



AKADÉMIAI KIADÓ

# Extension of the Áprily Lajos primary school in Visegrád

Krisztián Kovács-Andor\*  and Anna Mária Tamás

Department of Architecture and Urban Planning, Institute of Architecture, Faculty of Engineering and Information Technology, University of Pécs, Pécs, Hungary

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## ABSTRACT

Visegrád is one of the smallest towns in Hungary with 1800 inhabitants, which was given the status of town because of its historical importance. Archaeological excavations revealed the remains of the medieval town's former main square and the surrounding buildings. Based on the archeological research the new town center was designed by the A+ Architect Studio and won the Pro Architectura and ICOMOS awards in 2016. Years later the need arose to expand the Áprily Lajos Primary School, which is located next to the site, and to accommodate new classrooms, special training rooms, and music school practice rooms in a new, modern building. The new three-story school building on the street frontage was constructed on the former place of a century-old, dilapidated building and was also designed by A+ Architect Studio.

## KEYWORDS

extension, school extension, architecture, design, architectural design, architectural planning

## 1. INTRODUCTION

The building complex of the Áprily Lajos Primary School in Visegrád forms a heterogeneous block of considerable value in the heart of the historic center of Visegrád. The site itself is located in the historical downtown, next to the new town center, which development was designed by the A+ Architects Studio (aplusarchitects) and realized in 2014 [1–4]. The school's main building was once the first church of the post-Turkish period, which was built in the early 18th century by converting a medieval dwelling house. It was first used as a school after the new church, which is still in use today, was built in 1787 [5]. The gymnasium, designed by Imre Makovecz in the early 1980s, is also part of the complex. The extension of the old building and the gymnasium evokes characteristically Visegrád's medieval past, but with different features. Both buildings have a strong character and are a prominent element in the fabric of the settlement and its immediate planning environment. Therefore, in a tight situation, both in terms of content, form and space, it was necessary to find an architectural solution for the extension of the school which, despite the relatively high functional requirements, would be as light as possible in terms of mass and design, would be in keeping with the character of the building complex and the center of Visegrád, and would be in keeping with its surroundings, while at the same time providing a contemporary solution. As the intention for both existing buildings was clearly to evoke a medieval atmosphere, which is in line with the city's intention - Visegrád is a living medieval city—the new building is designed to reflect this with its shape and courtyard design, thus achieving the unity of the block (Fig. 1).

## 2. DESIGN STRATEGY

The architectural challenge was to accommodate a 1,220 m<sup>2</sup> design program on the school's already densely built-up site, in a historic environment rich in archaeological monuments.

\*Corresponding author.

E-mail: [kovacs-andor.krisztian@mik.pte.hu](mailto:kovacs-andor.krisztian@mik.pte.hu)





Fig. 1. Aerial view of the downtown of Visegrád with the primary school and the citadel in the background (Source: photo by György Palkó)

At the mass formation and the installation of the building had to consider the medieval wall remains uncovered by previous archaeological excavations. In addition to the medieval walls, the excavations revealed graves from three cemeteries of different periods beneath the planned building and courtyard.

Originally, there were three buildings on the school site. In addition to the main building of medieval origin - extended in two phases in the 1950s and 1990s - and the Makovecz gymnasium, the third element of the school complex was a hundred-year-old, not particularly valuable ground-floor building, which was demolished after an architectural history survey and in its place the new school building was constructed. The three buildings enclose the schoolyard where the children spend their breaks between classes and their afternoons. From an early planning stage, it was considered that there was no need to create a large internal play area or assembly hall in the new building. Since the large gymnasium has a big interior space for larger school events and the students spend most of their extra-curricular time in the courtyard, which is effectively an „open-air hall” of the school (Fig. 2).

The design of the space also posed a challenge in terms of creating well-lit spaces (classrooms and corridors). As the design area was constrained in all directions - upwards by the scale of the city center, downwards by archaeological monuments and laterally by existing buildings - it was not possible to create a large auditorium/assembly hall in the building. The orientation and the limited space available significantly limited the possibilities. Ultimately, the space requirements of the design program and the shape of the site led to the decision to create an asymmetrical U' shaped mass with a high pitched roof, with a solid structure, which would fit into the streetscape. On the north side of the street frontage wing, a more open-plan, two-story glazed ‘porch’, with timber blade pillars was designed, which provides a large amount of northward, diffused light into the corridors



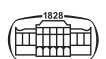
Fig. 2. Site plan of the neighboring area with the courtyard in the middle of the plot (Source: Authors' drawing)

and circulation spaces, and opens the building to the panoramic views of the castle hill and citadel. The ground-floor glass doors of the north glass wall open onto ply-glued blade pillars, connecting the exterior and interior spaces and promoting the interpretation of the courtyard as an open-air lobby. The concept of the blade pillars and the doors/gates that open onto them is related to the solution of the central building of the city center project, the event building, which was planned a few years earlier [6–9] (Fig. 3).

During breaks and in the afternoon, the corridor can be opened to the courtyard as required, thus dissolving the boundary between the interior and exterior spaces and making the courtyard an integral part of the building. This is reinforced using the same paving for the interior and exterior spaces. On the ground floor of the building are the classrooms for the lower school pupils, whose healthy physical and mental development requires that they spend as much time as possible in the open spaces, despite the limited gardens imposed by the current education system [10]. Thus, the school as a relevant setting of the pupil's life became a more health-supporting institutional environment [11, 12]. The design was preceded by environmental and



Fig. 3. View of the event building, which was part of the town center development project (Source: photo by The Greypixel Workshop)



pedagogical studies and the architectural decisions were the result of these studies. The design of the changing rooms in front of the classrooms for the younger pupils in the lower school is an example of a non-traditional solution. The use of stronger, playful colors and the creation of a smaller-scale closet give each classroom a spatial identity, which is still a particularly important factor at this age.

The classrooms of the street wing are south facing, so large windows provide the necessary amount of light, while shading is provided by external and internal textile blinds and a tree line in front of the main façade. Moreover, these changes enhance the quality of the indoor environment as well, which is a crucial determinant of the users' sensation of personal well-being and comfort [13]. The rigidity of the main façade, due to its function, is relieved by the playfulness of the façade window allocation of the western gable walls (Fig. 4).

### 3. FUNCTIONAL ARRANGEMENT

The main entrance to the school from Rév Street is the new entrance gate between the main building and the new building. There are then several parallel entrances to each building from the school yard. In the case of the new building, there is one entrance closer to the gate and the main building, on the gable wall of the street wing, and one opposite the central staircase at the center of gravity of the U shaped mass. The hierarchy between the entrances is regulated by the operation depending on which year groups use the building (Fig. 5).

The new building houses classrooms for grades 1–6, two specialized classrooms, an art room (fine arts and dance), music practice rooms, an individual development room, teachers' rooms and service rooms. The lower grades classrooms are located on the ground floor. The special design of the changing rooms, toilets and storage rooms in classes 1–3



Fig. 4. Window allocation of the gable walls on the western façade (Source: photo by György Palkó)

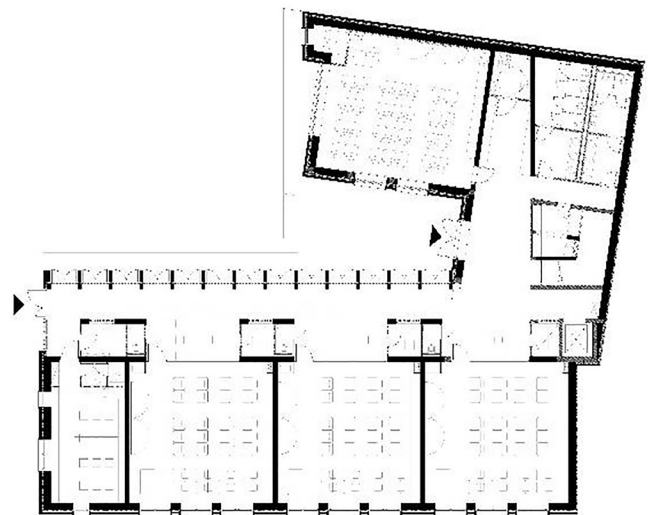


Fig. 5. Ground floor plan of the new school building (Source: Authors' drawing)

was a customer requirement. These more intimate spaces for a class can be more integral to a class, creating a sense of homeliness for smaller children [14]. This "private space" is also emphasized by the specific color scheme of each class. A toilet located directly next to the classrooms solves the problem of pupils being able to go to the toilets during lessons without teacher supervision.

The teachers' room and the technical staff's rest rooms have been placed also on the ground floor, close to the entrance and the courtyard, in visual contact with them, thus ensuring better visibility of the school complex. On the ground floor, a small school buffet has been placed in the spindle space of the three-arm staircase.

Upstairs are the upper level classrooms and the specialized classrooms. The upstairs corridor has been galleried to create a larger, airier corridor Fig. 6. Also on the upper floor,

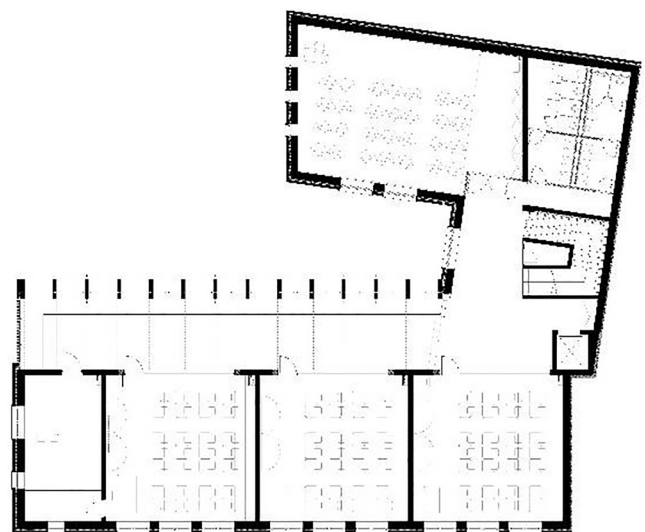


Fig. 6. First floor plan of the new school building (Source: Authors' drawing)

in the courtyard wing, in direct connection with the staircase lobby, the art classroom has been created, which can be connected to the corridor by a mobile wall, making it suitable for smaller events. The multifunctional art room benefits from a larger air space, and is therefore designed with a gallery and high ceilings, two-storey design (Fig. 7).

In the attic there are three smaller music practice rooms and a larger language group room. From this level, there is a gallery for the art room, with access to two storage rooms. The mechanical room, which supplies the whole building, is also located in the attic.

When building a new structure in an established situation, it is very important to have the remaining inherited elements to ensure continuity. In the present case, two important elements for customers and users have been preserved. The original sports field of the schoolyard has been retained, with reduced dimensions and a slight westward shift. The surface of the original sports field has been replaced by a green rubberized surface, while the timber fences on the eastern and western side have been replaced by more sophisticated timber fence wall that are more in harmony with the building. The other remaining element was the colorful diagonal paving between the two school buildings, which also acts as a kind of outdoor carpet linking the two buildings (Fig. 8).

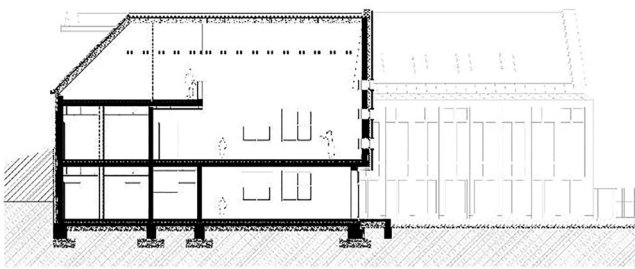


Fig. 7. Section of the north wing through the multifunctional art room (Source: Authors' drawing)



Fig. 8. The sports field on the courtyard and the outdoor carpet in front of the new building (Source: photo by György Palkó)

## 4. USE OF MATERIALS

At the initial design stage, brick cladding was considered as a façade material, partly due to the historical context, but later a plastered architecture was chosen to better fit the present-day Visegrád city center. The external façade is understated compared to the colorful interior. The façade plaster in a warm tone grey color is applied using a comb and brush technique, giving the façade surfaces a fine texture. In addition to the grey render, the white window frames and the wooden shutters and other wooden structures are accentuated.

Sustainability is an inescapable concept in architecture today [15, 16]. The use of alternative energies was also an important aspect of this project. The large south-facing roof surface was ideal for solar panels. However, due to the historical context, this was only possible with solar tiles. When completed, the 90 m<sup>2</sup>, 15 kW systems, which blends beautifully into the dark grey roof tiles, was the second largest solar tile system on a public building in the country.

The plinth of the building is made of unique concrete elements along the entire length of the façade. The size of the concrete elements is adapted to the order of the openings. The new entrance gate between the two school buildings has two concrete side structures and a full-height gate surround clad with individual fine concrete elements. The gate surrounds include waste storage, garden tool storage and an outdoor air conditioning unit (Fig. 9).

## 5. INTERIOR DESIGN

Although the commission did not include a specific interior design, the individual solutions and graphics of the interior were designed as an integral part of the overall concept. In addition to the relatively austere and understated exterior, the playfulness of the basic concept is most evident in the colorful interiors and interior design solutions.



Fig. 9. The new timber-concrete main gate and the fine concrete plinth of the school (Source: photo by György Palkó)

Custom-designed built-in furniture has been installed in the classrooms and corridors. The lower ground floor classroom lobbies, cupboards, washrooms, small color-coordinated surfaces of the built-in cupboards and individual parapet coverings in the classrooms were color-coded to match the color code of each class. A nook, a small seating area was designed for the lockers in the courtyard wing, with a poem by the school's namesake, Lajos Áprily, on the back wall (Fig. 10).

Upstairs, the interiors are less colorful, with only one dominant color, yellow, in the corridors and classrooms. The centrally located staircase core is covered with level-high grey stone porcelain tiles on the outside and yellow glass fabric wallpaper on the inside. The elevator connecting the

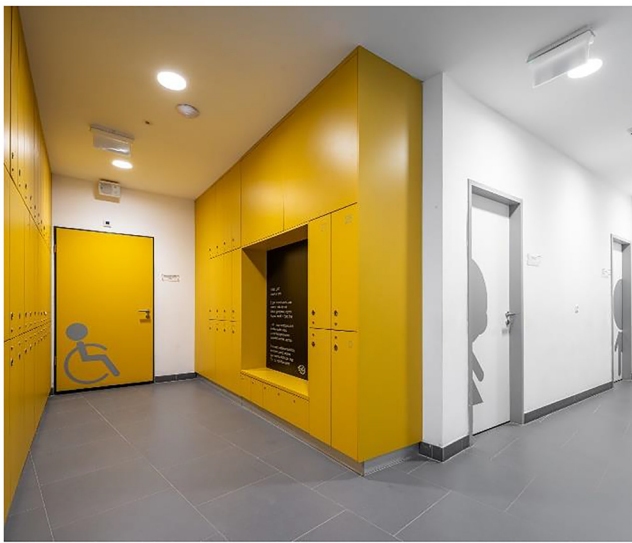


Fig. 10. Individual interior design of the school (Source: photo by György Palkó)

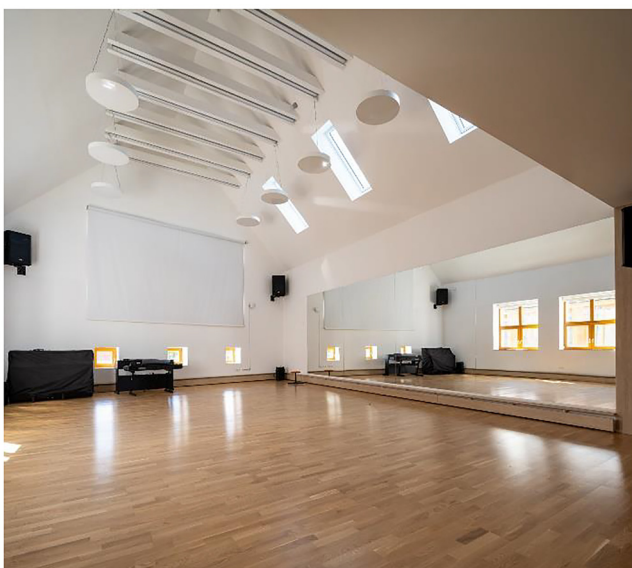


Fig. 11. Interior of the multifunctional art room (Source: photo by György Palkó)

three floors is also grey on the outside and yellow on the inside, to give a unified concept.

The art room, located in the courtyard wing, has a high ceiling and a two-storey design. As the art room also functions as a dance hall, the floor is designed as a sports floor, the north wall is mirrored throughout. The inner east wall of the room has a built-in wardrobe that runs the length of the inner east wall and is used to store the costumes of the local dance group. The nine small windows in the west end wall are shaded by a large light-blocking screen, which also acts as a projection screen for the projector below the gallery (Fig. 11).

## 6. CONCLUSION

The new primary school building in Visegrád is a good example of how it is possible to find solutions to situations that at first seem difficult or impossible. By turning difficulties into virtues and taking advantage of opportunities, an appropriate building has been created. The building meets modern technological requirements and modern educational needs, while at the same time drawing on vernacular architecture and the spirit of place (genius loci) to create a truly Visegrád building that reflects the medieval traditions of the city. The new primary school building has been in use for over a year and has already received a lot of positive feedback. Although it has been a long process from design to realization, it is hoped that the finished building will be a success for everyone and will make a qualitative difference to the education of the school and the life of the community.

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