



## THE SPORTS OR RECREATIONAL INFRASTRUCTURE OF SCHOOLS FOR PUPILS WITH DISABILITY

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### Abstract

By preparing the space within an educational institution for a quantitatively significant group of pupils with special needs, we prevent exclusion by enabling environmental integration. That policy of public space management is consistent with the World Health Organization's (UN WHO) "World Action Program for People with Disabilities", the European Union's document "Accessibility: principles and lines directives", as well as with Polish law. The aim of this study was to analyse the adaptation of school sports and recreational infrastructure to the needs of students with different types of disabilities. The study was carried out as a part of the research project DS-300 at the University of Physical Education in Warsaw. According to the premises of the pilot study, the analysis of the available source materials, participant- and open nonparticipant observation together with photographic documentation were applied. Structured interviews with the employees of primary schools with integrated classes in the selected districts of Warsaw (Bielany and Żoliborz) were conducted. A questions layout was used as a research tool for closed-ended structured interview. Adapting school facilities to the needs of students with disabilities (with mobility dysfunctions, visually impaired or with other special needs) is an extremely complex issue due to the variety of disorders. Therefore, the principle that should be applied to the design of education facilities (all levels) needs to be universal design, taking into account their functional availability, including sports and recreational infrastructure for all groups of students, with the message: "designing for the disabled - we design for everyone". It should be emphasized that there is no single, universal and ideal model of integration, or school sports team "without barriers", therefore the problem of functional and curricula concept is still open, and professional search and discussions should be constantly conducted - both practical and theoretical.

**Key words:** schools with integrated classes, sports and recreation infrastructure, pupils with disabilities, social inclusion

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### Introduction

Removing the obstacles in educational facilities, including sport and recreational infrastructure, is not only a requirement of formal law and a noble ethical obligation, but most of all, a rational social policy. The importance of participation in physical education classes, extra-curricular sport, recreation in playgrounds as a method of counteracting exclusion and promoting a more complete social inclusion - is well documented in specialist literature [1,2,9,11,14,16,17]. By preparing the space of educational institutions for students with physical or mental disabilities, we enable the environmental integration to accelerate the costly

rehabilitation process for nearly 200 thousand people with different disabilities (Table 1).

In Poland, in the 2015/2016 school year, over 184,000 pupils were faced with a decision about the need to participate in special educational programs, including 19,344 students with physical disability [www.men.cie.gov.pl]. At the basic level of education, in the 2016/17 school year, pupils with a special educational need in most cases attended public primary schools (66.9%). Out of 49 thousand pupils, 2% studied in special class units, 33.6% in integration units and 64.4% in open access class units [6]. This educational policy is consistent with the UN World Health Organization "The World Programme of Action Concerning Disabled Persons" and the

European Union's document "Accessibilite: principes and lines directrices" (Conseil de l'Europe, Strasbourg 1992), which set three goals: a) prevention, b) rehabilitation, and c) equal opportunities. The programs of therapy through sport and recreation, implemented for several decades in Poland and other EU countries, bring excellent results, help people with disabilities to achieve a higher quality of life and help in social integration [1,2,10,11,14,15,17]. However, it is difficult to talk about the social inclusion of students with disabilities during school activities, including physical education classes and recreation, if the school facilities and surroundings are not accessible and safe for wheelchair or blind students. The technical barriers, including spatial ones, may relate to the necessity to overcome stairs, uneven surfaces, narrow doors and corridors – which means functional availability of areas, facilities and equipment. Therefore, the principle that should hold good to the preparation of education facilities (at all levels) should be universal design, considering their functional availability, in accordance with the message: "designing for the disabled - we design for everyone" [12]. The designers of these areas are obliged to follow such an approach in planning by - besides the indicators of a humanistic, medical, and technical nature - the legal requirements applicable in Poland [28,29]. This includes the regulation of the Minister of National Education of 9 August 2017 on the conditions of education, upbringing and care for disabled and socially challenged children and youth, or those threatened by social challenges. It also includes the Regulation of the Minister of National Education of 17 March 2017 on the organization of public schools and public kindergartens [28,30,31]. It should be emphasized that in Poland the preparation of sports and recreational areas in terms of the needs of students with disabilities has significantly improved as newly built or modernized educational facilities must meet legal standards. The entrances to the buildings are doubled by a ramp, internal stairs - by a passenger lift, corridors and doors have a width that allows for manoeuvring the trolley; surrounded by school buildings there are wide walking routes, which are safe and devoid of

terrain differences, and within the building changing rooms and toilets are suitable for disabled students. Adapting educational facilities to the needs of disabled students (who have motor dysfunctions, are visually impaired or have other disorders) is an extremely complex issue due to the variety of their needs. Different facilities must be provided for wheelchair users, as opposed to for a visually impaired person. Practical guidebooks for designers are helpful, such as those are published by the United Nations, or the Secretariat for the Convention on the Rights of Persons with Disabilities "Accessibility for the Disabled – A Design Manual for the Barrier Free Environment" or works targeted at functionally accessible public facilities, including sports and recreation areas at school facilities [8,12].

### **Aim, methods and research material**

The aim of the study was to assess the availability of sports and recreation infrastructure for students with disabilities in primary schools with integrated classes in selected districts of Warsaw city.

The availability assessment was completed according to the following criteria:

- characteristics of needs,
- availability of the school building and grounds,
- availability of sports and recreation facilities.

On the basis of the assumptions of the pilot study, interviews with primary school employees with integrated classes in Warsaw Bielany and Żoliborz districts were conducted, together with the analysis of the available source materials, participant observation and non-participating public participation along with photographic and structured documentation.

A disposition was used as a research tool for the structured interview.

During the pilot study, information on the available sports and recreational equipment and infrastructure in primary schools with integrated classes in two districts - Żoliborz and Bielany - was obtained. From May to June 2018 structured interviews with the headmasters of the studied schools were conducted. The lack of access to the sports and recreation infrastructure inside the school appeared to

constitute a major limitation. It blocked the potential to complete photographic documentation of all examined facilities. The permission to take pictures concerned only the external infrastructure of the school (playgrounds, sport fields, school surroundings).

## Results

School sports and recreational infrastructure should be available not only during school hours but after classes, in the afternoons, also for the local community, and especially for elderly people. Therefore, when striving to create an inclusive environment "without barriers", as in the case of other sports and recreation facilities - in the communication space, locker rooms, toilets and showers and building surroundings - the needs of the disabled should be taken into account, in particular the wheelchair user [8,21]. The accessibility of sports and recreation areas will be determined primarily by the appropriate parameters of horizontal and vertical communication, cloakroom and sanitary facilities (toilet, showers), as well as equipping showers in waterproof "white wheelchairs". According to the literature [8], changing the dimensions of the sports field or hall is not recommended (except for the level alignment and proper passage width). However, changes are suggested in the layout, for example: the height adjustable option of the basket board or installing handrails for exercises helpful for people with motion dysfunction. It should be emphasized that the sports equipment repository should be larger, possible to use as a sport-wheelchairs park, (also as a convenient place to change the standard wheelchair for a sport one). If there is a swimming pool at the school, the needs of people with disabilities must be met. Except for adjusting locker rooms and sanitary spaces, there should be a place enabling an unobtrusive and safe transfer to a waterproof wheelchair, and an appropriately contoured, gentle descent into the water with handrails and a ramp, as well as a lift available for the direct transfer of a disabled person from the wheelchair to the water.

The above remarks are also applicable within the arrangement of school playgrounds

for toddlers, in order to be accessible to children with disabilities. With respect to both, special devices (construction of swings, rockers, slides, trampolines - with a secure fixing for wheelchairs) should be considered, together with their layout, as well as adequate access paths. Pedestrian paths should be even, smooth, but not slippery, respectively wide, without ground level differences of more than 2 cm:

### *Searching for the model of school sports and recreation infrastructure "for all"*

The social significance of solutions for universal areas of sport and recreation, their important inclusive function in educational institutions are difficult to overestimate. It is important to emphasize the strong opposition of specialists to the creation of "school ghettos" for students with physical or intellectual disabilities in state schools, constituting 6% of all pupils in educational institutions [18]. The situation is similar in Germany, France, the Netherlands, Switzerland, the Scandinavian countries, and outside Europe - in Canada, Japan and the USA.

Contemporary pedagogical knowledge emphasizes the great importance of social rehabilitation, consisting in the widest possible inclusion of non-able bodied people in various social activities within the same space. Many specialists involved in this issue, on the basis of long-term research and observation, state that children with health problems must be provided with the right conditions for sport and recreation, and their needs do not differ significantly from the preferences of their peers [1,2,26,27].

Above all, it is essential to provide special standard devices, a games field or a playground for the youngest children - in no way labelled, separated or highlighted as different from the one dedicated to other students. Both children with disabilities and their non-disabled peers often respond in a natural and spontaneous way in school open areas for sport and recreation. They will play creatively, using ordinary and dedicated devices - regardless of their fitness - if they appear attractive. These behaviours of the author's children were observed during field

studies at playgrounds in Poland (ds. 300 AWF Warsaw), but similar types of behaviour are described in the work of other researchers [1,9,16]. Therefore, it is important from the social point of view, instead of building special objects to equip ordinary gymnasiums, playgrounds or school playgrounds with devices designed for children with disabilities (for example, those moving on a wheelchair). These can be, for example, flat devices - trampolines resting at ground level, which can be safely entered with a pushchair, but also jumped on independently if the children feel like it; swings to which a stroller can be safely attached, gyms with movable basketball boards (with the possibility of lowering them for wheelchair users) or swimming pools equipped with cranes or movable ramps to enter the water. Other basic devices that should be included in the integration sport and recreation areas include elevated sandboxes, shower trays and flower beds (available for a child in a wheelchair); traditional slides and rockers with a more solid construction, equipped with additional handles and appropriate security. In many non-Polish schools, the equipment of the halls and sports fields is enriched with attractive and universal accessories, i.e. colourful balls (bright colours with sound), mats (colourful, with music, pleasant sounds), swings, reinforced and profiled safety ladders, slow motion balls, soccer sensory balls, big balls for therapeutic exercises, massage balls, foam, coloured geometric figures, etc.

Unfortunately, the accessibility of devices for the integration of school sports grounds and toys for universal playgrounds is still limited. This has a negative impact on the attractiveness not only of the school recreation program, but also city parks and green areas in housing estates. At the same time, it should be emphasized that the situation is constantly improving, especially for large cities [Table 2].

Certainly, even more interesting project results for the integration model of sports and recreation areas in educational institutions could be achieved with the involvement of a number of specialists (graduates of the Academy of Art, Academy of Physical Education, Medical Academy, Pedagogical faculties, Polytechnic), in consultation with

specialized associations (people with hearing impairments, or the visually impaired).

### **Summary and discussion**

In Poland, despite the visible improvement, some children and young people still do not have access to a safe and universal sports infrastructure, especially in smaller centres. This is indicated by the available data of the Central Statistical Office, data of the Educational Information System, and published reports of the Supreme Audit Office. Deficiencies occur despite the efforts of successive governing teams responsible for the conditions for the implementation of physical education classes and the promotion of youth in educational establishments of an integrational character. This state of affairs is also confirmed by other documents, for example, the report "Social Diagnosis of Demand for Sports and Recreation Infrastructure" commissioned by the Ministry of Sport and Tourism. This results from the fact that there is still a lack of integrative sports facilities; the availability of, primarily, properly prepared indoor swimming pools and sports halls is hindered.

Therefore, there is an urgent need to prepare hundreds of Polish educational facilities and their surroundings (including sports fields and recreation areas) in such a way that all students can use them on equal terms. The lack of such facilities has a negative impact on the process of social inclusion, and consequently, affects the entire later life of a student with disability. It turns out that decades of neglect in this area now require constant, uninterrupted activities and major expenditures. In February 2017, the Ministry of Sport and Tourism (Department of Sports Infrastructure) announced the "School infrastructure development program for 2017". The goal of the "Program" is to improve the condition of school sports infrastructure, including integration-oriented educational institutions. What is more, the project assumes not only the use of infrastructure for the purpose of physical education classes, enabling the organization of sports activities, but also to serve local communities for active leisure time ([www.mnsport.gov.pl](http://www.mnsport.gov.pl)). Significant funds are to be earmarked for the construction of indoor

swimming pools, sports fields (without barriers) and repairs to existing but neglected facilities.

The assumption of the planned investments is not only versatility, but also general accessibility, openness for the residents of the area in the after-school period: afternoons, during weekends and during holiday periods. An extremely important postulate for the dissemination of the idea of "sport for all" included in the above-mentioned 'Program' of the Ministry of Sport and Tourism is the possibility of free use of school areas and facilities. It is also worth following government activities implemented within the scope of the "The Accessibility + Program".

We should hope that thanks to similar programs, educational facilities will be diversified and adapted to the current needs and elements of sport and recreational integration infrastructure, enabling various forms of activity by various groups of students (schoolchildren and extracurricular - also residents of nearby settlements). Thanks to such projects recreational areas and sports and recreation facilities - through the appropriate enhancement of development and diversity - have a chance to play an important integrating role for the whole local community. It can be hoped that this will concern universal sports facilities, and open spaces "without barriers", including school playgrounds for young

children - currently not always available to external users.

Another important aspect of sustainable and economically efficient investment in the sports and recreational "no barriers" school is the problem of increasing the use of expensive infrastructure, and thus striving for its year-round (multigrade) use. An appropriate project can ensure that the integrative sports and recreational infrastructure is available throughout the year in changing climatic conditions; exercises can take place in comfortable conditions thanks to good lighting, screens and careful selection of plants can give protection against wind, noise and dust. A partial roof may protect against excessive insulation or rain and snow. It is worth placing more emphasis on natural materials from which individual elements of the infrastructure can be made. These give children a greater sense of comfort and safety.

Finally, it should be emphasized that, although the removal of technical barriers (both in the school building itself and in its surroundings) is extremely important for improving the accessibility of sports and recreation infrastructure, it is the empathy and support shown by teachers, employees of educational institutions, peers and parents that have a decisive influence on achieving the full social inclusion of a student with disability.

**Table 1.** Statistical data of pupils with special educational needs in Poland (September 2016).

	Special educational needs of pupils	Numer of pupils
1	With conjugate disability	30 854
2	Blind	350
3	Visually impaired	8 182
4	Hearing impaired	2 216
5	Hard of hearing	10 030
6	Light intellectual disability	47 122
7	Moderate or severe intellectual disability	23 681
8	Socially challenged	3 578
9	In danger of being socially challenged	9 947
10	In danger of becoming addicted	31
11	With behavioral disorders	177
11	Chronically ill	81
12	With mental disorders	31
13	Students with physical disabilities (including aphasia)	19 934
14	Students with autism (including Asperger's Syndrome)	27 794
15	Total	184 008

**Table 2.** Analysis of the equipment of playgrounds and the sport and recreation areas in schools with integration departments

No	Playgrounds and sport and recreation areas in schools with integration departments	Adaptation of the school building and the number and type of facilities for children with disabilities to enable participation in sports activities	The minimum recommended number of facilities for children with mobility disabilities (in age groups) <sup>1</sup>
1	Primary School A classes 1 - 8 (pupils aged 6-15)	The school's ground floor is adapted and accessible to wheelchair users (toilets, handrails, ramp at the entrance, wide doors, parking spaces, leveled surface), a room for sensory integration. Playground, gym and multifunctional outdoor field with standard equipment	For children aged 5 - 7: (2) For children aged 8-10: (3) For children aged 11 – 13: (4) For youths aged 14 - 16: (5)
2	Primary School B classes 1 - 8 (pupils aged 6-15)	The school building is well adapted: lifts, ramps, handrails, adapted toilets, wide doors. Specialized rooms - room for sensory integration Playground, gym, - standard equipment. Multifunctional field for team games (basketball, volleyball, badminton, handball); football field with artificial surface. Additionally: a sensory path, a green science garden.	For children aged 5 - 7: (2) For children aged 8-10: (3) For children aged 11 – 13: (4) For youths aged 14 - 16: (5)
3	Primary School C classes 1 - 8 (pupils aged 6-15)	The school building in the process of adjustment: no elevator, platform, a lot of stairs, long corridors. Comfortable surface around the school (cube). A new fenced playground, with artificial, leveled surface, space for younger and older children, colorful exercise equipment, a square accessible for wheelchair users; gym - standard equipment. Multifunctional field for team games (basketball, volleyball, badminton, handball); football field with artificial surface, athletic track, long jump, table tennis tables - available for pupils with disabilities	For children aged 5 - 7: (2) For children aged 8-10: (3) For children aged 11 – 13: (4) For youths aged 14 - 16: (5)
4	Primary School D classes 1 - 8 (pupils aged 6-15)	The school building is adapted: lift, handrails in the corridors, toilets, wide doors. Parking places for the disabled. The SI therapy room and rehabilitation room. Playground, gym and outdoor field with standard equipment.	For children aged 5 - 7: (2) For children aged 8-10: (3) For children aged 11 – 13: (4) For youths aged 14 - 16: (5)

Source: The study by authors based on the results of field research in Warsaw, in the Bielany and Żoliborz districts (April - June 2018). This segment of the research project DS.- 300 AWF Warsaw was implemented according to the methodology described by Canadian scientists from Laurentian University: Yantzi N.M., Young N.L., Mckeerer.P. (Yantzi et al. 2010)<sup>2</sup>

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<sup>1</sup> Based on recommendations US Access Board Guide on Play Areas and Sports Grounds 2005

<sup>2</sup> Yantzi N.M., Young N.L., Mckeerer.P. (2010): The suitability of school playgrounds for physically disabled children [w] Children's Geography, Volume 8, 2010, issue 1, ss. 65-78, Laurentian University

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