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SCHOOL ARCHITECTURE, ITS ADAPTABILITY AND FORMS OF STUDENT'S LIFE AT SCHOOL: A CASE STUDY OF THE ART HIGH SCHOOL IN CRACOW

Abstract. The case study research presented here focuses on the modern building of the State High School of Fine Arts in Cracow. The objective was to examine the adaptability of school architecture in response to new educational challenges. The survey gathered data using a paper questionnaire involving most students ($N = 167$). Mixed techniques were used to collect data, including participant drawings and free statements. The investigated issues included evaluating the school's responsiveness to students' needs, understanding the meaning of places, identifying students' favourite places, and exploring the emotional relationship and identification with school goals and use of school space. The findings indicate that students value the school's artistic ambience, desire greater space flexibility for participation and creativity, and a dedicated area for everyday needs.

Keywords: architecture, art high school, modern architecture, students' life, qualitative research

ARCHITEKTURA SZKOŁY, JEJ ADAPTABILNOŚĆ I PRZEJAWY ŻYCIA UCZNIÓW W SZKOLE: STUDIUM PRZYPADKU LICEUM PLASTYCZNEGO W KRAKOWIE

Abstrakt. Przedstawione tu badania studium przypadku koncentrują się na modernistycznym budynku Państwowego Liceum Sztuk Plastycznych w Krakowie. Celem projektu było zbadanie możliwości adaptacyjnych architektury szkolnej w odpowiedzi na nowe wyzwania edukacyjne. Badania przeprowadzono z użyciem papierowych kwestionariuszy; odpowiedzi na ankietę udzieliła większość uczniów szkoły ($N = 167$). Do zebrania danych wykorzystano techniki mieszane, w tym rysunki uczestników i swobodne wypowiedzi. Badane kwestie obejmowały ocenę responsywności

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szkoły na potrzeby uczniów, zrozumienie przez uczniów znaczenia miejsc, identyfikację ulubionych miejsc oraz analizę emocjonalnego związku i identyfikacji z celami szkoły a wykorzystanie przestrzeni szkolnej. Wyniki badania wskazują, że uczniowie cenią sobie artystyczną atmosferę szkoły, ale także pragną, by przestrzeń szkoły oferowała im możliwość większego uczestnictwa i kreatywności w definiowaniu miejsc, w których toczy się ich codzienne życie w szkole.

Słowa kluczowe: architektura, liceum plastyczne, architektura modernistyczna, szkolne życie uczniów, badania jakościowe

1. Introduction

The study explores the significance and impact of architecture on the educational environment of a school. The concept of this study originated from the belief that the architecture of a school is the ‘hidden agenda’ of education (Meighan, Siraj-Blatchford 1997). School buildings and spaces co-create the educational environment and shape the activities of the entire school community, particularly students. This belief is supported by studies on school life conducted by anthropologists, sociologists, and researchers in education and by studies describing the multidimensional effects of the built environment (architecture) and its specific impact on students’ engagement, attitudes towards learning, and school. This perspective also results from understanding architecture as a multidimensional entity that extends beyond its visual impact and style and produces far-reaching practical effects. Its most critical aspect is spatial structure, which is coordinated with and shaped by social structures. Thus, architecture is something which ‘has a direct relation – rather than merely symbolic one – to social life, since it provides the material preconditions for the pattern of movement, encounters and avoidance which are the material realisation – as well as sometimes the generator – of social relations’ (Hillier, Hanson 1993: ix).

The role of architecture in shaping the environment of human life, including education, is a widely acknowledged assumption in this study. The theoretical part of this work presents a broader discussion of related theories and empirical research findings. However, the study aimed to investigate the adaptability of school architecture in response to new educational challenges. The research focused on the State High School of Fine Arts in Cracow,¹ a unique and imposing example of modernist school architecture built in the 1960s and a school community that maintains its traditional values. The question is how this relates to the changing image of school and education and the challenges of the current 21st-century educational paradigm. Some of this paradigm’s new assumptions say that knowledge is created throughout life in diverse educational contexts (Giddens 2006); it occurs in various locations, including schools, non-institutional settings, and in relation to a place

¹ *Państwowe Liceum Sztuk Plastycznych im. Józefa Kluzy w Krakowie.*

(Gruenewald 2003). It demands a range of interpersonal relationships, involves student and teacher creativity and involvement, and depends on 'self-learning', which cannot be limited to 'being educated'. More importantly, learning encompasses individualised experiences, making it not just a matter of institutional education (Sfard 1998; Giddens 2006).

Data collected with the questionnaire survey enabled to answer the question of whether the modernist architecture of the school responds to the current educational paradigm. In particular, the following issues were investigated: (1) evaluation of the school's responsiveness to students' needs for learning, creative work, and social contacts; (2) building positive relationships with the school by finding students' own places; (3) description and meaning of students' favourite places in the school; (4) emotional attachment to the school and how it moderates students' activities at school and their opinion on school performance. In addition, the survey investigated how students evaluate the school building and its various parameters, such as school friendliness, character, and comfort, and what they think about it. What are the essential elements of the school environment, and what are their favourite places?

2. School space as an environment for students' everyday life – social perspective

A school is both an organised community of learners and a place. When we look at a school as an organisation, we can see students, teachers, learning programs, school goals, habits, and achievements – all of which can be defined as a school 'culture' or a school community' way of life' (Robinson 2020: 10). If we look at a school as a commonly understood place, we might see a school building, classrooms, and the school environment. These two realities are not separate; the school community is located in a specific place, and the meaning of place is more complex than its appearance. Contrary to an abstract notion of space, it brings meaning that connects human activities and a particular environment. A colloquial expression: 'a place for everything and everything in its place', suggests that place refers to some kind of 'ordering things' (Cresswell 2004: 2). The psychologist David Canter (1977) describes a place as a combination of three types of components: 'conceptualisations', 'activities', and 'physical attributes'. In the case of a school, these would correspond to the goals and values of the school, the behaviours of learners and school staff, and the physical environment in which the school community is located. The concept of the psychology of place is based on assuming a solid relationship between behavioural congruence and the constraints of a given situation (Price, Bouffard 1974; Canter 1977). It also suggests a relationship between expected and observed behaviour in a place. According to this theory, a place can function well if the percentage of behaviours observed in the place consistent with place-related expectations ('appropriate') is

much greater than the percentage of behaviours inconsistent with those expectations. In the case of a school, though, the actual assessment of such conformity may be complex because of certain constraints imposed on users by the school organisation and different perceptions of the school's meaning. A statement by Ken Robinson, a British education expert, sheds some light on these differences (2020: 10):

There are important differences between learning, education and school. Learning is acquiring new knowledge and skills; education is a planned programme of learning; a school is a community where education is meant to happen. ... Children love to learn; however, they don't always enjoy education, and some have serious problems with school. Those problems often have to do with the culture of schools, including the physical spaces they inhabit.

School education by official learning programs often limits the scope of knowledge and regulates what is good and proper for students, but it cannot contain the inner life of the school. There is usually much more happening behind the school walls than the official curricula suggest. A significant source of experience and knowledge for students is the context of informal learning situations. Martyniuk (2019: 53) describes different categories of everyday school life depending on: (1) relationships with others – ‘with whom it happens?; (2) type of rituals – ‘how it happens?; (3) location of events – ‘where it happens?; (4) social roles – ‘which way it happens?; (5) specific school space – ‘what kind of setting is this happening in’?

The categories of school life refer to various theoretical concepts, most notably action theory, critical pedagogy, and the theory of school as ritual performance, drama, or play. Some of these concepts, such as critical pedagogy, describe situations and relationships that go far beyond the territory of the school building. What the theories described here have in common is a move away from a simple way of explaining the relationship between behaviour and its causes. Rather than simple responses to specific stimuli, actions these theories analyse are individual or collective, complex, situational constructs. They tend to be grounded in the specific meanings that certain things and activities of other people have for individuals. One of the key terms here is ‘symbolic interaction’. As presented by Herbert Blumer (1969), actions are conditioned by ‘culture’, ‘social systems’, ‘social stratification’, and ‘social roles’, but these structural systems do not determine them; ‘people – that is, acting units – do not act toward culture, social structure or the like; they act toward situations’ (87–88). According to action theory, all meanings – including the meanings of social artefacts and cultural assets such as schools – are the product of specific human actions. Relationships with others – interactions – create the world of everyday life, which has a specific intersubjective meaning for people in schools and which is, in a sense, an obvious source of knowledge. This way of thinking plays a role in people's lives as a frame of reference for life-experience interpretations.

On the other hand, according to action theorists, knowledge of social processes is possible only through the observation of interactions in which individuals begin to share the same world. To distant observers, these actions are not necessarily

rational, 'appropriate', and predictable. Nevertheless, they are made possible by individuals' 'self-reflexivity' embedded in personal development, past, present, and imagined future interactions with others, symbolic meanings of the external world, membership in social worlds and sub-worlds, and emotions related to social situations (Strauss 1993).

Proponents of symbolic interactionism posit that meaningful objects and settings in the environment, which different individuals can interpret differently, play a crucial role in human behaviour. A well-known concept stemming from symbolic interactionism is the notion of life as theatre (Goffman, 2000). Goffman's theory has been applied to the school environment, viewing students and teachers as actors in a theatrical production and the school's physical space as the stage with a clear division between 'front stage' and 'backstage'. The timing of the performance is also defined, with breaks between acts (Janowski 1995: 37). Different rules apply in the classroom ('front stage') and in areas outside of it, like school corridors, restrooms, or the schoolyard ('backstage'). Students and teachers can relax and move away from their roles offstage. Anthropological research has made comparable findings, interpreting school life through ritual practices. McLaren (1999) noted that schools offer various ritual systems at the macro and micro levels (e.g., linked to specific lessons). Such systems form the inconspicuous foundation for diverse school events and rituals that make the unfamiliar seem familiar, or the familiar appear strange.

Consequently, the execution of school rituals and a school play influence distinct changes in student performance. These behavioural differences become even more apparent outside the school grounds. McLaren (1999: 94) explains the contrasting interactions between the 'student state' and the 'street-corner state', each exhibiting distinct interactions. Examples of these interactions within adjacent states are: 'institutional-tribal', 'cognitive-emotional', 'serious-ludic', 'task-oriented-whimsical', 'work-play', 'gesture-motion', and 'fixed space-informal space'.

Pierre Bourdieu's perspective on the theory of reproduction offers a different view of school. From this point of view, school appears to be a kind of strategic game played out in education. Some strategies are used to overcome social class differences, others to survive in school. Players (students) enter the game with different types of capital, which determine their relative strength in the game and their position in the game space, as well as playing strategies that determine their chances and the outcome of the game (Bourdieu, Wacquant 2001: 78). This initial capital has been shaped by a 'habitus' – a way of life that was learned at home. It then becomes 'a resource with which individuals enter the game, or rather the struggle for survival, for the first time' (Jacyno 1997: 111). According to this theory, all the choices made by human beings are not entirely free but are conditioned by the social environment. Ultimate success in the educational game may depend not only on the size and structure of capital but also on strategies adopted, influenced by objective structures of possibilities. In this sense, habitus is neither external nor internal; it is the result of the social, a product of being in society (Jacyno 1997; Martyniuk

2019: 75). The individual is portrayed here through his actions and motivations, as caught up in a situation and trying to solve it with the tools available to him. In the school game, then, what counts is economic capital (money, possessions), social capital (including positions and connections), and perhaps most importantly, cultural capital (skills, education, habits, styles, tastes).

The political and economic aspects of education carry equal weight in the critical pedagogy theory, which distinguishes itself from other theories by incorporating social responsibility and engagement in activities to enhance education quality and social well-being. Critical pedagogy places particular importance on praxiological efforts to develop a politics of everyday life in various ways, including situating critical analyses within the realm of popular culture. Secondly, critical pedagogy examines the theoretical connections between daily discourses and social practices that construct and fortify power relations and act as arenas for contestation, opposition, and change. It encourages the adoption of concepts such as ‘outdoor education or ‘place-based education’ (Gruenewald 2003) among emerging social movements and the power networks related to education. It attempts to connect the micropolitical aspect (the daily activities of teachers and students) with the macropolitical aspect (economic, social, cultural, and institutional structures). By analysing schooling from the perspective of critical pedagogy, there are chances to establish relationships among schools, the learning atmosphere, politics, and social justice and democracy matters. Henry A. Giroux (2019) states that this pedagogy ‘is not a method but a moral and political practice, one that recognises the relationship between knowledge and power’ (149). It demands ‘responsibility, social action, ... political intervention’ and ‘social critique but also self-critique’ (Giroux 2019: 151):

The relationship between knowledge and power, on the one hand, and creativity and politics, on the other, should always be self-reflexive about its effects and how it relates to the larger world. In short, this project points to the need for cultural workers to address critical pedagogy not only as a mode of educated hope and a crucial element of an insurrectional educational project but also as a practice that addresses the possibility of interpretation as an intervention in the world.

3. Architecture of school space – modernist and up-to-date paradigm

Modern school architecture was developed based on the educational ideas of reforming educators who were active at the turn of the 19th and 20th centuries. These educators include John Dewey, who advocated for a pragmatic and democratic curriculum based on principles; Maria Montessori, who incorporated humanistic motivations to meet the child’s needs; Rudolf Steiner, who sought to introduce imaginative teaching; and Peter Petersen, who focused on problem-solving rather than coursework. A central tenet of their educational philosophy was the notion of child-centred education. This replaced earlier perspectives prioritising

state, church, or business needs. John Dewey pioneered an education that aimed to enhance society. His experimental school, the Laboratory School at the University of Chicago, sought to establish a 'well-appointed home' as well as a place where students could partake in developmental, intellectual, and social activities and engage in community life expressed through the curriculum (Uline 1997; Lackney 2015). Maria Montessori developed her approach to education as a physician, viewing children as a whole entity encompassing the heart, soul, body, and mind. She emphasised the teaching of cognitive abilities from an early age. Rudolf Steiner concentrated on students' intellectual, artistic, and practical skills in an integrated and holistic manner. He believed that children should primarily be guided by their 'feeling nature' at an early stage and stimulated by imagination and fantasy (Nielsen 2004: 69). Peter Petersen suggested a model of independent learning by doing, cooperation and community life, and shared responsibility between parents and students. Inspired by Petersen's philosophy, the Jenaplan School rejected the traditional teaching structure involving strict age groups, 45-minute teaching units, and confined classroom settings. Instead, the school offered mixed-age groups of learners, open and personalised learning opportunities, and innovative learning environments (Gläser-Zikuda et al. 2012).

Altogether, these groundbreaking concepts greatly influenced education throughout the 20th century and the perception of school architecture. The educational architecture of the modern movement prioritised diversified learning environments to accommodate more intricate educational programs, child-centric surroundings to foster a sense of belonging (smaller classes furnished with relevant interior design and furniture), and a closer connection with the natural environment. These environmental elements differ starkly from the 19th-century's massive, fortress-like school buildings with large, repeatable classrooms. The most notable instances of contemporary school architecture comprise spacious and low buildings that facilitate several concurrent learning activities and promote acculturation and domesticity by offering individual units with kitchenettes, bathrooms, and storage areas or by welcoming a local community to the school premises. Regardless of the functional ideas mentioned above, according to John Dewey, school architecture should offer aesthetic experiences that 'unify' and give learners a necessary 'pause'. Dewey envisioned school architecture, including extensive grounds, gardens, greenhouses, and 'open air' interiors. Dewey also specified that the school building should house no more than 200 people (Uline 1997). The contemporary vision of school architecture embodies many of John Dewey's aesthetic concerns. It provides visually appealing educational settings that blend in with nature, provide adequate space for all, and incorporate exciting details such as pleasant lighting, warm colours, and well-designed furnishings.

However, most modern architecture did not effectively align with pioneering educational ideas. Many 20th-century schools were constructed inexpensively, with buildings designed to facilitate traditional, teacher-centred lessons in homogeneous

classrooms resembling ‘opaque boxes off long straight corridors purely for circulation and hanging coats’ (Hertzberger 2008: 13). The dominant modernist style in educational architecture was characterised by standardisation and large windows that provided greater transparency to the outside. These two factors accentuated the pervasive heroic modernist style seen in all types of architecture during this period. Modernist architects believed that simple, pure forms and natural light would create the space necessary for the hygiene and physical well-being of everyone, especially children. Physiological needs received more attention from architects during that period than cognitive, aesthetic, or social needs. This emphasis occasionally resulted in radical design solutions, including the open-air schools constructed in the 1920s and 1930s or open-plan schools built around 1970. Open-air schools had classrooms enclosed by sliding or folding walls, enabling direct outdoor access. Open-plan schools avoided fixed divisions between spaces, maximising functional flexibility. Regrettably, many of these experimental school buildings were viewed as ‘learning factories’ – monotonous, uninspiring, and failing to meet the needs of students (Walden 2015: 15).

Rooted in the modernist movement and supported by extensive empirical research to evaluate various architectural concepts, the current shift in the pedagogy of space is underway. The research findings suggest a connection between the quality of the educational environment and the level of student engagement. Environmental research has measured the impact of architectural parameters such as building age, quality, design, size, maintenance, lighting, thermal comfort, and indoor air quality. It has also analysed spatial and structural characteristics such as classroom types, interior details such as colour and visual complexity, and auxiliary facilities. For example, studies carried out in eighty American middle schools have demonstrated a significant association between environmental features and the overall ‘school climate’, defined in terms of teachers’, students’, and parents’ perceptions of themselves, student achievement, organisational rules and policies, and the facility itself, which had a direct impact on specific learning outcomes (Uline, Tschanen-Moran 2007). The Holistic Evidence and Design (HEAD) study, examining one hundred and fifty-three British primary schools, verified the influence of physical learning environment variables on the three primary subjects evaluated: reading, writing, and math. These subjects represent distinct types of learning activities, including study, creativity, and problem-solving (Barrett et al. 2016). The researchers used multilevel modelling to isolate and describe the impact of environmental factors on overall and subject-specific learning progress. The HEAD research identified three essential categories of ‘design principles’: (1) Naturalness (such as light, sound, temperature, air quality, and links to nature); (2) Individualisation (including ownership, flexibility, and connection); and (3) Stimulation (such as complexity and colour). As shown by this research, certain design parameters have demonstrated particular significance. There were ‘light’, which encompasses the quality and quantity of natural light,

window orientation, and the degree of control over shading and artificial lighting, and 'flexibility', which includes classroom size and shape, storage and breakout spaces, learning zones, and opportunities for display. 'Color' and 'complexity' were identified as important elements impacting reading and writing progress. Based on the researchers' observations, an optimal visual environment for the effective study consists of an overall balance of white or pale-coloured walls with bright-coloured accents to stimulate the brain and a moderate level of visual complexity with distinctive design but not too many elements. Solving mathematical problems was found to be correlated with 'flexibility', whereas 'links to nature' showed special significance for more creative tasks, such as writing (Barrett et al. 2016).

Unlike a century ago, the new global shift in 21st-century school architecture, informed by research, is not revolutionary but relatively progressive in architectural and educational terms. The changes respond to specific design objectives embedded in school philosophy that facilitate the transition from teacher-centred to student-centred spaces. The school's architecture 'for the future' is supposed to provide a sense of place and adaptability. Schools should focus on providing better opportunities for learning through studying, experiential activities, socialising, and engagement with the community. Additionally, they should serve as models for building design, aesthetics, technology, economics, and sustainability while allowing students to have a portion of their personal lives within the school setting (Walden 2015). Instead of generic, unremarkable hallways that create a half-public space in schools, they should consist of distinctive areas like islands, pits, and grandstands that structure spatially particular school spaces. This may enhance the sense of belonging between students and their school as a learning organisation, consequently boosting student engagement, defined as 'energy in action' and the correlation between individuals and activities (Frydenberg et al. 2005; Appleton et al. 2006: 428). The objectives are often developed collaboratively through a participatory process that involves various stakeholders, such as educational administrators, politicians, teachers, architects, engineers, researchers, residents, parents, and students. School buildings are expected to reflect both sociopolitical ambitions to be at the forefront of global development in a changing world and the role of a local community centre in their neighbourhood (Sigurdardóttir, Hjartarson 2011). Thus, the most significant development in modern school design is more intellectual than visually prominent.

4. The case study

The subject of this study is the Józef Kluza State High School of Fine Arts in Cracow. It is a remarkable school for establishing a school community with a rich artistic tradition and for having a unique modernist building whose architecture refers to the best international models. It would be difficult to find another school

of this kind in the entire metropolitan area of Cracow, and choosing this particular school to study is not accidental and is closely related to the theoretical research presented in the work.

The school was founded shortly after the end of the Second World War, in December 1945, and was initially located in an apartment building in the midtown of Cracow. In 1955, Jozef Kluza, a painter, assumed responsibility as director of the school. He initiated a new school building design based on the modernist Bauhaus model. Architect Józef Gołąb headed a team,² which included architect and interior designer Teresa Lisowska-Gawłowska and structural designer Zbigniew Jankowski, to carry out the project. The State High School of Fine Arts's new building at 6 Mlaskotow Street (the school's current seat) had its grand opening in October 1967. In 1969, the building received the title 'Mister Cracow' for its architectural achievement. Since 1997, the position of school director has been held by the graphic artist Malgorzata Holowka, and since 2004, the school has been named after Józef Kluza. The Minister of Culture and National Heritage supervises the school. The school's curriculum covers art-related subjects such as art history, drawing and painting, basics of design, sculpture, and photography, and the obligatory program of general subjects. The school underwent renovations and re-equipping in 2020.

The school building's design drew inspiration from Herbert Read's (1943) *Education Through Art*, a book that not only espoused educational ideas inspired by art but also included a comprehensive account, plan, and pictures of a school in Impington (UK), designed in the 1930s by Walter Gropius and Maxwell Fry, that was a model in many respects for that era. This design, outlined in Read's book, is a prototype for an environmentally-focused school that merges educational offerings for students with the local community's goals. Despite the school's rural setting in the British countryside, it was marked by creative aspirations and a modernist spirit. One of its two designers was Walter Gropius, creator of the iconic Bauhaus school building and its famous professor and later dean of the Graduate School of Design at Harvard University. The school's design in Cracow repeats several characteristics of the school architecture described above. It employs a horizontally extensive and fractured plan, with pavilions housing the classrooms extending beyond the main body. Additionally, it uses a spacious hall, referred to as 'a promenade' in Gropius and Fry's design, which connects different parts of the building and serves as the school's shared space. Finally, the design incorporates an extensive green space that surrounds and intertwines with the main body of the building. The green space contains additional recreational spaces and a garden integrated via outdoor canopied walkways (Fig. 1).

² The most complete list of the building's designers, based on information obtained from the City Archives, is provided by Malgorzata Włodarczyk (2007). The design team representing "Miastoprojekt" included: Józef Gołąb (leading designer), Izabella Miczyńska, Franciszek Prochal, Bolesław Kapalka, Bolesław Prochner, L. Przybyło, Tadeusz Srebnicki and Zbigniew Jankowski.

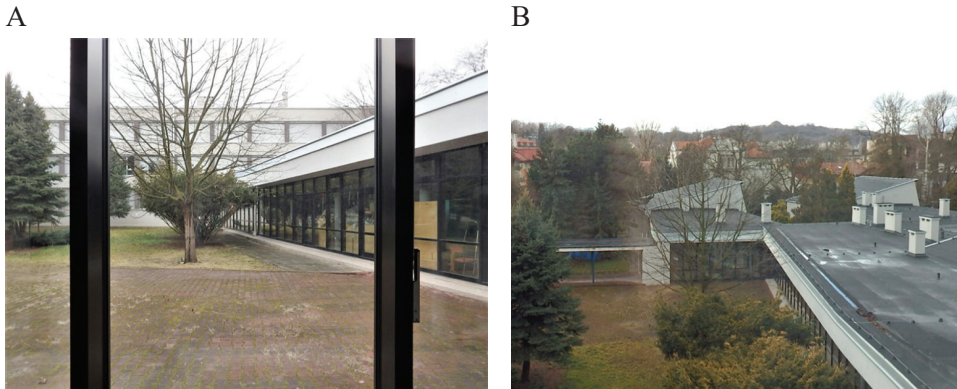


Fig. 1. The Józef Kluza State High School of Fine Arts in Cracow: A – the central courtyard and a block of classrooms as seen from the school's first-floor hall; B – the wing of art studios as seen from one of the classrooms on the top floor (the author took photos in February 2020)

In addition to the fundamental assumptions of the building's architectural concept and the school's idea, the design of the Art High School in Cracow included more references to the modernist vision of the school and the ideas of educational reformers than to the regulations that were commonly used in Poland at the time of the school's construction (the 1960s) and related to the idea of 'a thousand schools for the Polish millennium' (Wałaszewski 2018). The school's features encompass its scale, bespoke architectural design, customised interiors and furniture, and unique location in an inner-city villa district of Cracow, proximate to the expansive green area of Blonia. In terms of size, the school was designed for around 200 students, the number present during the research conducted at the school. This size corresponds to that recommended by Dewey and is much smaller than the average size of schools implemented in Poland at the time. The school's design considers a differentiated curriculum, with various parts of the school adapted to this curriculum. This idea aligns with the functionalist approach to architectural design that defined the earlier modernist era, seen in the Bauhaus school in Dessau, designed by Gropius in 1926. In keeping with this spirit, the first floor was spacious and functional, accommodating a wide range of programs, while the second floor was a repetitive, boxy block of mostly small classrooms. Meanwhile, on the first-floor level, around the central courtyard, there is a wing of art studios arranged in individual pavilions surrounded by greenery, a block of administration and auxiliary functions containing, among other things, a canteen, a library, and a space for students' lockers. The vast hall – a 'promenade' located across from the school's main entrance- showcases various items, including original furniture designed for the school and artworks representing the school's heritage (Włodarczyk 2007). On the upper two levels, there are classrooms for teaching general subjects and smaller art studios, all offering nice views of the green area, as well as a teacher's room, student bathrooms, small recreational annexes, and long and narrow corridors connecting all these spaces (Fig. 2).

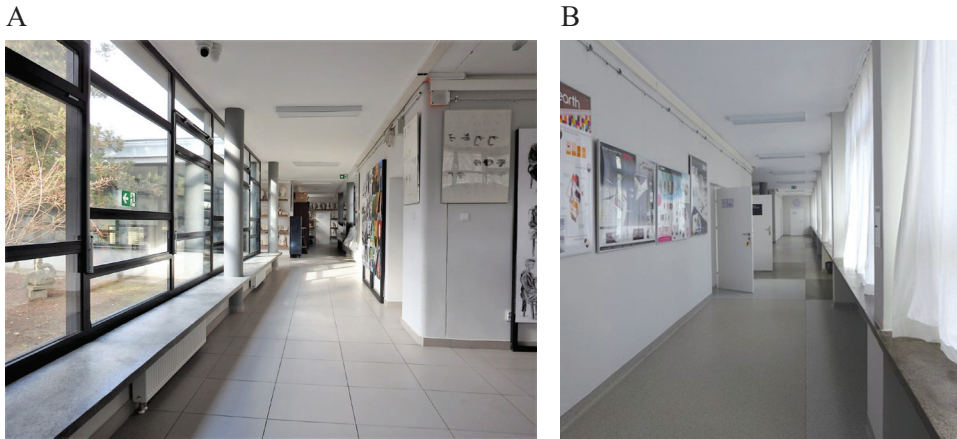


Fig. 2. The school semi-public space: A – the corridor circulating the central courtyard on the first floor; B – one of the upper floor corridors connecting the classrooms (the author took photos in February 2020)

5. Method

The research described herein started in 2019 from consultations and agreements with the school principal, followed by a photographic inventory, preparation of school plans based on available materials, and elaboration of a questionnaire in 2020. The culmination of the research performance was a survey of students' opinions on the use of school space, which was done in the fall of 2020 during the short period of resumption of stationary school operations during the COVID-19 pandemic. The survey's preparation and implementation faced obstacles during this period due to the suspension of in-person schooling in the summer semester of 2019/2020 and subsequent school closures, making survey administration and collaboration quite tricky. In 2021–2022, after additional consultations with one of the teachers involved, the data gathered through the survey was analysed and described.

The school survey was conducted with the written consent of the school administration and the approval of the teachers of the relevant classes. A total of 167 students ($N = 167$), representing approximately 70% of the student body, participated in the survey. All classes except first grade were included; the students who completed the surveys were aged between 15 and 19 and were primarily female. The participants completed the survey in class during parenting lessons, and the class teachers handled the coordination process. The study was carried out by distributing paper questionnaires to the school. A total of 175 questionnaires were filled in by students from different classes (including 167 that were filled in completely), all of which were returned by the school soon after.

The research instrument was a questionnaire consisting of five different parts: (a) general information about the respondent (age, gender, grade); (b) a drawing part (Fig. 3) – mapping essential places on the school plans (including frequent places, favourite places, important elements of the school's spatial arrangement); (c) characteristics of the most favourite place of one's own school – closed questions and a list of adjectives to be filled in; (d) general evaluation of the school – closed and open questions; (e) emotional attitude towards the school – closed and open questions. The survey results were analysed using quantitative analysis (closed-ended questions), summary behavioural maps (results from the drawing component), plan analysis, and content analysis (open-ended questions). A summary of the variables utilised in the research is presented in Table 1.

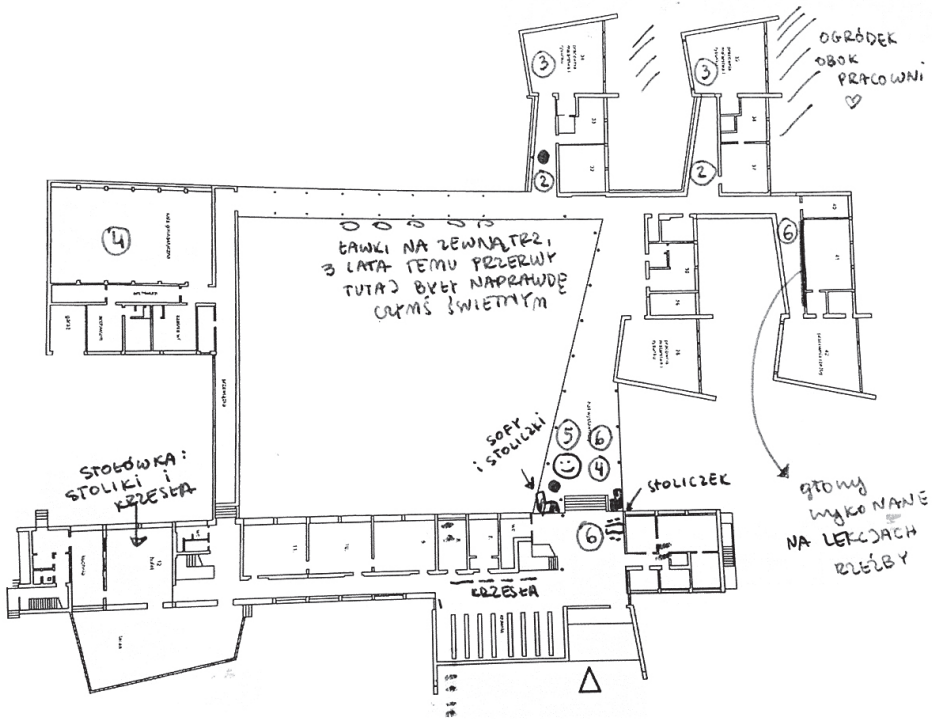


Fig. 3. Example of a student's drawing statement on the first-floor plan of the school. The plan depicts the following: the student's preferred location marked with a happy face (☺), frequently visited areas marked with a single dot (•), locations that encourage interaction with teachers labelled as (2), areas that foster creativity labelled as (3), places suited for teamwork marked as (4), spots conducive to socialising labelled as (5), areas designated for relaxation labelled as (6), and subjectively significant elements of the spatial arrangement depicted through drawings

Table 1. *A description of the variables –*

1	Overall Assessment of School Architecture	<p>1.1. Evaluation of Individual Qualities of School Architecture – 7-Point Scale (From 1 to 7)</p> <ul style="list-style-type: none"> – Aesthetics: attractive – ugly – Ambiance: friendly – unfriendly – Comfort: comfortable – uncomfortable – Interior design: well-arranged – poorly arranged – Equipment: well-equipped – poorly equipped – Organisation: orderly – chaotic – Space: spacious – cramped – Appeal: inviting – uninviting – Character: with character – nondescript – Location: well-located – poorly located – Connection to Environment: well-connected – poorly connected to the environment – Learning: conducive – not conducive to Learning – Creative work: conducive – not conducive to creative work – Social contacts: conducive – not conducive to social contacts and cooperation
2	Meaning of Places	<p>1.2. Evaluation of Strengths (+) and Weaknesses (–) of the School Building (open statements – content analysis)</p> <hr/> <p>2.1. Frequent Places (places of frequent stay marked on school plans – drawing part)</p> <hr/> <p>2.2. Places Corresponding to Student’s Individual Needs at School</p> <ul style="list-style-type: none"> 1: A place conducive to <i>individual study and work</i> (in silence and concentration) 2: A place conducive to <i>interaction with teachers</i> (listening, following instructions, and discussion) 3: A place conducive to <i>creative work</i> 4: A place conducive to <i>teamwork</i> 5: A place conducive to <i>socialising</i> 6: A place conducive to <i>relaxation</i> 7: A place conducive to <i>privacy</i>
3	One’s Favorite Place	<p>3.1. Practical Significance of One’s Favorite Place</p> <p><i>In your favourite place, you are most often engaged in:</i></p> <ul style="list-style-type: none"> – Individual work and studying – Following the teacher’s instructions – Creative work – Teamwork – Socialising – Relaxation <hr/> <p>3.2. Individual Description of One’s Favorite Place</p> <p>List of Adjectives* (according to Hershberger, 1992) to check and implement</p>

4 **Emotional
Attachment**

4.1. School Attachment Scale

- *School is my second home, and I am very attached to it*
 - *I like coming here*
 - *It is an OK place*
 - *I am not very fond of it*
-

4.2. Free Statements about School (unfinished sentences method):

I believe that the building of my school

When I think of my school

When it comes to my school, my dream is

6. Results

6.1. Evaluation of the school's performance

The school's functional evaluation yielded strong results, with rankings scoring between 1 and 4 out of a 7-point scale (where 1 represents the highest quality and 7 is the lowest). The following list indicates the rank order of evaluated school building qualities from highest to lowest that is: 'spacious' – 1.74, 'conducive to creative work' – 1.78, 'aesthetically attractive' – 2.12, 'with the character', 'connected to the environment' – 2.20, 'supporting social contacts' – 2.24, 'friendly' – 2.37, 'comfortable' – 2.38, 'well arranged' – 2.47, 'well-located' – 2.54, 'conducive to learning' – 2.58, 'well-equipped' – 2.70, and 'orderly' – 2.77. Content analysis of the school building's strengths and weaknesses revealed the main topics of the students' interests. The most appreciated building qualities were *ex aequo* the 'main hall'/a 'promenade' (Fig. 4) and the 'natural light', mentioned by 46% of participants. Other important strengths were: 'atrium' (schoolyard) – 26%, 'architecture' or building's 'appearance' interchangeably – 26%, 'art studios' – 24%, and overall 'artistic atmosphere' – 19%. Less frequently mentioned issues but more than once were: toilets (renovated), soft furniture to seat and windowsills on the first floor (allowing to seat), lockers, kettle in the cafeteria, and bicycle stands. On the other hand, the most significant drawback of the building was the temporary closure of school facilities due to the pandemic (and earlier renovation works). Specifically, the inoperative 'cafeteria' accounted for 33% of the mentioned problems and the inaccessible 'atrium' (schoolyard). Students often mention the absence of student-centred spaces for individual study, rest, or socialising. Approximately one-third of participants (30%) reported experiencing these issues. Other important, frequently mentioned issues were: classrooms' 'equipment' – 18%, 'lack of colours' – 16%, 'temperature' (too cold in the winter time) – 11%, the lack of building's adaptation to the needs of disabled people (missing lift) and LGBT students (toilets) interchangeably – 10%, 'too small classrooms' – 7%, and 'too narrow corridors' in the classrooms' block – 7%. Other issues mentioned by more than one person as drawbacks were noise, original elements of interior design (e.g., old furniture and

old curtains), inadequate technical infrastructure (internet and power outlets), and waste segregation bins. Over a dozen students reported psychological issues related to their perception of the school's atmosphere, citing a 'depressing mood', 'sterile' or 'cold' interiors, classrooms lacking private areas ('too small for anything beyond following teacher instructions'), and a dearth of 'living elements' such as plants or flowers in the school's interior.

A



B



Fig. 4. The school's main hall: A – the sculptural tree that is an artwork piece of the original school interior; B – a fragment of the promenade exhibiting the students' current works (the author took photos in February 2020)

6.2. Meaning of places

Students' analysis of the plain architectural layouts provided by the questionnaire began with sketching essential elements of the school's arrangement. Supplementing 'missing' components yielded two principal elements: symbolic ones, linked to the school's identity, and functional ones, associated with the student's daily routines. An example of a symbolic 'missing' element is a sculptural tree in the centre of the main hall and the fountain in the centre of the atrium (which was temporarily out of order during the survey). These two elements have a historical significance for the school, and both are present in archive photographs from the school's official opening in 1967. They occupy the school's ritual spaces, the main hall and the atrium; elements frequently mentioned by students and the school community. Many students identified artworks and exhibitions within the school plans that could belong to ritual and daily realities. Functional elements added to the schematic questionnaire plans were in shared spaces, such as the main hall, corridors, and outdoor facilities. The additions primarily consisted of seating areas (chairs, armchairs, benches – including outdoor benches – and tables), vending machines, a sunny place, a piano in the main hall, bicycle stands, and even car parks. Some students also marked elements of the natural surroundings, such as trees. Quite a lot of students added items that do not exist but that they would probably like to have; most of these suggestions, except

for the shop (located a few times on plan next to the cafeteria), were located in outdoor spaces, and they consisted of: sports and playground facilities, a swimming pool (instead of or next to the fountain), and even a botanical garden or an orchard.

The summary behavioural maps, using information obtained from the questionnaire (2.1.), showed that the main hall and locker area (entrance hall) were the most frequented areas by students, as noted by over 50. The second set of commonly frequented areas included an art studio (specifically a painting classroom), one of the classrooms on the first floor, a first-floor corridor, and the seating area on the top floor; over 25 students identified these locations. Other frequently visited spots were a top-floor corridor, additional classrooms and art studios, and the cafeteria. The study of the subjective importance of school places was carried out by analysing the spatial distribution of places of particular importance (2.2.) for students concerning the functional scheme of the school building. The corresponding diagram (Fig. 5) presents the results of this analysis.

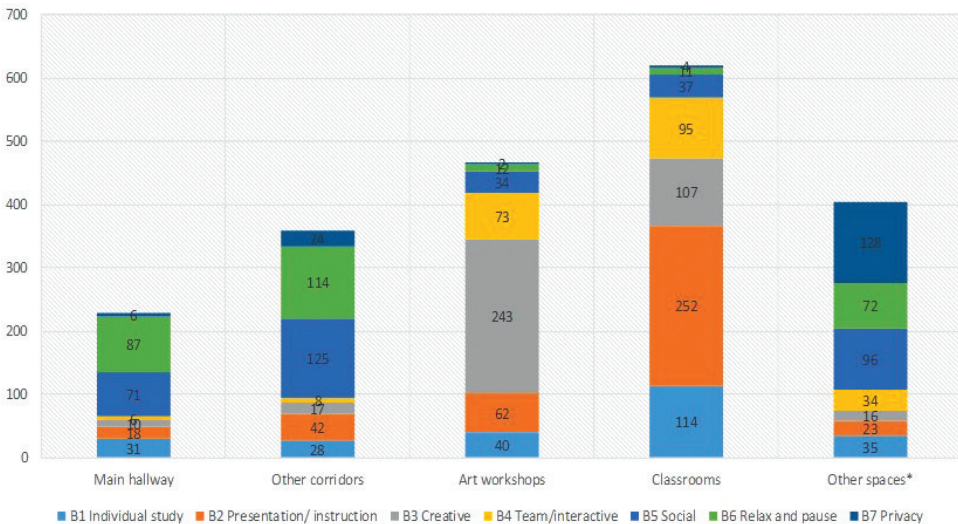


Fig. 5. The diagram presents the frequency of indicating places of particular meaning (seven categories in question – 2.2.) in relation to the five functional zones in the school building

6.3. Favorite places

The students' favourite places in the school building were revealed by analysing the spatial distribution of these places marked on the plan drawings in the questionnaires. As it turned out, these places were usually among the places where students spent most of their time. This map appears to be quite similar to the map of students' most frequent locations, except that it omits less distinct locations in the school that are frequently used – such as corridors in the classroom block. The spatial distribution of students' favourite places is shown in a summary

map (Fig. 6). The students' most favourite places in the school building were the main hall and one of the painting/drawing classrooms, followed by the top floor seating area, the other painting/drawing classroom, and the atrium. Additionally, the cafeteria and lockers zone on the first floor, the seating zone on the second floor, and some classrooms, including the art history classroom on the second floor, were also preferred places.

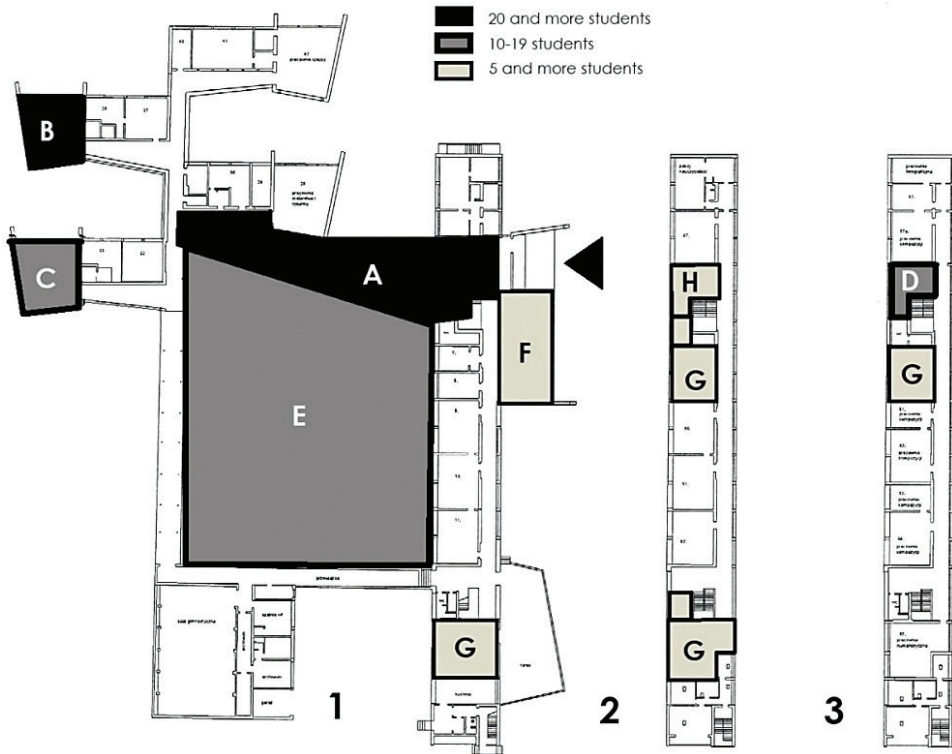


Fig. 6. Summary map of students' most favourite places in the school building: 1 – first floor; 2 – second floor; 3 – third floor; A – the main hall – a ‘promenade’; B, C – two of the art studios (painting and drawing workshops); D – top floor students’ relax zone; E – courtyard; F – lockers zone; G – selected classrooms; H – first-floor students’ relax zone

Students' favourite places were associated with specific activities according to question 3.1. (Table 1). These activities included: socialisation (56%), relaxation (54%), creative work (39%), individual work and study (17%), following teacher directions (9%), and teamwork (4%). Individual descriptions of places, utilising the adjective list (3.2), were classified into four types of mood according to the affective quality of places model (Russel, Lanus 1984) that is (1) unstimulating/boring, (2) tranquil/restful, (3) exciting, and (4) tense. Notably, most students' favourite place descriptions fell under the second type of mood, categorised as ‘tranquil/restful’.

However, some differences were observed in the number and type of descriptions of spaces depending on the type of activity linked with those places. For example, students who chose the places where they cooperate within a team (the most rarely chosen type of activity in preferred places) used the most considerable number of adjectives ($M = 16.7$) that also belonged to all four moods. On the contrary, individuals who selected a location for relaxation utilised the fewest adjectives in each category ($M = 10.17$). The highest number of 'stimulating' adjectives were employed to portray locations for teamwork or to comply with teachers' directions. Locations for social activities were described similarly to relaxation spots, except for the 'exciting' category of adjectives.

6.4. Emotional relationship vs. identification with school goals and use of school space

A sense of pride and attachment to the school as a place and institution is evident in the statements of numerous students. It was claimed by the average quantitative results of the students' self-rating of their attachment to school (4.1.). On a scale of 1 to 4, with 1 indicating the lowest attachment to school ('I am not very fond of it') and 4 indicating the highest ('School is my second home, and I am very attached to it'), the mean scores were close to the highest level ($M = 2.78$, $SD = 0.80$). As the quantitative results showed, the emotional attachment to school measured this way was related to evaluating the school's fundamental goals. Students who reported the highest attachment to school ('4') also rated the school highest in terms of promoting learning ($M = 2.04$), creative work ($M = 1.29$), and social contact ($M = 1.43$). As an attachment to school declined, so did the average school ratings on each dimension. For example, students who rated their attachment to school at the lowest level ('1') rated the functioning of the school the worst in terms of promoting learning ($M = 3.73$), creative work ($M = 3.27$), and social contacts ($M = 3.64$). An increase in reported school attachment correlated with the number of places on the school plan marked by the students, including both frequently visited areas and personal favourites. However, it is somewhat puzzling that an increase in school attachment resulted in fewer marked places of each type on the school plan.

Content analysis of students' free statements about the school (4.2.) sheds light on the climate of student perception of the place. Examples of the most typical statements made by students in addition to the proposed unfinished sentences are summarised below:

I believe that the building of my school ...: ... 'is beautiful, and I'm proud to study here'; ... 'it's much better than any other school building'; ... 'is tasteful and interesting, but it feels too cold and austere'; ... 'it's nicer than the typical school, very unique but lacking colours, and very clean'.

When I think of my school, these are the things that come to mind: ... 'Bauhaus'; 'art classrooms with big windows that let in plenty of light, creating a sunny, bright atmosphere'; 'a psychiatric hospital with large windows'.

When it comes to my school, my dream is: ... 'to have a functioning cafeteria'; 'comfortable and peaceful areas'; 'a larger gym'; 'comfortable seating'; 'an elevator and water in the atrium'; 'I also wish for more open spaces, with the additions of paintings and sculptures in rooms like the cafeteria'; ... '...additionally, I would like to see the atrium and shop opened up, and a designated smoking area established'; ... 'fewer people in the classrooms', 'the return of the old colourful walls and red columns in the hallways'; ... 'I also suggest providing chairs with cushions for added comfort'.

7. Discussion

A survey conducted at the High School of Fine Arts in Cracow with the participation of most of the student body revealed that students generally hold a favourable and high opinion of their school's architecture. It also showed that the students have emotional connections to the building, which is demonstrated not only in forming individual subjective opinions about the school building but, more importantly, in cultivating individual, distinct relationships with specific areas of the school campus. These spaces, identified by the participants, cater to a range of student needs in school. They serve as areas for relaxation, rejuvenation of attention, immersion in nature, stimulation, fulfilment of the need for privacy, and fostering social connections. All of these types of relationships between students and school space are fundamental concepts of the new pedagogy of school space, and they are also critical elements of students' daily routines.

Delineation of the survey results needs to emphasise the school's 'artistic atmosphere' as perceived by the students and its role in cultivating creativity and artistic output. The students have expressed their admiration for the art studios, sunlighting, the school's natural surroundings, and the art exhibitions and displays rooted in the school's tradition and culture. The survey respondents generally hold views similar to those of the school community and contemporary architecture critics regarding the school building. Most would likely agree with the 1960 press article, which described the building as 'magnificent' and 'thoroughly modern (...) with sunlit rooms and perfect facilities for future artists' (Włodarczyk 2007). Most of the students participating in the survey would probably also agree with the opinion of contemporary architecture critics that the building is 'beautiful' and its functional scheme is 'well-thought' (Włodarczyk 2007). Many students would likely concur with the same author's claim that the school's architecture resembles a 'bygone era'. However, based on information from student statements in 2020, not all of them would agree that this school atmosphere is always suitable and ideal, despite what this author suggests. Indeed, the survey reveals that students appreciate the building due to their artistic education and plastic sensibilities. However, they do not appear to exert significant influence over its shape. Several statements about the museum-like building's monumental and 'sterile' nature suggest this. Curiously, the building's 'order-chaos' parameter is rated lower than other qualities. This may indicate an

incomplete sense of order following recent renovations. Alternatively, perhaps, on the contrary, a low rating on this scale indicates an over-ordered space, as some of the students' casual statements would suggest. It is also relevant here to draw attention to the issue of the aesthetic sense as a sense of distinction, as discussed by Bourdieu (2005: 75):

Tastes and colors are not open for debate: not because everyone has their own taste, but because each taste believes that it is founded in nature – it is a habitus; as a result, it rejects others as a scandal of degeneration. Aesthetic intolerance exerts terrible violence. (...) And for those who consider themselves possessors of legitimate taste, the most unbearable thing is, above all, the sacrilegious combination of such tastes that taste commands to be separated. This means that the games of artists and aesthetes seeking to gain a monopoly on artistic legitimacy are far less innocent than one would think. There is no struggle for art whose stakes would not also include the imposition of a certain art of living, that is, the transformation of a way of life into a legitimate kind of existence that rejects all other ways of living as arbitrary.

Another issue identified in the research is the disparity between achieving the objective of artistic education, which includes adapting the building to the artistic activities of the school (which are generally highly valued by the students), and other educational objectives, which include, in particular, adapting the building to provide opportunities for individual and team study and work, socialisation, and the provision of temporary isolation and private accommodation for students. This is supported by the students' evaluations of the advantages and disadvantages of the school's facilities, along with an analysis of the content of the third of the unfinished sentences that begins with the words '*When it comes to my school, my dream is*'. The statements that complete this phrase are basically a wish list that stems from the perceived lack of spaces dedicated exclusively to students. These statements are reinforced by the fact that students rate the overall amount of space in the school favourably. However, according to students, adequate space is primarily found in the representative and entrance areas of the school, mainly on the first floor of the building. Meanwhile, a typical school construction – a two-story block with classrooms and adjacent corridors – is perceived as too cramped, small, and narrow by the majority of students. This spatial disparity has to do with location on one floor or another or in a particular functional wing and, above all, with a specific imbalance. The students seem to perceive a lack of current solutions reflecting social and environmental justice, as evidenced by some partially quoted opinions. They also seem to sense the imbalance between the ceremonial and the casual, between what is on the main stage or behind the scenes, between what is associated with official education and fixed architecture, and what is informal self-learning and provisional spatial improvisations.

To fully comprehend the outcomes of this case study, it is imperative to consider the local context and cautiously interpret these findings while being aware of unavoidable limitations. One of these restrictions pertains to the distinctive features of the school, such as its rich artistic tradition and culture, and the monumental style

of its modern architecture, which all students are educated about. Another source of limitation is the historical moment during which the research was conducted at the school. This was shortly after the school had been thoroughly renovated, in keeping with the spirit of modernism, but also slightly moderating some of the original architectural features, such as colours – in the original interior design with simple Bauhaus style colours like light blue and red – now replaced by overwhelming white and light grey. It was also a significant moment during the COVID-19 pandemic. Students who took part in the survey were attending school after a prolonged break, which could have affected their views about the school by adding some sentimental attachment to an idealised image of the school or, conversely, leading to excessive expectations towards it.

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