

PLAYGROUND CLASSIFICATION: FROM TYPOLOGY TO FUNCTIONAL TYPES

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Abstract

This article examines how recreational spaces can be systematically organized within the urban environment. It focuses on the transition from broad spatial typologies – defined by their urban context – to more specific functional types that shape actual activities such as play, sports, and social interaction. The goal is to offer a clear and practical classification framework for architects and urban planners. In contemporary cities, the design of playgrounds has moved far beyond the simple placement of equipment. Instead, it requires a thoughtful and structured approach that considers how space is organized and used. This study introduces a comprehensive model of playground classification based on a hierarchical relationship between typology and function. At the first stage, the research identifies general typologies according to their location and role within the city. These include residential environments, public parks, and educational settings, each with its own spatial logic and user expectations. At the second stage, these broader categories are broken down into functional types, which are defined by the nature of user activity – ranging from active physical play and sports to social engagement and cognitive development. A key point of the study is the distinction between “typology” and “type.” While typology refers to the overall system that organizes space, a type represents a specific activity or element within that system. Understanding this difference is essential for avoiding generic design solutions and for creating spaces that respond to real user needs. Particular attention is given to emerging approaches such as inclusive design and nature-based play. These directions reflect current trends in landscape architecture, where accessibility and interaction with natural elements are becoming central design priorities rather than optional features. The proposed classification model can serve as a conceptual tool for professionals involved in shaping urban environments. By applying this framework, designers and decision-makers can create playgrounds that are not

only safe and accessible, but also meaningful in terms of child development and social interaction.

Keywords

Playground classification, urban typology, functional types, recreational zoning, landscape architecture, environmental design, inclusive play, spatial organization, user-centered design, safety standards, pediatric urbanism, public space development, play environments.

Introduction

The design of contemporary urban environments requires a structured and theoretically grounded approach to recreational zoning, particularly in the context of children's play spaces. Although the terms *type* and *typology* are often used interchangeably in everyday discourse, within architectural theory they denote different levels of classification. This study proposes a clear hierarchical framework that moves from the macro-level of typology to the micro-level of functional types, enabling a more precise response to the diverse needs of urban populations. In the context of rapid urbanization in the 21st century, children's playgrounds have evolved beyond simple areas for physical activity. They now function as complex environments that support social interaction, cognitive development, and emotional growth. Despite this transformation, a lack of terminological consistency persists in professional practice, complicating both analysis and design. The aim of this research is to establish a coherent classification system that clarifies this distinction and improves the planning process. Within this framework, *typology* refers to the broader spatial and social context in which a playground is situated. It reflects the relationship between the site and the surrounding urban fabric, including scale, accessibility, and patterns of use. For example, neighborhood playgrounds are designed to serve local residents and prioritize safety and proximity, whereas large park-based playgrounds accommodate a wider audience and require greater functional diversity [2]. In contrast, *functional types* describe the specific activities and interactions that occur within a given space. A single typology, such as an educational environment, may include multiple functional types, including areas for active play, structured sports, and quiet learning activities [4]. The distinction between typology and functional type is not merely semantic; it serves as a critical design tool. Without a structured classification system, planners often rely on standardized solutions that fail to address the varied developmental needs of children. A hierarchical approach enables designers to better integrate safety requirements, ensure inclusivity, and create more engaging environments [5].

Materials and Methods

Research Materials

The study draws on a diverse set of sources to support the proposed classification model:

- **Regulatory frameworks:** Analysis of international standards, including EN 1176 and ISO 9001, to align functional types with safety and quality requirements.
- **Project analysis:** Review of 50 contemporary urban landscape projects (2020–2025) to identify emerging trends in playground design within smart city contexts.
- **Material evaluation:** Examination of construction materials such as timber, reinforced polymers, and impact-absorbing surfaces (e.g., EPDM rubber), which influence the formation of material-based types.

Methodological Approach

The research is based on a hierarchical and systematic methodology:

- **Deductive reasoning:** Progression from general spatial categories (typologies) to specific functional types.
- **Taxonomic classification:** Grouping playgrounds based on interaction patterns (solitary, social, collaborative).
- **Comparative analysis:** Evaluation of traditional playgrounds in comparison with modern inclusive and nature-based environments [6].
- **Functional mapping:** Linking specific activities (climbing, balancing, sliding) to defined functional categories.

A classification matrix was developed to connect spatial context (typology) with user needs (function), ensuring consistency across the model.

Results

The research resulted in the development of a three-tier hierarchical model that clearly distinguishes between environmental context and functional content.

Hierarchical Model

Typology serves as the primary organizational layer, defining the spatial framework within which multiple functional types coexist.

Table 1. Matrix of Playground Typologies and Functional Types

Urban Typology	Functional Types	Target Users
Residential (Neighborhood)	sensory play, soft play, social interaction	toddlers and preschool children
Public Park (Destination)	active play, multi-use games areas, inclusive play	all age groups
Educational (School)	cognitive play, sports, structured learning	children and teenagers
Commercial/Transit	short-duration play, digital/interactive, modular systems	children aged 3–10

Key Findings

- Contemporary playgrounds increasingly function as **hybrid environments**, combining multiple types of activity.
- Nature-based playgrounds emphasize exploration and managed risk rather than fixed equipment [3].
- Inclusivity is no longer a separate category but a fundamental requirement integrated into all typologies [5].

Discussion

The findings highlight a shift away from standardized design approaches toward more context-sensitive solutions. Typology acts as a determining framework, influencing factors such as noise levels, safety requirements, and intensity of use. A common planning error is the selection of functional elements without considering their compatibility with the surrounding typology. Additionally, the emergence of hybrid spaces reflects the increasing complexity of urban environments. Educational and recreational functions are often combined, forming integrated “edu-play” spaces that support multiple aspects of child development. This aligns with broader theories emphasizing the importance of public space in shaping social interaction and urban life [2]. The issue of inclusivity remains central. While it is categorized here as a functional type, the long-term objective is its full integration across all typologies as a universal design standard.

Conclusion

The proposed classification system provides a structured framework for understanding and designing contemporary playgrounds. The study demonstrates that:

- Typology defines the spatial and social context (“where” and “for whom”).
- Functional types determine the activities and user interactions (“what” and “how”).
- Effective playground design depends on the integration of multiple functional types within a single typological framework.

This hierarchical approach supports the creation of safer, more inclusive, and developmentally appropriate environments, contributing to both individual well-being and broader social cohesion in urban settings [1].

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