Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

The Role of Students and Teachers in the Lifecycle of Classrooms in Primary Schools in Indonesia

Kukuh Rizki Satriaji[1], Imam Santosa[2], Achmad Syarief[3], Andriyanto Wibisono[4]

Abstract

Classrooms play a crucial role facilitating learning activities in schools. The elements present in school classrooms, such as furnitures, walls, bulletin boards, posters, attendance schedules, colors, and learning models, provide identity and experiences for students. The arrangement of these elements enables classroom users to identify their functions. The education system in Indonesia allocates students to use the same classroom for approximately one academic year at each level. Users of the classroom have the flexibility to make changes and adaptations within it. This study identifies the changes occurring within classrooms and their reasons and influences on the implementation of learning in elementary schools. The research focuses on three elementary schools in Indonesia that employ an active learning system utilizing classroom area. The methods used include classroom observations, teacher interviews, and distribution of questionnaires to elementary school 4th to 6th grade students. The findings reveal that students and teachers strive to create comfortable learning activities by making various adaptation in their classroom, which categorized as classroom personalized adaptation purpose, learning functional purpose, and decorative purpose. These findings provide opportunities for teachers, school management, and researchers to reconsider the potential of classrooms, thus utilizing them as comfortable spaces for students to use during the learning activities.

Keywords: *Classroom Lifecycle, Student and Teacher, Elementary School, Learning Environment, Comfortable Space.*

Introduction

Primary education is a structured activity conducted within a conducive learning environment, allowing for an ideal atmosphere and learning process. Classroom is part of the school learning environment and serves as the primary venue for learning activities, making it crucial to understand the factors that can contribute to supporting this (Sutton et al., 2021). There are three important factors that can support children's learning success within a learning environment, namely the presence of teachers as facilitators in the classroom (Oortwijn et al., 2008), learning activity methods and programs (Kitson & Merry, 1997), and classroom physical condition (Herga & Fošnarič, 2017). These three aspects are interconnected. The focus of this research is on the physical environment where learning activities take place, that is the classroom and the area suround it. A conducive environment can have a positive effect on students as it stimulates interest in learning within the classroom. Several research on classrooms has been conducted for a long time with the aim of producing the most optimal learning environment and atmosphere, both in terms of educational facilities (Parmo et al., 2016; Tanner & Langford, 2002; Wulansari et al., 2021), classroom condition (Barrett et al., 2015; Che Ahmad et al., 2017; Julianto et al., 2019), learning methods and strategies (Areekkuzhiyil, 2021), as well as considering teacher efficacy (Ke & Razali, 2024) and the conditions of students within the classroom (Sundaravadhanan et al., 2017).

In the context of learning environments, interior design involves three components, which is space area provided, user, and activities (Figure 1). Interior design discipline goal is to plan and design of spatial layouts within a building, which may or may not be constrained by floors, walls, and ceilings, used to meet the needs of its users' activities considering safety and comfortability. The specific goal of interior design is the development of functionality, aesthetic enrichment, and enhancement of the physical and psychological aspects of space (Ching & Binggeli, 2017). The space as the main part of the interior consists of an

[1] Doctoral Program in Visual Art and Design, Faculty of Art and Design, Institut Teknologi Bandung, Indonesia, Email: kukuh.satriaji@itb.ac.id, (Corresponding Author)
[2] Human and Interior Research Group, Faculty of Art and Design, Institut Teknologi Bandung, Indonesia, Email: imamz@itb.ac.id.
[3] Human and Industrial Products Research Group, Faculty of Art and Design, Institut Teknologi Bandung, Indonesia, Email: asyarief@itb.ac.id.
[4] Human and Interior Research Group, Faculty of Art and Design, Institut Teknologi Bandung, Indonesia, Email: and_wibisono@itb.ac.id

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

arrangement of elements such as floor, wall, ceiling, interior material, furniture, lighting, colour, etc (Casto, 2001; Ching, 2015). The main users of the classroom are students assisted by teachers as facilitators (Plavsic & Dikovic, 2022). Elementary school-age students have their own nature and habits that are initially different from those expected at school. Rules that they previously brought from home meet with rules in public spaces. They do the learning process by trying to get into group activities, expressing feelings in public spaces, and learning empathy with others (Dean, 2003). Working with children and students of various ages makes diverse demands on teacher competences. Besides individual differences among their students, teachers face developmental differences among children and young people in almost every aspect.

Figure 1. Learning Environment Elements Model

Source: Author

According to the Regulation of the Minister of National Education of the Republic Indonesia, the physical standards condition of classroom in primary school must follow certain conditions, considering the users capacity, health aspects, comfortability, and safety. The classroom serves as a place for learning activities with theory and practice given that does not require special equipment. The number of classrooms must have the same numbers the students study groups. Each classroom should have a maximum capacity of 28 students, but for most of the schools have larger group than this. The minimum ratio for classroom area to student is 2 m^2. This ratio is designed by considering student's natural curiosity to explore their surroundings, as well as their need for social interaction with peers.

Based on the physical criteria of the classroom, good classroom should have adequate lighting for reading and writing activity, also to see other peers face clearly to gain sociqal communication. Classroom also should allow visual access to the outdoor area to gain interaction with the surrounding school environment. Classrooms should have adequate circulation access (doors) that can properly locked when are not in use and easily accessed in case of emergency. The standards requirement equipment for the classroom consists of student chair and desk for each student, single set teacher desk, multi-function cupboard, whiteboard/blackboard, trash bin, and wall clock. In Indonesia, there are no legit standards or set of rules governing for the arrangement of classroom equipment position, such as how students' desks and chairs should be arranged, the circulation distance between students' seats from one another should be, where the teacher's cabinets and desks should be placed, and the installation of the garuda as the national symbol, as well as photos of the president and the vice president of Indonesia that always hang at the front of the class (Table 1).

Table 1. Elementary School Environment Features in Indonesia

Area	Description
Schoolyard	An open area that often serves as the primary orientation for the school's building layout. Most classroom entrances face this area,

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

	which functions not only as a space for outdoor activities but also as a meeting point in case of emergencies. The school also held morning ceremony on this area.
Hall/outside class	A transitional area between the outside and the inside of the classroom. When the school bell ring, students line up in this area while waiting for the teacher before entering the class. This area can also be used for playing, eating, and waiting.
Classroom entrance	A classroom usually has two doors to facilitate evacuation in an emergency. The class entrance can be in the front or back of the class. This area must be free of barriers to facilitate student and teacher mobilization.
Front area of the classroom	The main areas most often used by teachers to deliver learning material. This is the main orientation of the class. On the front wall there's a whiteboard, Garuda Pancasila's badge, a photo of the president and vice president, and class information data. A set of table and a teacher's chair is also located here.
Side wall area	On the side of the classroom there are low or high windows, it is relatives according to the school building. Low windows are used if the class view leads to the school field. The windows also can maximize the sunlight in the classroom
Back area of the classroom	Back area of the class used to display information that supports student learning, such as class schedule, picket schedule, class organization structure, etc. If there's still room left, it can be used for students with informal activities
Middle area	Contains student table and chair configurations arranged in grid format. Student learning is done in the middle area of the classroom.

The relationships between interior design elements in the primary school students' classrooms form a semiotic sign that represents a systemic education model in Indonesia. This model creates formalistic and rigid learning interactions between students and teachers (Saidi et al., 2023). The activity in which students are involved significantly influences their engagement. Students were more engaged in group and individual work than while listening to a lecture, watching TV or a video, or while taking a test or quiz (Shernoff, 2013). The classroom also has additional functions that do not fit into the basic curriculum, such as teaching students to be in the crowd, judging and being judged by others including their friends, as well as learning competitive qualities in peers so that sometimes they can win and can also lose (Dean, 2003).

Classrooms in Indonesia are only used by students and teachers for a period of two semester or one year of teaching. During such lifecycle periods each class user can make some changes in the classroom that can support learning activities well and comfortably. Learning activities include basic activities such as listening, reading (Probosari et al., 2022), writing and motivating students to do so (Pirih, 2015). Both teachers and students will have tables and chairs dedicated for each of them during the learning period (Purwaningrum et al., 2017), so that active and organic learning can take place. But unfortunately, students are usually not given the opportunity to personalize the tables and chairs they use. So, it's not uncommon for a lot of students to commit vandalism by making paintings or paintings on a table using a pencil, a marker, or a correction pen. This is the evidence that students are trying to express themselves but not in the appropriate media or available opportunities to explore their creativity. The design of furniture used by students should be able to accommodate individual preferences with the aim of comfort, enhancing the sense of belonging, and a sense of responsibility in the classroom (Satriaji et al., 2020). Changes in the classroom can only be done with the permission of the teacher, who sometimes not all teachers have the initiative to make changes in the classroom. It can be said that the development of classroom design in Indonesia is so stagnant that it is not surprising that teachers and students take such a role by adding additional space elements that can support their activity in classroom.

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

During their school period, students typically spend around four to six hours per day, five days a week, for 40 weeks each year in their classroom at home. With such long duration of use, the classroom has become like a second home for students. If this environment lacks interest or inspiration, students may experience a form of sensory deprivation, leading to potential issues with motivation or disruptive behavior. Similarly, teachers also benefit from a varied environment, which can positively influence their interactions with students and reduce stress. Incorporating diversity in elements like color, space, and texture can enhance student focus and motivation. Displaying students' work and personal touches can foster a sense of belonging. However, it's crucial to balance visual stimuli so they don't overwhelm students, especially those with learning difficulties or attention deficits. Placing distractible students away from visually busy areas can help maintain focus on learning tasks.

This research examines the adaptation that the classroom user done while they are using the classroom not only to make it more personal and comfortable but also support the learning activities. From the student and teacher perspective, the classroom lifecycle reflects the evolving relationship between users and the physical or educational aspects of the space. It highlights how the classroom changes to meet the needs of its occupants over time. The study aims to interrogate the relation between classroom physical condition and users' preferences. The objectives of this research are:

- To know the role of student and teacher in the primary school classroom lifecycle during the learning period
- To discover the classroom elements potential so that learning activities can be better delivered.

Materials and Methods

This research is a qualitative descriptive study to determine the lifecycle of classrooms in primary schools based on the activities carried out by students and teachers as their users. The lifecycle of a classroom is the process experienced in the classroom from the time students and teachers in one grade use the classroom to leave it to the next grade or in one academic year (Lyons et al., 2014). Each classroom has different lifecycle according to the school condition, the teacher creativity, and the school regulations.

The data collection for this research takes from the observations in the classroom, interviews, and the dissemination of classroom questionnaires to obtain tangible evidence directly of the conditions in the field. The first phase is to determine the school according to the following criteria, like the state or government-owned primary school and having students and active learning activities. Active student involvement is the main factor in developing student competence (Nugraheni et al., 2024). The other criteria are the school willingness to cooperate in this research, because it involves teachers and students. Based on these criteria, we choose three primary schools around Bandung, West Java, Indonesia which is Neglasari 189 Elementary School, Tanjungsari Elementary School, dan Pelesiran Elementary School. All the school will be coded with SD A, SD B, and SD C. Term SD taken from the abbreviation of primary school or *Sekolah Dasar* commonly used in Indonesia. Each school took one or two sample of the classroom to be observed in detail. Sampling and observation were done with the approval of the head of the school, the class teacher, and the student himself.

The second phase involves assessing the physical attributes of the classroom. We visit all the schools and observing the general information on spatial and furniture configuration, door and window position, floor, wall, and ceiling condition, and all the objects inside. The documentation of classrooms follows this template. First, take a photo of the classroom from the outside, showing the position of the entrance and windows. Second, take photos from the center of the classroom toward all corners, starting with the front wall, followed by the left wall, the right wall, and the back wall of the classroom. This approach is intended to facilitate comparative analysis between different classrooms.

Other specific details were also included such as educational posters on the wall, cupboards, information board and the classroom's relation to the outdoor school environment. Some of the classrooms have a

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

direct view of the field so that from the inside of the classroom you can see any activities that happens outside. We also measured the dimensions of the classroom, the sizes of the tables and chairs used, the height of the doors and windows. The measurement was done using a laser meter and a manual measuring instrument. From this phase we obtained visual data serves as a basis for digital drawing through 3D modeling software, specifically SketchUp. The result of the digital drawing of the classroom will be used as a graphic for the student questionnaire sheet to visually represent the classroom setting. The redrawing strives for close accuracy, but some details are simplified, enabling students to directly relate to their actual classroom conditions (Figure 2). Image justification is done to students by asking if they can identify the image of the given space and most respond that it is represent a classroom.

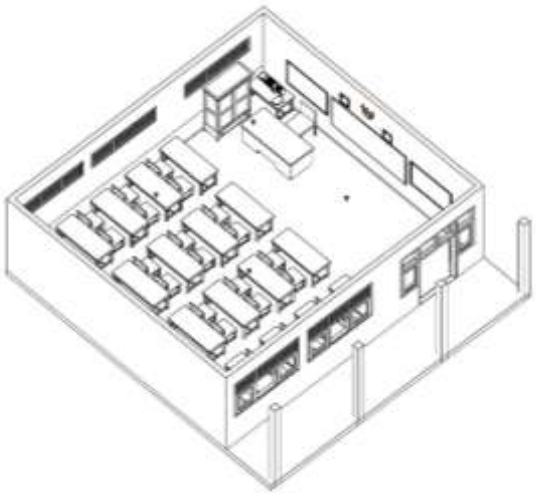
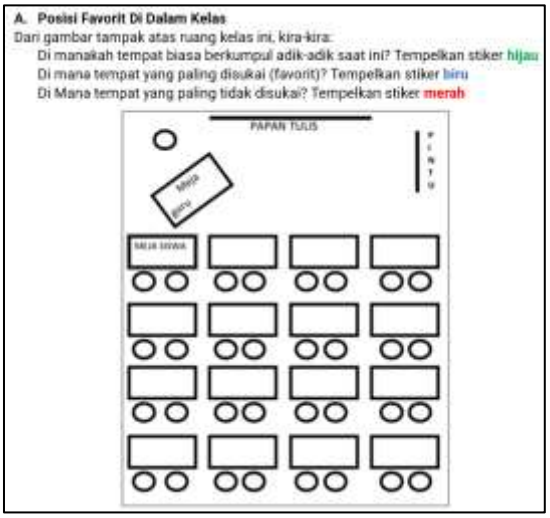


Figure 2. Classroom Digitals Visualization

Source: Author, 2024

The third phase is to create a visual questionnaire for students about the potential of the classroom from the student's point of view. The questionnaires are structured in Indonesian using the simplest possible terms to be easily understood by elementary school students. Which area do you like the most in the classroom and why? We asked them to put some colored sticker according to their answer (Figure 3). Then we asked them to draw their version of the classroom. Both questions were open-ended to explore their perspectives on their classroom.



Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

Figure 3. Student Visual Questionnaire Sample

Source: Author, 2024

The final phase is the analysis and interpretation of data obtained from phases 2 and 3, to see the role of teachers and students in making adaptations in the classroom thus affecting the lifecycle of the classrooms. The analysis will be divided into five categories of the main interior elements of the classroom, namely floor, wall, ceiling, furniture, doors and windows. Each of the main elements is re-divided into sub-indicators to analyze changes in the class. Indicators of change are found through comparison of standard classroom conditions with changes found based on observation results. These results are then compared between each classroom in the form of visual, table and percentage.

Students who graduate from the previous grade will go up to the next grade by receiving lessons that are more complex than before. Along with that, the raise of the grade was supported by the relocation of the classroom and the possibility of joining together with new friends. There are three stages that occur when a student moves to a classroom-related grade, which are early school phase, learning phase and evaluation phase (Figure 4).

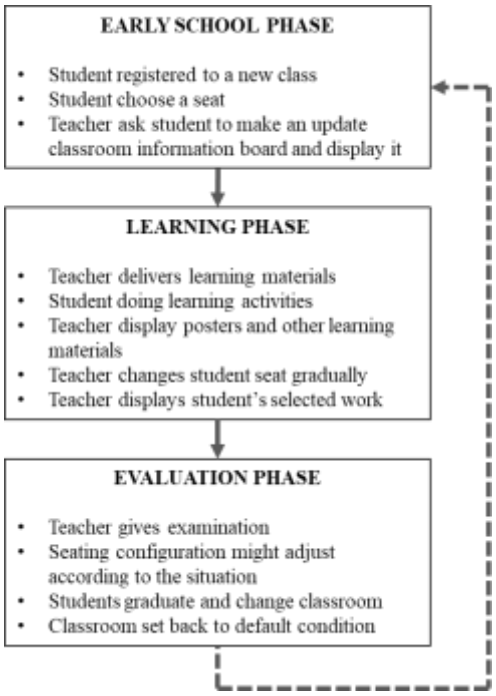


Figure 4. Classroom Lifecycle

At the initial stage, students are assigned to new classrooms based on their grade level, where they meet their homeroom teacher and classmates for the upcoming year. During this stage, students are allowed to freely choose their seats, often opting to sit in groups with friends from their previous class. The homeroom teacher then explains the classroom rules and regulations and asks students to update classroom information, such as lesson schedules, duty rosters, class member data, and other necessary details.

The activities in the learning phase carried out by students in the classroom are very diverse, including writing, reading, listening, discussing, asking and answering questions, eating, playing, doing tasks and examinations. All these activities require adequate space so that the expected external target can be reached well. Along with such learning activities, they also need to know what the teacher expects from them, how to get a friend, what they can and can not do, where they can and can not go, when they can and can not go, what they can and can not use in the class.

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

Analysis and Results

Classroom Physical Condition

Observation Result of Sd A

SD A classroom located between the school buildings. Before entering the classroom there is a hall that connecting every classroom entrance. The SD A classroom is square in length with an outer space of about 48 square meters. The capacity number of seats and tables in this class is 40 students. The student tables are conventionally arranged in a grid pattern (Figure 5). This classroom uses lightweight factory furniture made form hollow metal aluminium that makes it easy for students to move. The entrance located in left front of the class, so everyone enters or exits the class will be noticed. There is a connecting door that connecting the other class, this will be functioned during the exam.

Figure 5. SD A Classroom Condition; Front View (Upper Left); Left View (Upper Right); Rear View (Bottom Left); Right View (Bottom Right)

Source: Author, 2024

The left and right walls have wide tall windows that maximize direct sunlight and visual access outside the classroom. The students can see clearly what happened outside their classroom, but it can also be a disturbing factor for student concentration due to visual distraction and noise from the outside. All sides of the class walls are painted with a pale green paint. The main orientation of the classroom is the desk and the teacher's desk in the front of the room. In the classroom there was a closet used to store assignments, and a shelf used to keep stories. The ceiling part is exposed and uses white and pale green on the beam. The classroom lighting using TL lights in the four points of the classroom.

Observation Result of SD B

SD B classroom located between the school building and the school yard. Before entering the classroom there is a hall that connecting every classroom entrance. The SD B classroom shape is square in length with an outer space of about 42 square meters. The number of seats and tables capacity in this class is 30 students. Based on the interview with the teacher, the student tables configuration is changing every month. This configuration is based on the teacher's creativity, so students don't get bored being in the classroom feeling stuck in the same seating pattern. The student table used heavy wooden furniture with the oldschool shape. It wasn't easy for the student to move if the class going to change configuration.

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

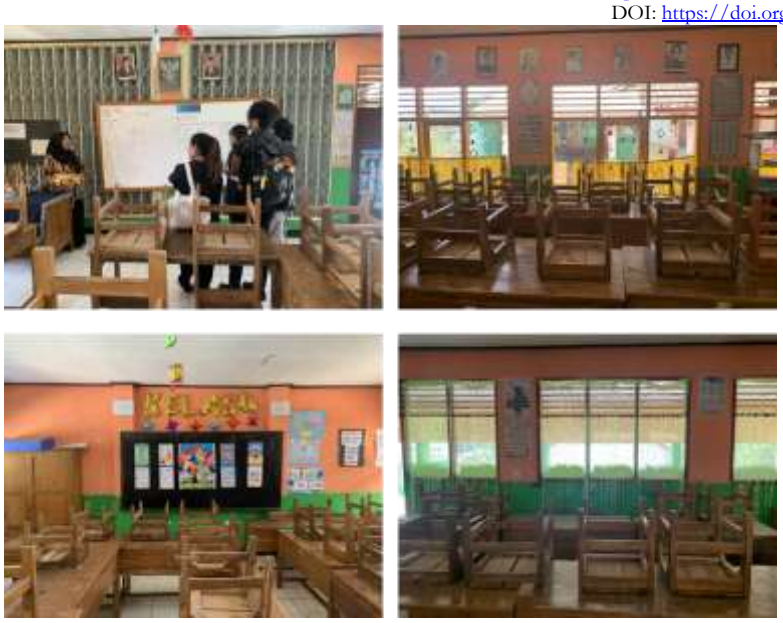


Figure 6. SD B Classroom Condition; Front View (Upper Left); Left View (Upper Right); Rear View (Bottom Left); Right View (Bottom Right)

Source: Author 2024

The entrance location is in right front of the class, so same as before, everyone enters or exits the class will be noticed. There is a connecting door connecting the class next door. The connecting door has a folding door system. This classroom can be transformed into a large classroom if necessary and can be used for PTA meeting or school program socialization. Like the other school, the left and right walls of this classroom have wide openings that can maximize sunlight and visual access from the outside the classroom. The classroom walls are painted in dual colors, which are bright orange combined with the lime green color at the bottom. This classroom has two orientations, the first one is the whiteboard in the front of the class and second one is the blacboard at the back of the class. With this condition, the orientation of the class can be altered according to the needs of teaching. When this observation occurred, the blackbord was used for student works exhibition (Figure 6). The classroom walls full of posters of the national heroes that involved in Indonesia independence war. The Class ceiling using white color painted gypsum (default) with no light.

Observation Result of SD C

SD C classroom located between the school building and the school yard. Before entering the classroom there is a hall that connecting every classroom entrance. The SD C classroom is square in length with an outer space of about 48 square meters. The number of seats and tables for students in this class is 40 sets. The student table uses heavy wooden furniture, so it is not too easy for students to move (Figure 7). Each desk can be used by pair of students. The top of the table table is painted pale green and blue for covering the vandalism from the class before.

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

Figure 7. SD C Classroom Conditions: Front View (Left) And Rear View (Right)

Source: Author, 2024

The entrance is located on both side behind the classroom. It is common to other student use it as an access to move between classess. The left wall consists of massive walls without opening at all, while the right wall has a large opening that maximizes the distribution of sunlight but gives little visual access outside the classroom because of its height. The class walls use a pale green paint with the main orientation being a board on the front of the class. Class ceilings use the white color gypsum (default). This class using single source artificial lighting at the center of the class. The lighting that used is hanging light.

Despite the equal status of the state primary school, briefly can be seen differences in the conditions of the classroom. The default classroom conditions that the government has provided have been re-adapted by classroom users to support learning activities. Teachers together with students try to make the classroom more alive by giving some change. This adaptation will help teachers and students to survived in one academic year by giving them more classroom experience and sense of belonging.

Student Visual Questionnaire Result

The visual questions were designed to understand the classroom model they desire and to identify the spatial elements that have the most impact on students in the classroom. Students were provided with a worksheet containing a visualization of an empty classroom without any furnishings. They were given drawing tools such as pencils and colored markers. During the activity, students could interact with the supervisors, explaining what they were drawing and the reasons behind their choices. The questionnaire was given to 27 elementary school students from grades 4 to 6. Four students declined to participate due to shyness and were more interested in watching their friends draw. The questionnaire was distributed in stages within student groups to facilitate data collection while also recording their stories during the drawing process. The drawing activity took approximately 20 minutes to complete.

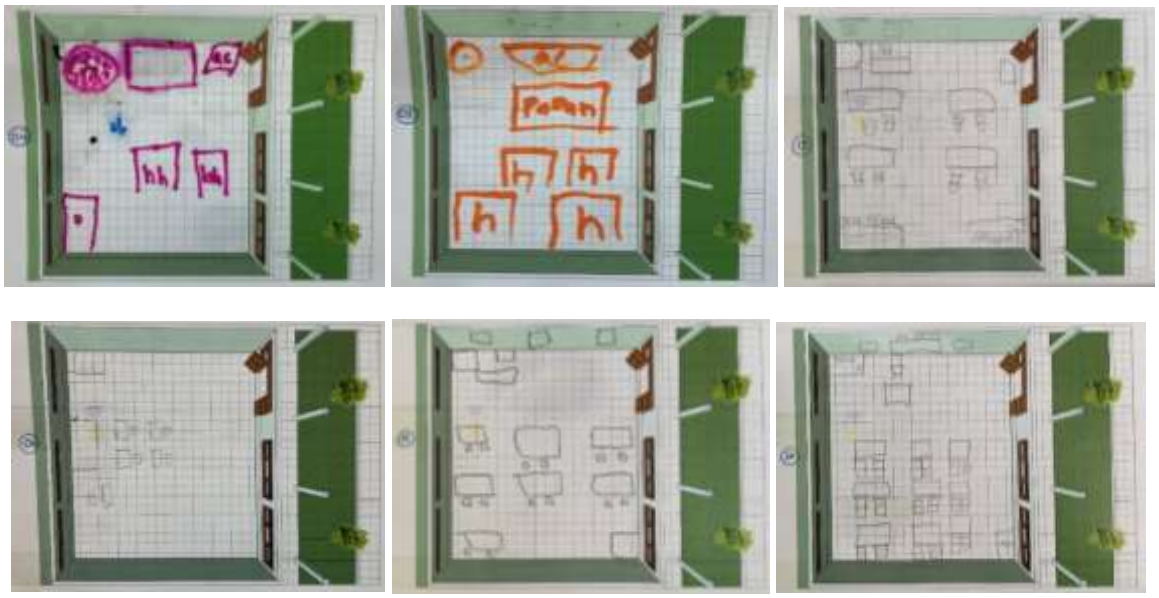


Figure 8. Results From Student Classroom Drawing

Source: Author, 2024

Based on the results of the students' visual questionnaires, three categories of components regarding the classroom were identified: classroom elements, classroom configurations, and key classroom components (Table 2). The main classroom elements most frequently depicted by students were student desks (81.5%), teacher desks (77.8%), and blackboards (66.7%). These three components are considered essential, as a

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

classroom is perceived to be non-functional without any one of them. The results also showed that 33.3% of students preferred seating arrangements in groups to be closer to their friends. Meanwhile, a grid classroom configuration was chosen by 40.7%, likely because this model is commonly found in most elementary schools in Indonesia, making it the configuration most familiar to students. All students positioned the teacher at the front of the classroom, with differences in placement: 59.3% placed the teacher at the front side, while 26% placed the teacher at the center front. Teachers are still viewed as central figures who significantly support students' learning activities. Most students (63%) preferred sitting at the front of the classroom to make it easier to receive information and interact with the teacher. Regarding accessibility, 77.8% chose the entrance to be at the front of the classroom, reasoning that it makes it easier to see who enters and exits the room.

Table 2. Classroom Visual Questionnaire Result

Category	Result	(%)
Classroom elements	Whiteboard	66.7%
	Teacher desk	77.8%
	Student desk	81.5%
	Cupboard/shelf	51.8%
	Clock	7.4%
	Air conditioning	7.4%
	Poster	14.8%
Classroom configuration	Group seating	33.3%
	Grid seating	40.7%
	Teacher position in front center	26%
	Teacher position in front side	59.3%
	Seated in the middle of the classroom	63%
	Seated near window	33.3%
	Entrance at the front	77.8%
	Entrance at the back	7.4%
Classroom key elements (The objects drawn are larger than the others.)	Student desk	37%
	Whiteboard	25.9%
	Teacher desk	11.1%
	Cupboard	7.4%
	Clock	3.7%

From the results of the students' visual questionnaire about their classroom, several interesting findings emerged:

- Students drew objects they considered essential in the classroom.
- Objects deemed most important were drawn larger than others, such as the blackboard, teacher's desk, wall clock, etc.
- The primary orientation of the classroom was still directed toward the blackboard, even though the blackboard's location varied.
- Students depicted their seating as always being near their friends or, in some cases, drew seating arrangements representing their current close friends (group seating).

These findings can be utilized by teachers and school management to help organize the classroom lifecycle. For example, asking about students' preferences for changing seating arrangements, organizing students into group seating arrangements, adding supportive items that students wish to have in the classroom.

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

Based on the evidence found during the observation, each classroom in both SD A, SD B, and SD C has made adaptation to the basic shape and standards of the classroom provided to the school. Identification of changes is found in physical elements of space such as floors, walls, furniture, class openings, and ceilings. The findings were then compared and used as comparison indicators for classrooms. There are 26 indicators of changes made by students and teachers in primary school classrooms were obtained (Table 3). The indicators can be grouped based on aspects of classroom interior elements, namely: ceiling, walls, doors and windows, furniture, and flooring. Adaptations that do not fit into any of these categories will be listed separately as "others." From the classroom observation, this research found that three indicators of adaptation in ceiling, nine indicators for walls, four indicators for door and window, four indicators for furnitures, and three indicators for floor. And there is one additional indicator of change that cannot be included in any category, such as changing student seat positions, display the learnin tools, and the use of digital technology in the classroom.

Table 3. Adaptation And Settings of Classroom Indicators in SD A, SD B, And SD C

Area	Type of adaptation	SD A	SD B	SD C
Ceiling	Hang decorations on the ceiling	•	•	
	Paint the ceiling	•		
	Put stickers to the ceiling		•	
Wall	Paint the classroom wall into different color	•	•	•
	Create murals	•		
	Install the classroom information boards		•	•
	Displays the students' works	•	•	
	Hang the learning posters		•	
	Display the photo of class members	•		•
	Install backdrop on the wall	•		
	Give stickers to the wall		•	
	Install classroom decoration	•		
Door and window	Paint the door		•	
	Mount the window cover	•	•	
	Hang the learning posters on the window	•	•	•
	Install the decoration on the window	•	•	
Furniture	Change the cupboard orientation and position	•	•	
	Regularly change the student desk configuration		•	
	Paint the student desk			•
	Adding some additional fixtures into the classroom	•		
Floor	Change the class circulation		•	•
	Give the student extra space to do some informal activities	•		•
	Provide a floor matt		•	•
Others	Change the student seating	•	•	•
	Display the learning tools	•		
	Use digital technology	•		

The findings stated that based on the overall indicator of change, students and teachers in SD A made the most indicators in the classroom, which is 65.3%. In SD B there was a change of 61.5% of indicators. And in SD C there were changes in classrooms, of 34.6% of indicators. Based on observations, the most classroom adaptation changes were in the wall area, with many options to do, from repainting with the color of classroom users' choices, sticking information media, and displaying students' academic work (Table 4).

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

Table 4. Classroom Changes Comparison SD A, SD B, And SD C

Classroom	Ceiling	Wall	Door and Window	Furniture	Floor	Other
SD A	66%	66%	75%	50%	33%	100%
SD B	66%	55%	100%	50%	66%	33%
SD C	0	33%	25%	25%	100%	33%

The classroom adaptation characteristic carried out by students and teachers focused to several aspects as follows:

- The implementation is only temporary which are easily reversible as the school year passed and be used by other students,
- It does not change the physical structure of the school building considering the regulation,
- Almost all the additional implementations are self-made (DIY) directed by the students and the teachers,
- The forms of classroom adaptation are not too complex, usually involved simple action like examples: make, install, and stick.
- It always considers the capacities and abilities of the student and teacher, both energy, cost, and time
- It fosters a sense of community and class ownership for students.
- It's had a positive influence on the activity and learning access through out the academic year

The changes are made with the full awareness that the use of this classroom is only temporary but can have an impact both in terms of student's knowledge, skills, and attitudes. From the findings above, the adaptation occurring in the classroom can be categorized into three types, which are spatially personalized adaptation, functional purpose, and decorative purpose.

The adaptation for the purpose of personalizing space is an attempt by the teacher and students as main user of the space to make the classroom more comfortable. It is originally set by default by the school according to the government standards, become more personal by adding things that are subjective (individual) or objective. The goal is for users to feel familiar with the classroom they use. Forms of space personalization can be found in changes such as painting classrooms, making murals in the classroom, storing personal collection items, naming furniture, displaying classroom photos, and so on.

Figure 9. Classroom Custom Color Selection

Source: Author, 2024

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

Adaptation to functional learning purposes is initiated mostly by teacher to support learning activities. Some of the action such as placing learning posters, changing student seat position, and changing the classroom layout, displaying learning materials, helps the student get more learning engagment. Active learning in the classroom not only applies one-way learning methods but involves many learning models that require dynamic change in classrooms.

Figure 10. Poster And National Heroes' Picture

Source: Author, 2024

The last one is the decorative implementation in classroom, that is aimed to embellishing the classroom by changing the class atmosphere so that it doesn't stiff. These changes usually do not directly affect the student's learning activity. For example, displaying balloons in the classroom, this only used for decoration and signage only.

Figure 11. Classroom Decoration

Source: Author, 2024

Discussion

Data obtained from observation findings, interviews, and the dissemination of questionnaires from the three schools can be used to develop guidance on classroom lifecycle changes that enable them to occur in the classroom. The primary purpose is for the learning activities to run well. A year of teaching is a long enough time to make it possible to make changes that can have an impact on individuals and learning activities. These changes are also made with a mindset to not damaging the classroom and will make it easier for the school to clean up when the new school year changes. The role of teachers and students in making the above changes is enormous because it is done with full consciousness to produce an ideal and comfortable classroom with all the constraints that exist. Students and teachers can make changes to create a sense of ownership of the class they are currently using.

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

Exploration of Classroom Walls

The classroom wall area is the most potential field to explore. Either in the front, left or right side, or back of the classroom have been selected by the teacher and student to display anything that related to the learning activity. The easiest thing to do on the classroom wall field is to paste something two-dimensional object that supports the lesson. Classrooms can be filled with posters that can help students remember the lessons, such as heroes' posters, custom houses' poster, posters of traditional local clothes, chemical formulations, and so on that can be purchased at school supplies stores. Sticking objects that students can read can also train students to read, either consciously or unconsciously. The student will get used to reading all the texts he can read around him.

Objects that can be attached to the next wall are class information boards that a group of students can create themselves, such as a lesson schedule, a picket schedule, class user data, and a formula used by students. Teachers can assign students to create these information boards in groups. This activity will increase the student's sense of ownership of his classroom. For classrooms with high noise levels, the classroom wall part can also be given an acoustic damper so as not to interfere with learning (Peng et al., 2015). Noise can interfere with student learning concentration in the classroom. The next thing that can be done is change the colour of a classroom wall paint or draw a wall paint in the classroom. To change the color of a paint must involve an adult, but students can be involved in discussions to decide which colour to use. While making murals in the classroom can be done with students by drawing ideas they have based on a particular theme.

Classroom Re-Layout

Class orientation becomes something that can also be played to avoid boringness during learning. Most classrooms use whiteboard that are already installed in the front of the class, and with the teacher position as the source of voice. During learning, teachers can move dynamically around the classroom to distribute equal attention to all students in the class.

Classroom configuration changes also an important factor affecting whether children have good relationships is their social behavior and skills (García Bacete et al., 2019). However, the effects of the seating arrangement could be more pervasive if a specific arrangement of desks is maintained daily for weeks or even months; alternatively, the effects could decrease when a specific position in the classroom becomes a habit (Tobia et al., 2022). It's important to uphold the fundamental principle of adjusting the workplace to suit human needs, rather than expecting individuals to conform to their environment (Herga & Fošnarič, 2017). Classroom is a workplace for students. Additionally, we could alleviate the strain on children by implementing suitable or modified teaching methods that blend traditional classroom learning with opportunities for dynamic movement and varied seatting positions.

Displaying Students' Work

A classroom can be a mini gallery that can showcase students' works of learning along semester. It is at the same time become an act of appreciation for the students whose work is chosen because it is not possible to display all the works at once due to the limited space. The selection of works like this can create a healthy competition among the students to be more serious in doing the tasks assigned by the teacher. Changes to the works displayed can be replaced periodically, opening the opportunity for the whole student to feel the work on display. Two-dimensional works can be framed and then attached to a class wall or a special board, while three-dimension works may be stored in a drawer.

Classroom Zoning Area

Classrooms can be divided into several areas if possible, such as a study area, play area, pet area, reading area, and more. Schools and teachers need to be aware of the basic characteristics of students who enjoy playing and exploring something new (Isci & Hasirci, 2023). To support the function of these areas can be facilitated by placing some space support elements such as for example bookshelves for reading areas,

Journal of Ecohumanism
2025
Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

animal cages for pet areas. The recommended nature-based approach should not only be restricted to play areas in clubs and parks, but also include schoolyards and outdoor public spaces (Kamal et al., 2024). Bookshelf placement in the reading area can improve student literacy and reading interest The choice of a bookshelf model is also one of the important factors, it is preferable to choose bookshelves that can display the book from the front/cover rather than the side appearance. Students are easier to capture more information from the visual display than just text. So, the classroom in addition to having the primary function for learning activities, can have other functions that can shape the character of students as supplies before interacting in society.

Limitation

With time constraints and distances between schools, the study just looked at three different classrooms from three different primary schools in one region. To develop a better result of classroom adaptation and condition it required more in-depth observation of a larger number of classrooms from other school in Indonesia. By doing so, it will add more details indicators of change in the classroom. Thus, it will be possible to see the patterns of change tended by students and teachers towards the lifecycle of classrooms in primary schools. The purpose of the change in classrooms can also increase with the increase of the study objects observed.

Conclusion

Based on the findings, the role of students and teachers as classroom users was found to influence the lifecycle of classrooms in primary schools. Students have their own opinion and perception about their classroom, and how to make it more personal. Observations carried out in three different primary school classrooms found several indicators of change based on the interior elements of the classroom, which are the classroom floor, walls, furniture, doors and windows, and ceilings. There are 26 indicators of change in classrooms made by students and teacher towards their classrooms. The reasons for the adaptation can be categorized into 3 reasons, i.e. changes in the personality of the room, the functional support of learning, and decorative. The changes and adaptations of the classroom are made by the students and the teachers with the aim of ensuring that the learning activities are conducted well and comfortably. Other schools can emulate changes like this into their classrooms, so that in addition to helping students and teachers' activities, they can also add quality to the lifecycle of classrooms.

Acknowledgement

This research is supported by the Center for Education Services (Pusat layanan Pendidikan) and Beasiswa Pendidikan Indonesia (BPI) 2021, under Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, and the Indonesia Endowment Funds for Education Agency (LPDP).

References

Areekkuzhiyil, S. (2021). Issues and Concerns in Classroom Assessment Practices. Edutracks, 20(8), 20–23.

Barrett, P., Davies, F., Zhang, Y., & Barrett, L. (2015). The impact of classroom design on pupils' learning: Final results ofaholistic, multi-level analysis. Building and Environment, 89, 118–133. https://doi.org/10.1016/j.buildenv.2015.02.013

Casto, M. (2001). A History of Interior Design John Pile. In Journal of the Society of Architectural Historians (Vol. 60, Issue 3). https://doi.org/10.2307/991774

Che Ahmad, C. N., Shaharim, S. A., & Abdullah, M. F. N. L. (2017). Teacher-student interactions, learning commitment, learning environment and their relationship with student learning comfort. Journal of Turkish Science Education, 14(1), 57–72. https://doi.org/10.12973/tused.10190a

Ching, F. D. K. (2015). Architecture Form, Space, & Order Fourth Edition. In Journal of Chemical Information and Modeling (Fourth Edi). Wiley.

Ching, F. D. K., & Binggeli, C. (2017). Interior Design Illustrated Fourth Edition. https://books.google.ae/books?hl=en&lr=&id=IY1FDwAAQBAJ&oi=fnd&pg=PP6&dq=interior+finishes&ots=IGGxVPlVr8&sig=nVwuAvmBQo-YfnV1xqe4k1jKvNc&redir_esc=y#v=onepage&q=interior finishes&f=false

Dean, J. (2003). Improving Children's Learning. In Improving Children's Learning. https://doi.org/10.4324/9780203003534

Volume: 4, No: 1, pp. 1610 – 1625
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v4i1.5973

García Bacete, F. J., Marande, G., & Mikami, A. Y. (2019). Evaluation of a multi-component and multi-agent intervention to improve classroom social relationships among early elementary school-age children. Journal of School Psychology, 77(September), 124–138. https://doi.org/10.1016/j.jsp.2019.09.001

Herga, N. R., & Fošnarič, S. (2017). Coordination of school science classroom furnishings with anthropometric parameters for 11-12 year-old children. Journal of Elementary Education, 10(1), 99–114.

Isci, B., & Hasirci, D. (2023). Designing Gender-Neutral Playgrounds: The Impact of Natural Environments on Children's Behaviors. Journal of Design and Built Environment, 23(3), 45–66. https://doi.org/10.22452/jdbe.vol23no3.3

Julianto, I. N. L., Cahyadi, I. W. A. E. C., & Artawan, C. A. (2019). Interaktivitas Warna Sebagai Rangsang Visual Pada Ruang Belajar Siswa Sekolah Dasar Kelas 1 – 3 Di Kota Denpasar. Seminar Nasional Sandyakala, 56–64. https://eproceeding.isi-dps.ac.id/index.php/sandyakala/article/download/39/33/

Kamal, A. M., Gabr, H. S., & El-Husseiny, M. A. (2024). Assessing Child-Play Environments: Architectural Impact of Nature Based Play-Areas on the Quality of Children'S Development. New Design Ideas, 8(1), 184–206. https://doi.org/10.62476/ndi81184

Ke, Y., & Razali, F. (2024). Teacher Enthusiasm as a Moderator in the Relationship between Teacher Self-Efficacy, Teacher Competence, and Sustainable Student Learning. Journal of Ecohumanism, 3(5), 142–158. https://doi.org/10.62754/joe.v3i5.3881

Kitson, N., & Merry, R. (1997). Teaching in the Primary School. Routledge.

Lyons, G., Ford, M., & Slee, J. (2014). Classroom Management: Creating Positive Learning Environments (4th Editio). Cengaged Learning Australia.

Nugraheni, B. I., Sukirno, Hendrowibowo, L., Johari, R. J., & Listianto, G. A. (2024). Development of an integrative flipped classroom model to improve students' critical thinking skills and learning responsibility. Journal of Ecohumanism, 3(3), 27–46. https://doi.org/10.62754/joe.v3i3.3263

Oortwijn, M. B., Boekaerts, M., Vedder, P., & Strijbos, J. W. (2008). Helping behaviour during cooperative learning and learning gains: The role of the teacher and of pupils' prior knowledge and ethnic background. Learning and Instruction, 18(2), 146–159. https://doi.org/10.1016/j.learninstruc.2007.01.014

Parmo, P., Sucipto, M. H., & Sumarkan, S. (2016). Penilaian Kondisi Bangunan Gedung Sekolah Dasar Negeri Studi Kasus di Sekolah Dasar Negeri Se-Kabupaten Madiun. EMARA: Indonesian Journal of Architecture, 2(1), 42. https://doi.org/10.29080/emara.v2i1.17

Peng, J., Wang, D., Lau, S. K., Yan, N., Jiang, P., & Wu, S. (2015). An investigation of acoustic treatment for children in a classroom of an elementary school. Applied Acoustics, 89, 42–45. https://doi.org/10.1016/j.apacoust.2014.09.005

Pirih, A. (2015). Who Says They Don't Read? Slovene Elementary School Students' Reading Motivation in EFL/Kdo pravi, da ne berejo? Bralna motivacija v anglescini kot tujem jeziku pri slovenskih osnovnosolcih. Revija Za Elementarno Izobrazevanje, 8(1/2), 113–132. http://search.proquest.com/central/docview/1682449217/2C2BF4EBC6334467PQ/1?accountid=62831

Plavsic, M., & Dikovic, M. (2022). WHAT IS MOST DIFFICULT IN A TEACHER'S JOB FROM THE PERSPECTIVE OF TEACHERS, STUDENTS AND PARENTS? Journal of Elementary Education, 15(1), 31–50.

Probosari, R. M., Sajidan, S., Suranto, S., & Prayitno, B. A. (2022). Integrating Reading As Evidence To Enhance Argumentation in Scientific Reading-Based Inquiry: a Design-Based Research in Biology Classroom. Jurnal Pendidikan IPA Indonesia, 11(1), 171–184. https://doi.org/10.15294/jpii.v11i1.29350

Purwaningrum, L., Funatsu, K., Rosyidi, C. N., & Muraki, S. (2017). Considering children's methods of grasping and carrying elementary school chairs for easy carrying, lifting, and turning. SAGE Open, 7(1). https://doi.org/10.1177/2158244016678037

Saidi, A. I., Puspitasari, D. G., & Hermawan, F. F. (2023). A Semiotics Analysis of the Interior Design of an Indonesian Elementary and Junior High School Classroom. ISVS E-Journal, 10(10), 463–481.

Satriaji, K. R., Danurdoro, D. H., Sakya, K. A., & Alfin, E. (2020). Kajian Kriteria Meja Belajar Bagi Siswa Sekolah Dasar Di Fasilitas Pengungsian. Jurnal IDEALOG, 5(1), 15–29. https://doi.org/https://doi.org/10.25124/idealog.v5i1

Shernoff, D. J. (2013). Optimal Learning Environments to Promote Student Engagement. https://doi.org/10.1007/978-1-4614-7089-2

Sundaravadhanan, G., Selvarajan, H., & McPherson, B. (2017). Classroom Listening Conditions in Indian Primary Schools: A Survey of Four Schools. Noise and Health, 19(86), 31–38. https://doi.org/10.4103/1463-1741.199240

Sutton, E., Brown, J. L., Lowenstein, A. E., & Downer, J. T. (2021). Children's academic and social-emotional competencies and the quality of classroom interactions in high-needs urban elementary schools. Contemporary Educational Psychology, 66(May), 101975. https://doi.org/10.1016/j.cedpsych.2021.101975

Tanner, C. K., & Langford, A. (2002). The Importance of Interior Design Elements as They Relate to Student Outcomes. Eric, 49. http://search.proquest.com/docview/62172060?accountid=12339%5Cnhttp://www.carpet-rug.com/index.cfm

Tobia, V., Sacchi, S., Cerina, V., Manca, S., & Fornara, F. (2022). The influence of classroom seating arrangement on children's cognitive processes in primary school: the role of individual variables. Current Psychology, 41(9), 6522–6533. https://doi.org/10.1007/s12144-020-01154-9

Wulansari, S., Gaffar, M. F., Komariah, A., & Suryadi. (2021). Pembangunan Ruang Kelas Di Sekolah Dasar (Kajian Dari Aspek Pembiayaan). Jurnal Administrasi Pendidikan, 28(2), 283–289. https://ejournal.upi.edu/index.php/JAPSPs/article/view/40163