

## Increasing students' sense of belonging by placing green spaces in schools

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### ABSTRACT

#### Research Problem:

Sense of place refers to the subjective perception and conscious or subconscious feelings that humans have toward their surrounding environment. In the contemporary world, the decline in the sense of belonging to a place has led to fundamental changes in how people perceive and relate to their surrounding spaces. This sense of place fosters an intrinsic connection between individuals and their environment, shaping a unified experience of space and its meaning. Essentially, a sense of place transforms an ordinary space into a distinct location with unique sensory and behavioral characteristics for specific individuals. To strengthen this sense, it is essential to engage all the senses and establish a meaningful connection between space and collective human memories. In other words, considering the various dimensions of place attachment in people's minds is a key factor in fostering a sense of belonging among residents in human habitats. However, many architectural and urban spaces today lack a distinct identity and sense of place, leading to reduced social interactions and feelings of alienation in urban environments. One of the environments where individuals spend their early years is the educational setting of schools. Many schools in the country appear to focus solely on meeting the basic need for learning. However, given the importance of the topic and students' enthusiasm for being in school where social interactions and preparation for future societal roles take place the ultimate purpose of attending school should extend beyond textbook learning. In other words, students' growth in school should be multifaceted, encompassing cognitive, emotional, and social development. On the other hand, studies have shown that in recent decades, the disruption of a balanced and harmonious relationship between humans and nature in living environments has had adverse psychological effects. Extensive research in this area clearly demonstrates that human interaction with natural environments can promote relaxation, psychological restoration, and stress reduction. Therefore, if environmental designs foster a pleasant and harmonious relationship between humans and nature, the mental health and well-being of society will improve. Thus, this study proposes the use of green spaces to cultivate and enhance a sense of place among students. The research question is formulated as follows: How can the strategic placement of various types of green spaces increase students' sense of belonging to their school environment? By emphasizing green spaces in school environments and the factors influencing them, this study explores how these features contribute to fostering and enhancing a sense of place among students. The objective of this research is to create and strengthen students' sense of place through the use of green spaces in schools. The research process involves first examining the theoretical foundations and explaining the components influencing the sense of place. Next, the Analytic Hierarchy Process (AHP) is used to prioritize and determine the optimal placement of different types of green spaces in school design. Finally, based on the analysis results, design solutions are proposed to improve schools using a green-space-oriented approach.

**Research Question:**

How do green spaces influence the creation and enhancement of a sense of place among school students?

**Research Method:**

This study is descriptive-analytical in nature and employs both qualitative and quantitative approaches for data collection and analysis. In the first phase, data were gathered through library research, and qualitative methods were used to identify factors affecting the sense of place. Natural elements such as green spaces were identified as one of the key physical components. In the next phase, field research was conducted to validate and prioritize the placement of different types of green spaces in school design. Data were collected through questionnaires and analyzed using quantitative methods, specifically the Analytic Hierarchy Process (AHP).

**The Most Important Results and Conclusion:**

Based on the collected questionnaire data and analysis, it can be concluded that designing green spaces in three categories open, semi-open, and enclosed spaces has specific priorities that can be utilized for optimal school design.

**Open Spaces:**

- Highest priority: Extensive green spaces in schoolyards (18.68%), which play a crucial role in enhancing social interactions, play, and student comfort.
- Second priority: Linear green spaces in schoolyards (17.27%).
- Third priority: Green walls in courtyards (11.44%).
- Other suggested options include rooftop gardens, green spaces between building blocks, and courtyard greenery, depending on site conditions and school facilities.

**Semi-Open Spaces:**

- Highest priority: Linear green spaces in corridors (21.26%), which improve the quality of semi-open spaces.
- Second priority: Green walls on terraces (20.65%), which help moderate the climate.
- Other elements, such as green walls in verandas and extensive greenery in porches, also play an effective role.

**Enclosed Spaces:**

- Highest priority: Linear green spaces in hallways (18.91%), making indoor environments dynamic and pleasant.
- Second priority: Green walls in classrooms (12.17%).
- Green elements in libraries, auditoriums, and administrative spaces are also recommended to enhance indoor quality.

**Key Benefits of Green Spaces in Schools:**

- Extensive green spaces improve air quality, reduce stress, enhance physical activity, and boost concentration.
- Linear green spaces provide aesthetic appeal, encourage walking, and serve as educational tools.
- Green walls enhance visual beauty, improve air quality, and create pleasant microclimates.

**Design and Implementation Strategies:****Open Spaces:**

- Use natural or artificial grass (drought-resistant species preferred).
- Plant fast-growing shade trees along yard edges.
- Design small gardens or educational green patches for student involvement.

**Semi-Open Spaces:**

- Create green pathways with natural materials (wood or stone).
- Plant fragrant herbs (lavender, mint) along paths for relaxation.
- Install green walls on terraces for thermal and acoustic insulation.

**Enclosed Spaces:**

- Use linear flower boxes along hallways.
- Install green walls in classrooms with low-light plants.
- Design large windows overlooking greenery to enhance natural light.

**KEYWORDS**

Sense of Belonging, Sense of Place, School, Green Space, AHP