, but the extent to which the process has been formally standardized and documented remains limited.

Implementation of *Rajin*

The *Rajin* principle is implemented through repeated activities and behavioral reinforcement that encourage students to take responsibility for maintaining the school environment and facilities. Students participate in routine activities such as Clean Friday, class cleanliness competitions, and daily classroom cleaning duties. In addition, classroom teachers establish rules concerning cleanliness and the proper use of school facilities and provide reminders when students do not follow these expectations.

Observation and interview data indicate that students are not only involved in scheduled cleaning activities but are also expected to maintain cleanliness and use facilities appropriately as part of their daily routines. Teachers reinforce these practices through direct supervision, reminders, and examples of responsible behavior. The repeated involvement of students in these activities provides an observable basis for describing *Rajin* as a process of habituation rather than merely a one-time activity.

Data Source	Fill Data	Coding
Related Journal Articles	This 5R culture is an effort to improve the quality of facilities and infrastructure management in schools. The shift of the 5R culture from the industrial world to the world of education is expected to bring various important benefits that can be felt by the entire school community, including students, teachers and staff.	The importance of implementing the 5R culture in schools.
Interview	Because goods are purchased from the state budget (APBN), they must be maintained and cared for so that they are durable and can be used in the long term.	Responsibility for state assets.
Interview	The cleanliness and tidiness of the facilities affect the comfort and effectiveness of the teaching and learning process.	The impact of 5R culture on learning implementation.

Table 2. Why 5R Culture Needs to be Implemented in Schools

The implementation of the 5R culture in the school environment emerged as a response to the importance of managing assets that come from the state budget (APBN). The values contained in the 5R principles encourage all elements of the school, from facilities and infrastructure managers, teachers, to students, to maintain, care for, and make maximum use of the available facilities. Although initially the understanding of the 5R concept was not comprehensive, the implementation process took place in line with the increasing awareness of the importance of accountability in the management of state assets. Thus, the 5R culture is not only related to the physical aspects,

but also becomes an integral part of character building and discipline of the school community, which indirectly contributes to improving the quality of the teaching and learning process.

Supporting and Hindering Factors in the Implementation of the 5R Culture

Data Sources	Fill Data	Coding
Interview	• Parent involvement through the POT program (Procurement or Repair of Hygiene Equipment) • Close collaboration between school members.	Support for 5R culture.
Artikel Jurnal Terkait	• Challenges to the implementation of the 5R culture (Ringkas, Rapi, Resik, Rawat, Rajin) in schools include lack of awareness, cooperation, understanding, and supporting facilities. • Lack of student engagement in 5R learning can also be a hindrance.	The challenge of implementing a 5R culture.
Interview	• Some students (especially boys) lack initiative in hygiene activities if not directly directed by the teacher.	Dependence on teachers for 5R habituation.
Interview	• The spatial arrangement has no fixed rules, just based on convenience and visual neatness.	No written guidelines in spatial planning.

Table 3. Schools Supporting and Inhibiting Factors

Parental involvement is a very important supporting factor in the successful implementation of the 5R culture in schools. Through the POT (Procurement or Repair of Cleaning Tools) program, parents actively contribute by providing various cleaning tools needed, thus supporting the smooth management of facilities and infrastructure. This close collaboration between the school community and the outside community strengthens the synergy in creating a clean, organized and conducive learning environment.

The implementation of the 5R culture also revealed differences in student participation during certain cleanliness activities. Interview data and observations indicated that, in some cleaning activities, female students were perceived to participate more actively in tasks such as sweeping, while some male students were less involved in these particular tasks. This finding should not be interpreted as an inherent difference in the behavior of male and female students. Rather, it indicates a participation pattern that emerged in specific activities and may be influenced by task distribution, classroom norms, teacher instructions, or the opportunities provided for students to participate.

Teacher involvement was therefore important in ensuring that cleaning and maintenance activities were distributed more equally among students. Teachers provided direction and supervision and encouraged students who were less involved to participate in the assigned activities. This indicates that the implementation of 5R also involves a process of managing participation and reinforcing students' responsibility for shared school facilities and the environment.

The findings suggest that differences in participation can become a challenge when implementing 5R as a collective school practice. At the same time, the school's routine activities provide opportunities for teachers to encourage broader student participation. Rather than attributing differences in participation to gender-based characteristics, the findings highlight the importance of equitable task distribution, teacher guidance, and opportunities for all students to participate in maintaining the school environment.

Discussion

The findings suggest that the adaptation of the 5R culture at SD Negeri Sokowaten Baru involves more than transferring an industrial workplace practice into a school setting. Instead, the five principles are reinterpreted according to the organizational and educational functions of the school. In the industrial context, 5R is generally associated with workplace organization, efficiency, cleanliness, and discipline. In the present case, these principles are connected to the management of school facilities and infrastructure as well as to everyday educational practices. This contextual adaptation can be understood as a shift in function: 5R is not implemented primarily to pursue production efficiency, but to organize resources, maintain the learning environment, and encourage shared responsibility among members of the school community.¹⁵ This finding extends previous studies that have mainly described 5R as a cleanliness and discipline program in educational institutions by showing how its principles can become embedded in facilities-management practices.

The *Ringkas* principle illustrates this shift through the identification and separation of facilities that are no longer relevant or usable. Rather than simply removing unnecessary items, the practice is connected to the school's asset administration process. Classroom teachers identify and report unusable facilities, while the responsible staff process the reported assets through the applicable administrative system. This finding is consistent with previous research emphasizing that 5R can support the organization and management of facilities by reducing the accumulation of unnecessary

¹⁵ Sayid Bahri Sriwijaya et al., "Pelatihan Dan Penerapan Manajemen Mutu 5R Bagi Guru Sekolah Kejuruan Melalui Transformasi Gudang Menjadi Ruang Kelas Layak Belajar," *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan* 4, no. 2 (2025): 10484–10488. <https://doi.org/10.31004/jerkin.v4i2.3438>.

items.¹⁶ However, the present case shows that *Ringkas* in a school context is also dependent on the relationship between classroom-level identification and institutional asset administration. Thus, its contribution is not limited to creating physical space but also involves establishing a link between everyday users of facilities and the school's asset-management process. At the same time, the findings do not provide sufficient evidence to conclude that the SIMAS application enables real-time asset tracking or directly improves procurement decisions. Its role in this study is more appropriately understood as a supporting administrative mechanism for recording and processing school assets.

The adaptation of *Rapi* demonstrates another characteristic of the educational context. Facilities are generally placed according to their function, location, and accessibility, allowing teachers and students to use equipment as needed. Previous research has associated orderly facility arrangements with efficiency, discipline, and ease of access. The present findings support this understanding but also reveal an important organizational limitation: the school does not yet have standardized rules governing the arrangement of facilities across rooms. Consequently, the implementation of *Rapi* remains partly dependent on the discretion of individual classroom teachers. This condition indicates that the practice has been operationalized but has not been fully institutionalized. From a facilities-management perspective, this distinction is important because a culture of order requires not only individual habits but also shared standards, such as labeling, storage zones, and consistent placement procedures. Therefore, the case demonstrates that adapting 5R to schools requires organizational mechanisms that prevent the practice from becoming dependent solely on individual initiative.¹⁷

The *Resik* principle shows how an industrial cleanliness principle can be transformed into a collective educational routine. At SD Negeri Sokowaten Baru, cleanliness is supported through scheduled activities, daily classroom duties, teacher supervision, and the availability of cleaning equipment. Previous studies have similarly emphasized the role of 5R in developing clean and orderly educational environments. The present findings extend this perspective by showing that *Resik* operates through multiple layers of practice rather than through a single cleanliness activity. Students participate in routine cleaning, teachers provide supervision and reinforcement, and parents contribute to the availability of supporting equipment. These practices indicate that cleanliness management is distributed across members of the school community. Nevertheless, the findings do not establish a causal relationship between the cleanliness practices and learning effectiveness. The

¹⁶ Oktavia Dwika S., "Analisis Implementasi Budaya 5R (Ringkas, Rapi, Resik, Rawat, Rajin) Pada PT. Sukses Mitra Sejahtera Kediri," *Simposium Manajemen Dan Bisnis II* 2, no. 2 (2023): 1376–1385. Retrieved from <https://proceeding.unpkediri.ac.id/index.php/simanis/article/view/3350/2600>.

¹⁷ "Menanamkan Budaya 5S & 5R Sebagai Fondasi Karakter Sekolah," accessed August 23, 2026, <https://smknegeri1tuntang.sch.id/pengumuman/menanamkan-budaya-5s-5r-sebagai-fondasi-karakter-sekolah/>.

contribution of *Resik* is therefore better understood as creating conditions that support an orderly and comfortable learning environment rather than as directly improving learning outcomes.

The *Rawat* principle further demonstrates that the adaptation of 5R is connected to the school's maintenance system. Facilities are monitored by teachers and reported when damage is identified, after which minor damage may be handled internally while more serious repairs involve external repair personnel and the use of BOS funds. This pattern is consistent with the broader principle of facilities management, in which maintenance is necessary to preserve the functionality and service life of physical resources. However, the findings also reveal that the maintenance process is not yet fully documented as a standardized preventive-maintenance system. The available evidence mainly demonstrates a response to identified damage rather than a comprehensive cycle of scheduled inspection, preventive maintenance, post-repair monitoring, and systematic evaluation. This distinction is important because *Rawat* should not be understood only as repairing damaged facilities; its stronger institutional form would involve continuous monitoring and planned maintenance. The present case therefore illustrates both the implementation of *Rawat* and the organizational space that remains for strengthening its institutionalization.¹⁸

The *Rajin* principle differs from the other principles because its primary focus is on the continuity of behavior rather than the physical condition of facilities. Routine cleaning activities, classroom rules, teacher reminders, and student participation provide repeated opportunities for students to practice responsibility toward shared facilities and the school environment. Previous research has linked 5R practices with discipline and positive behavioral development. The present findings support this relationship at the level of behavioral habituation, but they do not provide sufficient evidence to claim that the implementation of *Rajin* has produced measurable long-term changes in student character. The more appropriate interpretation is that repeated activities and teacher reinforcement create opportunities for students to develop and practice responsible behavior. This distinction is important in a qualitative study because participation in a routine activity should not automatically be interpreted as evidence of a completed character-formation outcome.¹⁹

An additional finding concerns the distribution of student participation in cleanliness activities. Interview and observation data indicated that, in some activities, female students appeared to participate more actively in tasks such as sweeping, while some male students were less involved. This pattern should not be interpreted as an inherent characteristic

¹⁸ Nabila Zoenda Nashirah et al., *Administrasi Sarana Dan Prasarana Dan Implementasinya Di Pesnatren*, ed. Septian Nur Ika Trisnawati, 1st ed. (Tahta Media Grup, 2025).

¹⁹ Santi Lisnawati, "The Habituation of Behavior as Students' Character Reinforcement in Global Era," *Jurnal Pendidikan Islam* 2, no. 3 (2016): 413-28, <https://doi.org/10.15575/jpi.v2i3.852>.

of male or female students. Instead, it may reflect contextual factors such as task distribution, classroom norms, teacher instructions, or differences in opportunities to participate. The role of teachers is therefore important in ensuring that responsibilities are distributed more equitably and that all students are encouraged to participate. This finding adds a social dimension to the adaptation of 5R that is less visible in studies focusing primarily on cleanliness, order, and discipline. It suggests that implementing 5R as a school culture requires attention not only to physical management but also to how participation and responsibility are organized among students.

Taken together, the findings indicate that the distinctive contribution of this case is not simply demonstrating that 5R can be implemented in a school. Rather, the case shows a contextual configuration of 5R in which each principle operates at a different level of institutionalization. *Ringkas* is connected to asset identification and administrative processing; *Rapi* is practiced through functional arrangement but remains dependent on individual classroom management; *Resik* is embedded in collective routines and community support; *Rawat* operates through responsive repair mechanisms; and *Rajin* is expressed through repeated behavioral practices and teacher reinforcement. This configuration demonstrates that transferring 5R from industry to education involves selective adaptation of its principles to the school's organizational structure, educational routines, and community participation. The novelty of the study therefore lies in identifying these different modes of adaptation rather than merely confirming the applicability of 5R in schools.²⁰

The findings also indicate that the adaptation of 5R is influenced by the involvement of multiple actors, particularly teachers, students, school management, and parents. This supports previous research emphasizing the importance of participation and collaboration in educational management. However, the present case shows that stakeholder involvement does not automatically produce uniform implementation. Differences in participation, the absence of standardized arrangements, and the limited formalization of some maintenance procedures indicate that 5R remains partly dependent on individual initiative and teacher supervision. Consequently, strengthening the practice would require clearer procedures, equitable participation, and more systematic documentation of facilities management.

Overall, the study contributes a practice pattern rather than a generalizable model of 5R implementation. The case demonstrates how an industrial-origin management principle can be recontextualized into school facilities management while simultaneously becoming part of everyday educational routines. However, because the study was conducted at a single elementary school, the identified configuration should be regarded as context-dependent and potentially transferable only after consideration of differences in school resources, organizational structures, and local practices. Further research involving multiple schools could examine whether the same patterns

²⁰ Dwi A., "Pengaruh Budaya 5R Terhadap Kebersihan Dan Kedisiplinan Siswa Di Sekolah," *Jurnal Pendidikan Dan Kebersihan* 12, no. 3 (2018): 45–52.

of adaptation and institutionalization occur across different educational contexts.

Conclusion

This study found that the 5R culture at SD Negeri Sokowaten Baru has been adapted from its industrial origin to the context of school facilities and infrastructure management. The adaptation is reflected in different practices across the five principles: *Ringkas* through the identification and administrative processing of unusable assets; *Rapi* through functional and accessible arrangement of facilities, although without standardized layout procedures; *Resik* through routine cleaning activities and collective participation; *Rawat* through monitoring, reporting, and repair of damaged facilities; and *Rajin* through repeated activities, classroom rules, and teacher reinforcement that provide opportunities for students to practice responsibility. These findings indicate that the shift of 5R in the school context involves a change in function from workplace organization toward the integration of facilities management and everyday educational practices.

The study also found that the implementation of 5R is supported by the involvement of school management, teachers, students, and parents, while several practices remain dependent on individual initiative and teacher supervision. The absence of standardized procedures for facility arrangement and the uneven participation of students in some cleanliness activities represent areas that require further attention. The findings therefore suggest that schools seeking to adopt 5R may consider developing context-appropriate procedures, clearer standards for facility organization and maintenance, and equitable opportunities for student participation. However, these implications should be considered in relation to the conditions and resources of each school rather than treated as universal recommendations. The study is limited to one elementary school and a limited group of informants consisting of the principal, facilities-management staff, classroom teachers, and students. The findings may also be influenced by the researchers' interpretation of observed practices and participants' accounts. Further research involving multiple schools, broader informant groups, and different educational levels is needed to examine whether the identified patterns of 5R adaptation are transferable across contexts.

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