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EDUCATIONAL-RESEARCH DESIGNING AS A METHOD OF TYPOLOGY DEVELOPMENT OF LIBRARY BUILDINGS BY ARCHITECTURAL SCHOOLS OF LVIV AND KIELCE POLYTECHNICS

Abstract

The article sheds light on the development of library buildings design, reflected in the educational-research projects of the students at the department of design of architectural surroundings of the Institute of Architecture of NU “Lviv Polytechnic” and at the department of architecture and city planning of Kielce University of Technology.

Keywords: educational-research designing.

1. Introduction

At the beginning of the XXI century Ukrainian libraries are unable to meet all the information needs of their users, since they mostly deal with printed matter, which is mostly dated, unappealing and inaccessible for general use. Moreover, technical conditions of the existent library facilities and buildings are dated, wide usage outside the libraries of modern information technologies, namely the Internet, and also computer and photocopier usage, which greatly accelerates the search of the necessary information, decreases the number of visitors. The following fact is of importance: the library interior, its inner space has to serve education purposes and objectives of library functioning and its design needs to meet the complex of functional, psychological, aesthetic and educational purposes. However, little attention is paid to this.

Although recently there is some noticeable modernization of libraries, namely in Ukraine and some scientific institutions and schools of architecture attempt to do research projects in the sphere, the problem of library in modern conditions still remains topical. The Institute of Architecture of Lviv Polytechnic University is one of the architectural schools in Ukraine that started complex research of design of library buildings.

2. Topicality and objective of the publication

National Lviv Polytechnic University is one of the oldest technical schools of higher learning in Europe and the first technical university in Ukraine. The Institute of Architecture is an integral part of Lviv Polytechnic University. Major in architecture is the oldest one in Ukraine. It was launched in 1703 in Lviv university. Today the Institute of Architecture is comprised of six departments, among which one of the leading departments is the Department of Design of Architectural Environment. The Department was founded in 2003. The head of the department is Doctor of Architecture, Professor V. Proskuriakov. The Department takes part not only in the activities of the Institute of Architecture and of the University in general, it also effectively influences architectural training and practice in Ukraine. The exhibitions of student works are organized on a consistent basis, new educational textbooks are being published, seminars and round-table discussions on a variety of topics are held, students are engaged to participate in Ukrainian and international scientific-practical seminars to realize their projects in life. The Department actively cooperates with multiple universities in Ukraine and Europe (Technical University in Dresden, Kielce University of Technology).

In 2005 at the Department of Design of Architectural Environment a new branch of research was introduced-library building and space design. The supervisor of this branch of research is lecturer of the department I. Voronkova in the framework of her research work Architectural and typological principles of library renovation of the historical institutions of higher learning in Ukraine under the supervision of professor V. Proskuriakov.

During investigation carried out on this branch, it appeared that in comparison with the samples of library building abroad, the design of Ukrainian university libraries is undergoing stagnation.

In the course of many years librarians and leadership of the institutions of higher learning in Ukraine did not give library space any special prominence, considering and using it only in a functional way. Library facilities and buildings that are partially or fully inadequate for library functioning are witness to this. Meanwhile, proper professional approach to the organization of library space enables not simply to declare but also practically incorporate the main principles of a university library – openness, accessibility and comfort.

Modern user today requires new quality library design, in order to create it we need experts in the field. Training of architects in the sphere of library design demands expert scientific investigation, research, works, namely, educational-research modeling. Therefore, the Department pays particular attention to the process of training, including the library design topics into course and diploma modeling on various levels.

3. The main part

At the beginning of the XXI century the Department of Design of Architectural Environment widely researches, designs and modernizes the library spaces by architecture means. The libraries of the institutions of higher learning and their facilities in Lviv and other cities in Ukraine were chosen as objects of the research. Lecturers and students of the Department carried out a series of futuristic projects. Design and planning solutions are created in close cooperation with librarians and they are in line with the main fundamentals and principles of creating a library environment – openness and accessibility, flexibility and functionality, reliability and safety, introduction and use of modern information technologies etc.

The following projects may be considered most successful:

The project of spatio-functional enlargement of the library of Ukrainian Catholic University (which occupies the part to the right of the two upper floors of the building, book depository is in the basement, the space of the library is adapted to its needs), created by inventive entity, including professor V. Proskuriakov, lecturer I. Voronkova and architect Kh. Kukharska (Fig. 1).



Fig. 1. The project of building the library of Ukrainian Catholic University. Fragments of interior

The project entailed introducing changes into the functioning-planning structure of the library by means of expanding the spaces for the reading halls and also incorporating new functions for the library.

Administration and personnel now share space, in such a way we now have the space to have the circulation division and computer hall. The hallway was remodeled to allocate the space for reading periodicals.

The space on the first floor of the library was organized in such a way that it may be used for holding themed nights, presentations, conferences, etc. The racks of the ‘box’ type on the main axis of the room were suggested for installation in the book depository on the same floor and along the blind walls it was suggested to install the high racks with movable ladders.



Fig. 2. The project of renovation of the book storage building of Scientific Library of Ivan Franko National University in Lviv. Exterior appearance

The new space of the library was organized according to the principle of the free user access to any kind of information.

The building of the book depository of the Scientific Library of Ivan Franko National University in Lviv (a separate building built in the 90's of the XX c. as a book depository) was remodeled by V. Proskuriakov, I. Voronkova, Kh. Kukharska in 2010 (Fig. 2).

The chosen object did not possess any historical nor architectural value, the inventive entity decided to perform general renovation of the building in question, which meant transformation of the architectural image, expansion of the planning and space structure and expanding functional potential of the library. The objective of the project was to create the open and accessible student library with new functions implemented, with the usage of modern information technologies and following the innovative trends in modeling libraries and media libraries in Europe and in the world in general.

In order to achieve these objectives, from the south-western side to the existent building of the book depository a two-storey glass building of media library with a separate entrance was modeled, from the northern side it is suggested to build the three-storey glass building for cafes and reading halls of different types. On the side of the main facade of the building on the second floor level a glass console was modeled, where there is a hall for group trainings. The roof of the console is foreseen to be used in the summer. The library also provides rooms for the book store, cloak room, conference hall, separate zones for electronic and card catalogues are allocated, there is also a hall for video viewing of media files and separate cells for

individual work, recreational spaces etc. The project makes use of the principle of flexible planning of space.

The simple and laconic façade of the building obtained stained glasses with huge Cyrillic letters.

An interesting and unusual project is St. George's square near the student library of NU Lviv Polytechnic (this city square is historically known for holding miscellaneous fairs) designed by V. Proskuriakov, I. Voronkova, M. Zhyhaylo (Fig. 3).

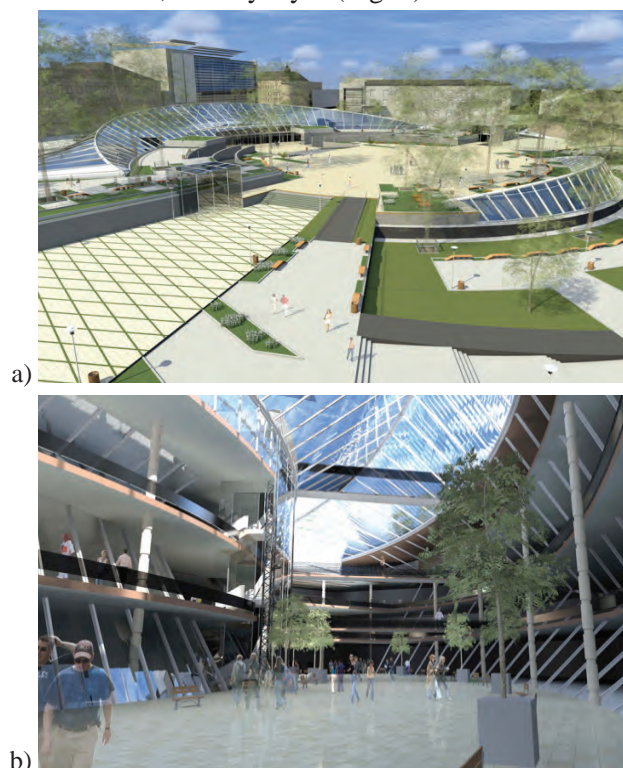


Fig. 3. Project of International student center in St. George square in Lviv:

a) exterior appearance, b) fragments of interior

The foundation for the project was the following one. Since the number of students is constantly on the rise and the quality of education requires new high level, we came up with the idea to create international student center on the premises of the NU Lviv Polytechnic. The premises of modeling is the area of the city square. Since the area of the square is used not only by the university students but by the city inhabitants as well, the student center building is suggested to be put underground to the indicator – 13.5.

On the outside the building comes forth by two different-scale lantern lights, the form of which resembles the circular form of the square.

The spacio-planning center structure is organized by the principle of the single open overflowing space with the minimum usage of partition-walls. The exclusion is the rooms for the conference halls, film theaters and auxiliary facilities that comprise a separate bloc. The center is to be used for educational, recreational, cultural, exhibition and informational function.

Special place in research designing is taken by expansion of the building of student library of the NU Lviv Polytechnic (a separate building built for the use of the library in 70s of the XX c.) by the inventive entity V. Proskuriakov, I. Voronkova, I. Kopyliak (Fig. 4).

inner spaces with the change of functional zoning is suggested. Improvement of communicative means (installation of escalators and lifts), installation of exhibition and information spaces, recreational zones and widely accessible informational publications will allow to create more comfortable and convenient conditions for the library users.

The idea of division and closing of space is rejected in planning. New structural elements, such as cells for individual work, computer and copy centers, literary and Internet cafes appeared. The mansard is to be used as well – here, we have a sightseeing terrace for recreation.

The appearance of new functions and spaces in the library is called to make the visit to the library comfortable, quality and effective to the maximum.

The image and the plastics of the building remained unchanged, the facades are renovated with the use of modern building materials.

The design of the media network located in the environment of Lviv by V. Proskuriakov, I. Voronkova and V. Kulchytskyi can be considered unique (Fig. 5).

The main idea of the project in question was the design of the media network, which is comprised of several objects, located in the structure of Lviv. The main building of the information network is located in the center of Lviv in its historical part on the Mickiewicz square. Other buildings are located on the city periphery, in the main entrances to the city from different parts of the world – in the north (B. Khmelnytskyi str. – Halytske Prekhrestya str.), in the south – Stryiska str. (bus station), in the west – Horodotska str., in the East – Lychakivska str. (the town of Vynnyky).

The prototypes of design solutions of the media objects are an advertisement poster, a lighthouse and a monitor. Therefore, suggested design is called to ‘communicate’ information by each cm of its space.

Concerning the design and planning solution of the media centers, here the main task was to create information space, which would allow to flexibly interchange various kind of cultural activities on the premises of the object in question, it needs to be perceived as one whole and at the same time it needs to be subdivided into separate functional zones. In each of the suggested objects the availability of the following functions is foreseen: access to individual and general information, exhibition, auditorium, recreation, Internet café, media library etc.

The spaces in each of the suggested objects are similar, since they are created according to the same principles:

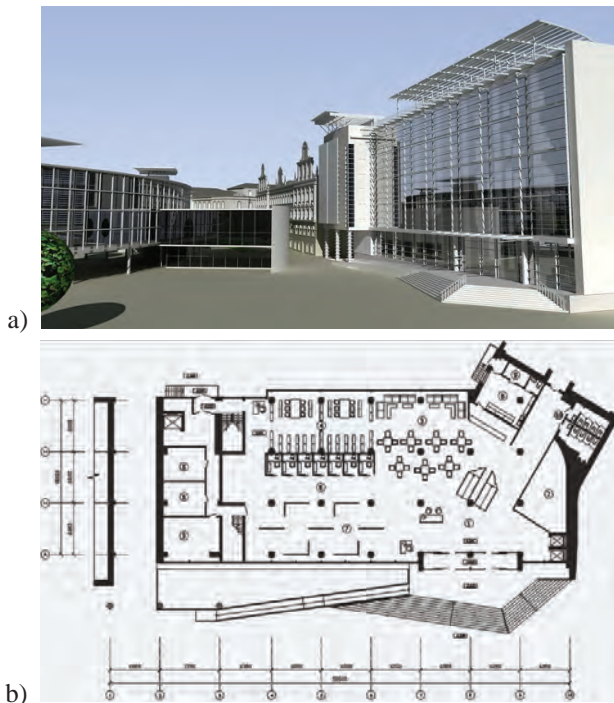


Fig. 4. Project of modernization of student library of NU Lviv Polytechnic: a) exterior appearance, b) scheme of the first floor

Modernization of student library entailed the reconstruction of the facades, re-planning of the



Fig. 5. Project of design of media network objects in Lviv

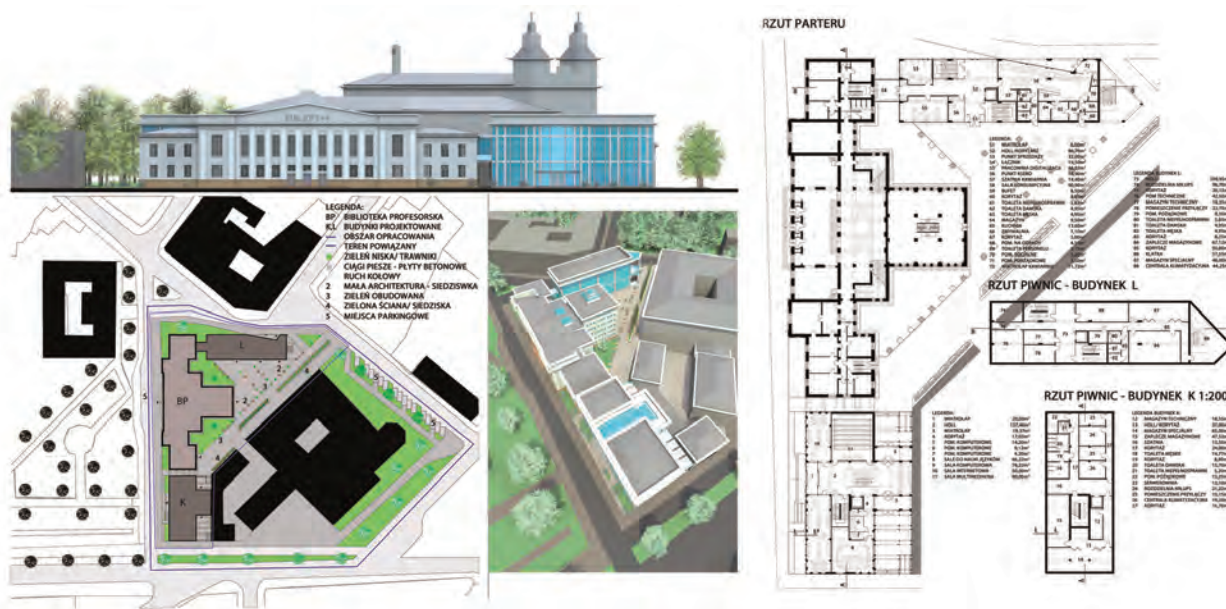


Fig. 6. Project of renovation and expansion of the functions of the library of NU "Lviv Polytechnic"

- compulsory spacious, media hall, where a monitor will be put that could move in space along the room depending on the requirements of the exhibition, lecture, presentation in question; and based on the need that it will be kept in a contained near the ceiling;
- pneumatic seats-stands, inbuilt into the floor, during video viewing they will serve as seats, during exhibitions they will serve as stands for the exhibit items, based on the need that they will be hidden into the floor to create unobstructed space;
- creation of the system of 'interactive floor'. This system allows to project images, which may change depending on the movements of people, with the help of projectors onto the floor.

The project of replanning of the Lviv Academy of Arts, the project of functions development of scientific and technological library of NU Lviv Polytechnic, the project of information centre in scientific and technological library, developed by professor V. Proskuriakov, lecturer I. Voronkova and architects Kh. Kukharska, O. Kolodiy, Yu. Krechkovska and others.

Special prominence among the projects is given to the project of renovation and expansion of functions of the NU Lviv Polytechnic library in Profesorska str. in Lviv, done by Monica Lakomic, the student at the department of architecture and urban studies in Kielce University of Technology under the supervision of professor V. Proskuriakov and with consultations with I. Voronkova (Fig. 6).

This project became the best project of Ukrainian and Polish students during 2011-2012 on the same topic in Lviv and Kielce. Among other projects are the projects of Ukrainian-Polish and Polish-Ukrainian halls, projects of entertainment centres, fan zones for football fans, stadiums for football clubs Lviv and Korona, playhouses, museums, galleries of modern art etc.

According to M. Lacomiec' idea, the library on Profesorska street obtained two flank modern building blocks. In one of them, the façade of which is on Profesorska street, apart from library functions the space and room for Internet cafes, exhibitions, place for various installations, forums and festivities were suggested. In the second building, the façade of which oversees Ustyianovycha street, the archive with a wide spectrum of special and recreational functions was projected. The 'old' historical building was developed and technological, technical and sanitary equipment and objects were improved. It was suggested to renovate the design itself to the state it was in 1932, when its building was finished under the supervision of the professor of Lviv Polytechnic Tadeusz Obminsky.

4. Conclusions

1. The modern methodology of architectural training, where alongside the educational, also conceptual, research and competition designing takes place, allow the students to search and find ways to quality architecture now and in the future.
2. The analysis of the experience of designing at the department of Design of Architectural Environment proves that methods of creation of new architectural forms and types of modern buildings in historical environment and namely library buildings, lie not in creating contrast, hybrid buildings or buildings-copies from the past ones, but such ones that mentally, idea-wise, harmoniously, functionally and emotionally tied to the city environment, the surrounding of building area or concrete space in form, nature, image, technological organization and effective materials.
3. The experience gained by Lviv School of Architecture during educational, research and experimental designing from common seminars with schools of architecture of Technological University in Vienna, TU in Dresden, Kielce Technological Institute proved that the best design solutions are possible when they stem from the achievements of Ukrainian and European

experience and are founded on the results of analysis of all relevant modern and past ideas.

To conclude, it needs to be noted that the time of specialized typological designing in the context of European cities has passed (only the library buildings, or only the sightseeing, service and transportation still make use of this). The time for synergetic designing has come, where design of architectural environment will play an integral role among the disciplines, directions for groups, types and kinds, planning design solutions as well as others – technological, technical, etc.

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