

Rethinking Play Environments for Social Inclusion in Our Communities

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Abstract. "Make cities and human settlements inclusive, safe, resilient and sustainable" is one of the 17 Sustainable Development Goals of the 2030 Agenda approved by the UN General Assembly. This means that every Country must commit to facing the challenge of increasingly welcoming and barrier-free cities, providing "universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities". The mission of inclusive play is to create accessible and sensory-rich play environments that meet the widest range of users and abilities offering several and stimulating play opportunities in the same setting. In many playgrounds of our cities, for persons with disabilities, accessing, moving and making play experiences is not easy, in some cases it is not possible. The paper presents the results of a study carried out in order to investigate the inclusiveness of outdoor playgrounds and introduces the need of new perspectives towards a new and innovative view of inclusive playgrounds.

The development process of the checklist for assessing the inclusiveness of outdoor playgrounds involved four steps. Step 1: Definition of the main concepts of investigation and generation of the items on the basis of the relevant literature and best practices. Step 2: Scaling and scoring. Step 3: Pilot test to verify the real applicability of the checklist. Step 4: Design of the final checklist. The final checklist was applied to a sample of playgrounds belonging to an Italian urban area selected as a case study in order to make a picture of the state of the art of the playgrounds built in recent years.

After the checklist application, the processing of the collected data shows that there is still much to be done to make urban play areas fully accessible and usable by all. Physical accessibility (not always guaranteed) to the play area and to the play components is not enough. Currently there are few playgrounds that ensure inclusive experiences by offering a wide range of equipment with different game values and levels of challenge and services that can be used by everyone.

Inclusive playgrounds in our communities are still a small percentage compared to all existing play environments, although there is a greater attention to the theme from year to year. The importance of inclusive playgrounds is recognized by everyone at a theoretical level, but in practice it is still necessary to promote, implement and verify the culture of accessibility and inclusive play. If we want inclusive cities, it is necessary to find skills and resources as well as effective operational tools to map the critical issues of existing playgrounds and to implement restyling interventions or new projects of successful and comprehensive inclusive play environments.

Keywords. Playground, inclusive play, accessibility and usability

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1. Introduction

Policies to create inclusive environments have become a movement in several countries in Europe and in the world. Making cities inclusive, sustainable and safe is one of the missions of the UN 2030 Agenda for Sustainable Development. It is therefore clear how important it is to be able to change and improve our cities in order to "provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities". The Italian National Recovery and Resilience Plan, in its fifth mission, supports social inclusion and cohesion in urban areas by promoting the regeneration of public areas such as parks and green spaces in order to promote the social integration of disadvantaged and frail persons. Pursuing these goals means rethinking the cities where we live to find new inclusive solutions for public spaces including the playgrounds.

In our cities the playground is an equipped area that tries to fill the lack of free outdoor play opportunities. It is also an important opportunity for socialising outside school and other regulated activities. In the past, children with physical-motor, visual, hearing, intellectual-relational disabilities did not have the same opportunities for play as other children. There has been a lack of planning and designing of public play spaces inclusive and suitable for all which we absolutely must implement today in order to improve the society and the well-being of all individuals.

The mission of inclusive play is to bring everyone together regardless of abilities and skills, through diversified and stimulating play opportunities. In many existing playgrounds, accessing, moving around and playing is not easy and safe for persons with disabilities; in some cases, it is even impossible. Although there has been increased attention to the issue of inclusion in recent years, inclusive play spaces are still not widely widespread.

The paper aims to present the results of a case study. This analyses playgrounds in terms of inclusivity in order to stimulate a thought on how we can rethink and regenerate them in a new and systemic way to ensure the inclusion and well-being of persons of all abilities.

2. Inclusive Playgrounds: Mission and End Users

Playgrounds are one of the leisure and entertainment opportunities that our communities typically offer to residents and visitors. Social inclusion, which in the contemporary scenario is one of the requirements of public space, thus becomes crucial also for outdoor play areas. These must offer opportunities for play, socialisation and integration to all children.

Playing for children is a unique and irreplaceable activity. Every child needs to play. Every child has the right to play and learn through play in order to develop their potentialities and lay the foundations for a healthy and happy growth. The right to play and recreational activities for all children is a fundamental right enshrined in the Convention on the Rights of the Child (1989) and in the Convention on the Rights of Persons with Disabilities (2006).

In many studies it has been shown that children with disabilities not only "want to play in one way or another" [1], but also "want to enter and be part of the world of children; playing with other children is the way to enter that world" [2].

Nowadays the right to play and sport for children with disabilities is not being fully respected in the playgrounds.

Playgrounds “can create an environment of inclusion or exclusion” [3]. Playgrounds with play equipment for the exclusive use of children with disabilities are not inclusive because they discriminate and marginalise [4]. The playground becomes inclusive when it offers play components that can be used by persons with and without disabilities. The inclusive playground includes everyone in the play experience regardless of age, ability or any other discernible difference.

The inclusive playground is the place where each child becomes protagonist, loses passivity and weakness and can make choices because it provides “all children a rich playground environment for play and quality social participation” [5]. It is also a barrier-free place where children with different abilities can make and share play experiences interacting with each other. Children have different social, play, communication and movement needs according to the age and health status. Inclusive playground equipment should be designed, constructed and installed to provide play opportunities for the majority of children with motor, sensory, intellectual or relational disabilities.

The end users of the inclusive playground are not only children of different ages but also adults. Family members with or without disabilities should be able to enjoy playing with their children, grandchildren, younger brothers or sisters, and have the opportunity to socialize with others [6].

In the inclusive playground everyone, including people with weaknesses and difficulty in their autonomy, must be able to access, move, play with the possibility of choice, rest and see their role and identity recognized. It is the playground without physical, sensory and socio-cultural barriers.

Although for a long time playgrounds were designed neglecting the requirements of accessibility and usability, playgrounds called “inclusive” are beginning to be a reality even in our cities. But are they really accessible and usable by a wide range of end users with different needs?

3. Assessment Tool and Case Study

In order to design effective and innovative solutions for inclusive playgrounds, it is important to know the state of the art of the playgrounds currently existing in our communities. For this purpose, an assessment tool has been developed to investigate weaknesses and strengths of playgrounds in terms of accessibility and usability [7]. The assessment tool was tested on the playgrounds in the city of Trento (Italy). For this case study sixteen playgrounds were selected (Figure 1). These are playgrounds built or renovated in the last fifteen years, looking for those typically promoted as “accessible” or “for all” or “inclusive” in the local press, in web pages or directly reported by citizens.

3.1. Method

The study to investigate the playgrounds of the case study is based on the use of a checklist. The checklist was developed from the analysis of guidelines, articles, and examples of best practices concerning inclusive playgrounds. The checklist contains items related the accessibility and usability of the playground divided into five sections.



Figure 1. Playgrounds of the case study of Trento (Italy).

The first section investigates the access to information that allows everyone, and in particular persons with disabilities, a self-assessment of the access and play opportunities for themselves or their children. In particular, the section examines whether there is adequate and clear signage on site, a dedicated web page or other channel to find information about the accessibility and usability of the playground (*access to information*).

The second section checks whether the users with mobility aids (e.g. manual or power wheelchairs, rollators, walker, crutches, strollers, etc.) are able to arrive by car or bus, enter the playground, move around and reach the play equipment as well as the furniture of the rest areas. In particular, the section focuses on the routes to reach the different play areas and those to reach the rest areas (*physical accessibility*).

The intent of the third section is to recognize the presence of environmental facilitators (e.g. landmarks, devices, etc.) for persons with visual sensory impairment in order to orient themselves, maintain the direction of movement and understand the distinctive features of the place (*sensory accessibility*).

The fourth section explores the presence of equipment that provides play opportunities for children with different abilities for physical, dramatic, sensory, cognitive and creative play. The composite structures were broken down into play components at ground level and play elements located at a higher level (*access to play experience*).

The last section focuses on participation and socialisation opportunities. It verifies the presence of equipment for parallel and group play that can be used by children with different abilities. Regarding the experience of rest, the items concern the usability of outdoor furniture (e.g. benches, tables, etc.) and other elements such as drinking fountains, waste bins, etc. (*participation and socialisation*).

The rating scale used for the answer options is a four-level scale with a score ranging from -1 to +2 points. The sum of the values gives a final overall score in a range from -

26 to +52 points. In order to verify the real applicability of the checklist, a pilot test was carried out to refine the tool.

3.2. Data Collection and Results

The survey activity was carried out by means of on-site visits during which the checklist was compiled, a rich photographic documentation was collected and, when possible, opinions were directly collected from end users. Subsequently an information sheet was compiled for each playground whose information was transposed into a summary matrix in order to attribute the scores of the checklist items. This matrix calculates the partial and total scores achieved by each playground showing weaknesses and strengths of the playgrounds.

From the graph in Figure 2 we can see that no playground earns the maximum total score, a zero score or a completely negative score. The playgrounds with the highest total scores are two: the playground called “Enzo Tortora” (P14, 37 points out of 52; 71%) and the playground called “Area verde Roncafort” (P1, 33 points out of 52; 63%), while the lowest total score was earned by “San Rocco di Villazzano” playground (P16, 10 points out of 52; 19%). The average total score is 21 points (40%).

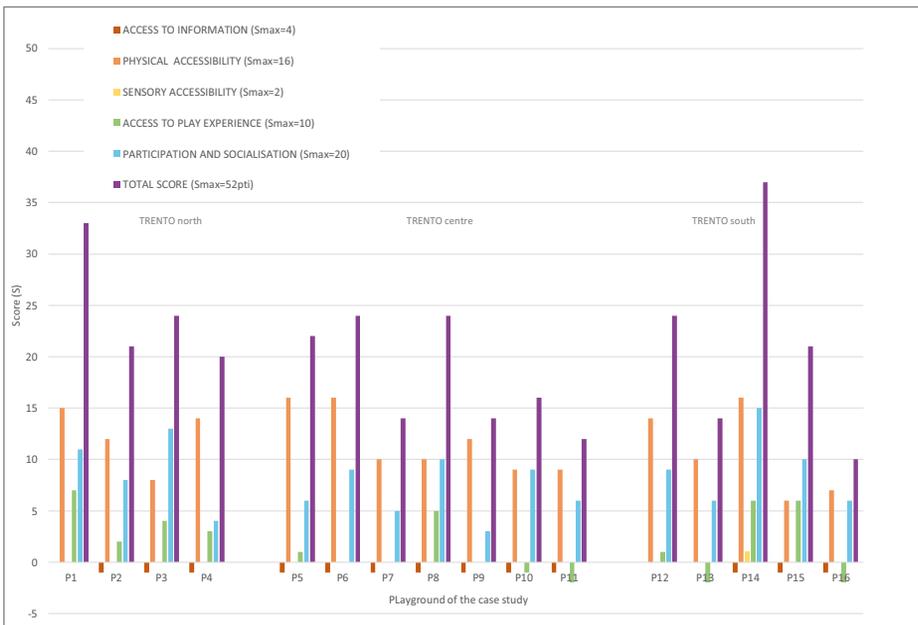


Figure 2. Evaluation scores of the case study.

A negative or zero score was almost always assigned to items on *access to information* included in the first section of the checklist. The reason is the lack of clear and comprehensive information for all on site and/or on web pages.

Another section with an overall score of almost always zero is that of *sensory accessibility*. Only one playground includes paths with contrasting coloured paving and tactile signs on the ground.

The section concerning the *access to play experience* shows low scores, in some cases even negative scores. The offer is limited to a few play experiences for children

with different abilities. It is almost always represented by the following play components for the physical play: basket swings or swings with seats partially-reclined, body-embracing and adjustable safety harness; merry-go-rounds where the base platform is flush with the surrounding pavement, and spring riders with back, foot supports, shelter of the seat sides and handholds. There are no ramps to access the slides, and no opportunities to climb up the embankment, pulling themselves up the rope and using the footholds to get to the top. Similarly, in the play composite structures children in wheelchairs are not able to reach the elevated play components.

In relation to the dramatic play, the thematic structures on the ground (e.g. animals, houses, cars, etc.) are often not usable due to physical barriers or because they are placed on inaccessible surfaces.

There is also a lack of ground-level play components that encourage sensory stimulation. There are no opportunities to explore tactile and olfactory experiences; sound and music play components can only be found in two playgrounds. The lack of sensory play equipment is also accompanied by the lack of educational components that can contribute to develop critical thinking skill, logical and concentration skills. Imaginative and creative play equipment including products with running water and sand are represented only by traditional ground level sandboxes.

The section where the playgrounds of the case study have obtained largely positive evaluations and close to the maximum score is that of *physical accessibility*.

At least one parking space reserved for persons with disabilities is always available in the playground parking lot or in the close proximity. In 75% of cases, there are bus stops wheelchair-accessible for persons with disabilities. Entrances/exits of the playgrounds are barrier-free for those moving with mobility aids.

The routes connecting the entrance/exit of the playground with the play equipment are almost always accessible, but only in 30% of cases the end users find accessible surfaces located in the use zone (ground level area below and immediately adjacent to play equipment). Rarely, are tables suitable to accommodate wheelchair users, and in only one playground are there child-friendly tables and seating. In most cases, litter bins of different shapes and sizes are placed along the routes; they are easily recognizable and usable by children, adults and wheelchair users. Instead drinking water fountains have shapes and mechanisms of action that do not facilitate their use by children and wheelchair users; in some cases, they are equipped with water collection grids at the base that are not coplanar to ground. Often they are not positioned in strategic points and easy to reach. An accessible double-height drinking fountain has been installed in only one playground.

The total scores of the *participation and socialization* section are always positive, but far from the maximum value. The equipment that offers parallel play opportunities to children with different abilities are mainly double swings with diversified and ergonomic seats to give support and safety to the movement. These swings allow interaction between children of different ages and between children and adults, creating an opportunity for communicative exchange and intergenerational sharing. There are no extra wide slides or doubled slides that the children can use when slide together.

The equipment for the group play in the best-performing playgrounds of the case study includes: playhouses and themed structures; basket swings to accommodate multiple children sitting or lying down, and small groups of single spring riders some of which have back and/or side guards. In only two cases there are a two seat spring rider.

In the larger playgrounds it is also possible to find dedicated spaces for playing with the ball or doing gymnastics. Football pitches, volleyball fields, basketball fields, tennis tables and fitness areas can be used by a wide range of people with different abilities if placed on accessible surfaces and properly equipped. Only in the “Area verde Roncafort” (P1) there is a small open-air gym accessible and usable by people with different abilities.

4. Discussion

The culture of inclusion in the design of urban spaces is implemented through the research for the highest degree of accessibility, usability, safety, recognisability, well-being and pleasantness.

Designing an inclusive playground means: guaranteeing and extending a sanctioned right; widening the possibilities of use of spaces and play equipment; making the relationship between end user and environment positive as far as possible.

Children should be brought into playgrounds to play freely in public spaces through contact with and use of both natural and play components, which need not always be a collection of standard play equipment on accessible surfaces.

The playgrounds analysed in the case study seem to be the same with repetitive, common games and often not usable by people with different abilities. Rarely they address a broad spectrum of play needs through opportunities for fantasy and inclusive cooperative play.

Playgrounds can be conceived as works of architecture that are well integrated into the landscape and environmental context [8]. The New European Bauhaus initiative calls on all of us to imagine, design and build together beautiful, sustainable and inclusive built environments [9].

Instead of the traditional play components we are used to seeing in our cities such as swings, slides, spring riders and sandboxes that suggest to users how to play leaving little room for imagination or creativity, the children should find sculptures to play with and play spaces modelled as play sculptures that offer considerable possibilities for play valorising diversity, equality for all, accessibility; playgrounds for all with installations of original and creative play components, in some cases site-specific that dialogue with the place in which they are installed.

Architects, engineers, planners, designers and artists can use the power of innovation and creativity in built environment to shape a better way of living in accordance with the principles of environmental, social, cultural and economic sustainability in order to create more inclusive and resilient communities.

5. Conclusion

The playground is a good indicator of key changes in society: the inclusion and social cohesion, the ideas about education and childhood; the importance of creativity, the role of architecture in public spaces.

Designing and building innovative inclusive playgrounds requires a strong commitment to finding solutions for accessibility, usability, safety and wellbeing of the end users by applying UD principles to create spaces where everyone can have play experiences regardless of age, ability or language, and form new social bonds.

The inclusive playground is the result of a participatory design action using a multidisciplinary approach and technical analysis tools. It is a demanding challenge involving many actors: professionals (i.e. architects, engineers, technicians etc.), artists, therapists, pedagogues, educators, and, of course, the children themselves and their careers.

If we want inclusive cities, we need to find adequate resources and effective operational tools to implement inclusive restyling in existing playgrounds and ensure the requirement of inclusion in all new play areas [10]. In addition, an adequate training for the various stakeholders should be promoted to strengthen the culture of inclusion in order to nurture new forms of creativity for playgrounds.

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