The Students’ Competition for the Interior Design of Paediatric Department of the City Hospital: Methodology of a Pre-Design Research and Project Describing

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Abstract. The following article presents a manner of conducting academic competitions as an example of a cooperation formed between a university and public institutions in the scope of the process of education. The academic competition for the internal design and visual identification of the WSS paediatric ward in Rybnik, carried out in April 2018 at the Faculty of Architecture of the Silesian University of Technology in Gliwice came into existence as a result of cooperation between the Specialist Hospital in Rybnik and the Faculty of Architecture at the Silesian University of Silesia. The Competition was organized by employees: the head of the paediatric department, the hospital's management and the representatives of the Faculty of Architecture under the leadership of Assoc.Prof. Dr. Eng. Arch. Dorota Winnicka-Jasłowska (Vice Dean for Student Affairs at the Faculty of Architecture, Silesian University of Technology - an initiator of the competition and the main organizer). The design task was to devise a conception for the interior as well as prepare visual information for the paediatric department which must be subject to renovation. Actions connected with the organization of the competition, described in the article, as well as the presentation of the final effects are an example of diversified initiatives: on the one hand, they are the result of a cooperation struck between the university and the social surrounding (in this case the health care facility), on the other hand, they constitute an exchange of experiences between students who major in architecture and interior design and the participants coming from the designed space – employees of the paediatric department. Assumptions of the competition gave character to the actions completed by the students, with extra importance attached to skills in team work as well as acquisition of knowledge on user preferences as well as their functional abilities. In the case of designs made for users such as children, this is of key importance in the making of a user friendly space.

1. Introduction

One of the most important aspects of didactic activity, applied at the Faculty of Architecture of the Silesian University of Technology, is the cooperation established between the Faculty, external entities (organizations) as well as social environment. As part of design classes, realistic issues are raised by Partners of the University who wish to participate in the cooperation. This constitutes a significant benefit to the didactic achievements of the Faculty as well as the preparation of students for future professional life. Tasks connected with architects’ training also include development of the ability to creatively solve design problems, which fulfils the needs expressed by the users. On the other hand, the whole investment process poses a difficult task to architects due to the fact that as early as they get into university, future architects should learn how to solve those tasks through practice so as to be able to meet the investment requirements. As a result of such an approach to education, as developed at the
Faculty of Architecture at the Silesian University of Silesia in Gliwice, Poland, one can find various design and competition-related operations which are performed for the sake of external partners and the social environment - in this case the hospital. Cooperation between the Faculty of Architecture and the health care facility found at the Voivodeship Specialist Hospital in Rybnik resulted in substantive support in the field of educative operations. Students under the supervision of faculty workers and as part of consultations and organized design workshops, had the opportunity to come face to face with the specificity of designing a hospital-like environment within a child and youth department. Thanks to the cooperation between the Faculty and the hospital in Rybnik, as many as twenty internal designs, executed by students, came into being together with conceptions for a system of visual identification.

The main objectives of the competition project were to reduce the level of environmental stress in patients as well as create a healing environment which should meet the following goals at children’s ward:

- it should meet physiological and safety needs of the patients/users,
- it should ensure emotional support as well as care of the relatives,
- it should divert patients’ attention from their health condition,
- it should deinstitutionalize the space – by way of introducing home-like atmosphere into the interior of the ward.

Necessary features of design solutions have been specified and include:

- ergonomics and application of solutions adjusted to the perception of the surrounding in terms of age,
- functionality and application of solutions which are diversified in terms of needs of specific groups of users,
- aesthetics which creates a friendly atmosphere inside rooms,
- originality of solutions.

The objectives of the competition were that the designed space of the ward should improve the quality of patients’ life and it should fulfil the objectives of the healing environment. The competition, as a result, features a practical – at present the winning project is being carried out; as well as a didactic nature as it entailed, on the one hand, the conveying of an awareness of social needs, and on the other hand, the mission of an architect’s profession together with his/her responsibility for design decisions.

In order to complete conceptual designs correctly, the design phase was preceded by qualitative research which constituted an important type of pre-design research. The main organizers were the employees of the Department of Architectonic Design and Qualitative Research in Architecture; for more than 20 years they have been perfecting all research methods applied in architecture and urban planning. Some of the publications concerning methods of predesign research were also applied in the project being described [1]-[8].

Contact and direct experience of the designed space, observation of the manner in which it is used both had a significant influence on the design approach in the competition works. The effects of the multidimensional actions which prepare for the design process shall serve as starting point for the development of interior conceptions and the visual information of the paediatric department of hospital.

2. Objectives and scope of the competition

The competition task includes an interior design and a visual identification of the Paediatric Ward of the hospital in Rybnik, together with functional and formal elements that are conducive to improving health and good well-being in patients. The subject of the project could be chosen by teams of students taking part in the competition: Interior design and visual identification of the Paediatric Ward in the part intended for younger children - aged 0-3, and Interior design and visual identification of the Paediatric Ward in the part intended for older children – aged 3 to 18 years.

Each of the presented projects was supposed to meet the following features, required by the organizers and specified in the rules and regulations:
ergonomics and application of solutions adjusted to the perception of the surrounding in terms of age,
functionality and application of solutions which are diversified in terms of needs of specific groups of users,
aesthetics that creates a friendly mood in the rooms,
originality of solutions.

The Competition Project was presented by students in Power Point, on two 100 x 70 cm boards. The boards showed the following scope:

- Design of an internal arrangement of a sickroom – a plan and a wall expansion manifested in 1:20 scale, two visualizations depicting the character of the room, selection of elements of the furnishings on the basis of catalogue furniture together with specification and lighting design.

- An interior design together with the color and graphic design of walls of two ward halls – the graphics include a wall expansion in 1:20 scale, including a nurse’s duty room in form of an open space office.

- The interior design of the common room, which constitutes a da-care room (in the older children section of the ward) or an interior design of the space of the milk kitchen (in the younger children section of the ward) – the design includes a plan and wall expansion in 1:20 scale, two visualizations presenting the character of the room, selection of elements of the furnishings on the basis of catalogue furniture together with specification and lighting design.

- system of visual identification – a logotype of the Ward, proposed system of wayfinding, colour and graphic solutions.

3. Methodology of predesign research and an analysis of functional needs

The design of the visual identification system as well as the interior design of the paediatric ward in the Rybnik hospital were carried out in the scope of predesign workshops.

Stage I of the design included predesign research which assumed the character of functional needs research. A meeting was organized at the hospital Ward to which employees of the hospital, students and workers of the university were invited. During the stay at the ward, patients had an opportunity to familiarize themselves with the designed space as well as functional needs expressed by the personnel and the patients. A focus meeting was organized during which needs in the scope of predesign solutions were discussed. The most important expectations specified by the personnel of the hospital were the visual identification of the space within the ward together with a division into a space for younger children (from 0-3) and for older children (4-18 years of age). Types of rooms in which interiors should be designed have been indicated. They included sickrooms, corridors and common rooms. In the scope of those projects, students were to include the selection of colour, graphic patterns on the walls, colour and graphic conception of the floor as well as furnishings and the lighting. Everything stemmed from the need to create a space of social character, which would be friendly to patients, and the necessity to work out the scenario of changing the image of the paediatric ward through an introduction of clear visual information. During the visit at the ward the following actions were performed: photo documentation was compiled together with measurements and drafts. What is more, individual observations were performed while the information collected was recorded.

Stage II included competition workshops which took place one week later at the Faculty of Architecture. Design works were preceded by two introductory lectures: the first of which passed as a recapitulation of conclusions drawn during the site inspection. Moreover, the scope of the whole project as well as rules and regulations of the competition were described. That part had been prepared by Dorota Winnicka-Jasłowska.
For comprehensive recognition of the needs of the stakeholders – the patients as well as the staff, and to become familiar with the methods of designing visual information, a lecture on predesign research and design principles applied in paediatric wards was given before the fundamental design stage.

The aim of that lecture was to discuss the principles connected with designing hospital interiors in form of a healing environment. The most basic principle is that designing should include the needs of a young patient (a child), its aesthetics and ways of understanding the space. Following the lectures, teams of students who enrolled in the competition worked on projects under the tutelage of tutors, that is architects who had been invited to cooperate – employees of the Faculty.

During the process, everyone kept in mind the principle of “Education Through Experience”. Concept designs came into being not only thanks to the substantive support given by faculty employees – architects, but also thanks to the real needs and expectations that had been expressed by the users. Students, as part of the work performed in design teams acquired competence for team work. Such skill is one of the effects of the education program that students acquire in the course of studies.

Design works were performed by 20 teams of students majoring in: Architecture and Interior Design at the Faculty of Architecture of the Silesian University of Technology. During the process of creating the concept, a programing method was used on the basis of which the teams were to specify the division of the space of the paediatric ward into basic functional zones, assigning each of them spatial elements that serve to execute specific activities performed by patients and staff. Accessibility for users of various age groups was included - younger and older patients, together with spatial relations between the quiet and active zone. Identification elements as well as elements conducive to finding one’s way at the ward were used. These elements interact with senses just like therapeutic elements supporting patients (proper colours and lighting, elements helping people find their bearings, way-finding system). Concept designs were prepared in form of floor layouts together with room arrangements, cross-sections including colors and graphics on walls with visualizations.

Stage III - following the competition workshops students had two weeks to prepare designs within the scope specified in the rules and regulations of the competition. Stage III was concluded by a session held by the competition jury and by a presentation of works that had won prizes. During the presentation the main objectives and design solutions of the works which had received distinctions were presented.

4. Academic Projects - result of predesign research and competition workshops

During the jury evaluation as many as 10 works found their way into the final. They were publicly presented and described by their authors – students’ competition teams. The jury awarded prizes to five best projects.

Awarded works stood out thanks to their interesting ideas of interior solutions, including principles of ergonomics, as well as functionality for the sake of specific group of users. Arrangement/Interior and aesthetic solutions were applied, adjusted to the age and psycho-motor needs of the patients.

What was important was the safety and well-being of the patients, as well as work conditions of the staff, their efficiency and the quality of medical care. During lectures and discussions with tutors partaking in the workshops connected with the competition, students were sensitized to tendencies that appear in the design process of contemporary hospital facilities in which the patient is the most important user (the patient-centred design). The most important objective is to ensure improvement of the psycho-motor condition and reduction in environmental stress. In case of child patients, this is of key importance when it comes to the creation of a friendly space.

1 Two Main Prizes were awarded to the following teams: Klaudia Przybył and Zuzanna Pyrsz as well as Dominika Szweda and Karolina Wawronowska. Two distinctions were awarded to teams: Marta Cabaj and Patrycja Dapa as well as Sara Sarna and Julia Gitizewska. Special Prize was awarded by the LAB 60+ Architecture Laboratory Foundation to the following team: Julia Lison and Paulina Nyocz.
Contact with the user, designing in realistic conditions and observation of the manner in which it is used, had an important influence on the design solutions presented in competition works. Winning projects are currently being carried out in Rybnik hospital.

**Figure 1.** Main award: Playroom for younger children. Interior design and graphic project: Klaudia Przybyła, Zuzanna Pyrsz

**Figure 2.** Main award: The typical sick room for younger children. Interior design and graphic project: Klaudia Przybyła, Zuzanna Pyrsz
5. Recapitulation of the academic competition and final conclusions

Academic competition and its recapitulation should be examined in terms of a few key aspects:

The didactic scope – Cooperation with an external partner of the university made it possible to carry out a realistic project, based on realistic needs of users. Predesign research accompanied by users made it possible to define those needs. Visiting the building, which were made in the form of a site inspection together with the performance of an individual project inventory, made it possible to recognize the needs and expectations of the users and also shed some light on problems and limitations connected with the design. Students familiarized themselves with the rules and regulations connected with designing health care facilities. As a result, students’ knowledge on the subject became broader.

Practical scope - Academic projects included modern aesthetics which is aimed at warming up the image of the hospital. Projects which were presented to the Partner, that is the management of the hospital, had an impact on their level of awareness in the scope of innovative possibilities connected with giving
shape to the space of the ward. Academic projects which will be carried out at the Rybnik hospital include solutions which are friendlier and more useful to patients, they facilitate staff’s work and also enable parents to move more freely across the ward. Visual identification consists of graphic elements that lead onto the target, that is into the wards, and also of way-finding graphic system with a division into various types of rooms.

Social scope – designing for the sake of a healthcare facility was important and posed a responsible task for students and was a key position in their portfolios. Students raised a subject of a large social significance. University staff also drew satisfaction from the fact that they could work with students on such an important subject.

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