

INTERNET – BASED STUDY ON USERS' NEEDS. STUDENTS' FUNCTIONAL AND SPATIAL NEEDS IN FACILITIES OF ARCHITECTURE FACULTIES AT TECHNICAL UNIVERSITIES IN POLAND

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Received: 6.11.2007; Revised: 9.01.2008; Accepted: 25.01.2008

Abstract

The scope of the paper is the presentation of the conclusions from the analyses of the students' needs established on the grounds of the Internet questionnaire. All eight Polish Faculties of Architecture were invited to participate in the survey. The questionnaire contained the following: questions concerning the organizational needs in view of the most important Faculty facilities: lecture rooms, class rooms, library, work rooms; questions concerning the need of organizational and spatial changes in the above facilities; questions focused on the students' social needs (integration) and behavioral needs (privacy, manners of consultations with the teaching staff; questions about public and semi-public zones (hall, gallery, canteen, rest places, etc.).

The experimental research is an introduction to further studies on the shape of space and standards of the equipment required and expected from modern universities. It is also a starting point of an interdisciplinary discussion on the priorities and strategies assumed in the modernization and revitalization of older university facilities.

Streszczenie

Tematem opracowania jest prezentacja wniosków, na podstawie badań potrzeb studenckich za pośrednictwem ankiety internetowej. Do udziału w badaniach zaproszono osiem Wydziałów Architektury uczelni technicznych w Polsce. Ankieta internetowa zawiera następujące pytania: dotyczące potrzeb organizacyjnych w podstawowych typach funkcjonalnych pomieszczeń, takich jak: sale wykładowe, sale ćwiczeń, biblioteka, pracownie, jak również o potrzeby zmian w tychże typach pomieszczeń. Ponadto poruszone zostały problemy potrzeb społecznych, takich jak potrzeba integracji, a także wymagań behawioralnych, jak: prywatność, sposoby pracy indywidualnej, konsultowania się. Pytania dotyczyły również strefy publicznej i tego jak realizuje ona swoje zadania.

Niniejszy sondaż badawczy jest wstępem do szerszych badań nad kształtem przestrzeni i standardem wyposażenia współczesnych obiektów szkół wyższych. Jest również początkiem interdyscyplinarnej dyskusji nad priorytetami i strategią działania dotyczącą modernizowania starych budynków uczelni wyższych.

Keywords: University buildings; Students' needs analyses; Internet questionnaire.

1. INTRODUCTION

The reason behind undertaking quality analyses of Polish university buildings is their inadequate condition, understood in a broad aspect. Most of the buildings housing universities are old, predominantly constructed when the universities were founded. Apart from unquestionable architectural qualities of some of these facilities, other buildings, frequently listed as national heritage, hide a stiff structure that has been in need of repair for years. One of the most serious

problems in the buildings is the absence of any possibilities of extension works. The major drawback is poor or zero structural flexibility and insufficient knowledge about the needs connected with the use of space and space management. Currently it is a priority in Poland to adjust teaching syllabuses to the EU requirements and to adapt to market demands in a given field of science. Competition that has entered the Polish market also concerns tertiary education. Hence, attempts at changing the curricula for tertiary education, at adjusting their organizational

structure and at obtaining financing sources are fully justified and necessary. However, it is disquieting that most university facilities are still of substandard quality. In the face of commercialization and competition this aspect seems to be as important as the curricula changes and improvement of the quality of teaching.

Another issue is the adjustment of buildings to new standards and regulations. Inflexible structures and financial deficits in university budgets hinder the implementation of indispensable changes. Newly constructed university facilities in big cities, demonstrate modern methods of space formation and new architectural quality. Yet, there is still a big problem with traditional buildings, where space and its functionality do not keep up with the changing needs. Hence, an attempt at research on the needs of academic circles in relation to the buildings that they occupy.

This survey is an introduction to more profound studies on the shape of space and standards of facilities and equipment at Polish universities. It also marks the beginning of an interdisciplinary discussion on the social needs of the users of buildings and the extent to which the buildings support their users' activities and stimulate further development.

2. SCOPE OF THE SURVEY

The scope of the survey conducted by means of the questionnaire was:

- Identification of architecture students' "new" social needs, such as integration, cooperation, joint activities, etc.;
- Identification of their functional and spatial needs in the most important functional zones and rooms, connected with the nature of activities performed by students;
- Attempt at determining "new" functional types of space and their mutual interrelations for research, teaching and social purposes.

3. COURSE OF THE SURVEY

The first step was to select a group of students interested in the study. As the author is a teacher of strategic planning, the group consisted of four third year full-time MSc courses students: Małgorzata Kłosowska, Anna Pająk, Jarosław Przybyłka, Anna Rączka.

The collection of the information on 8 Faculties of Architecture in Poland was an important stage of the

study. The information concerned location, organizational structure, functional and spatial arrangements, images of the organizations concerned. This stage had a cognitive character and was prepared by the students in the form of MS Power Point presentations.

An important stage of the study was to recognize the student environment and its social and behavioral needs. It is obvious that the main task that each architectural facility should fulfill is to provide possibly the best conditions for the operation and development of the organization that occupies it. As far as University facilities are concerned, so far the most important task is the functional and spatial program for teaching activities. However, in view of the development of other fields related to architecture, such as sociology or environmental psychology designs should be more sensitive to human and social needs. The student environment serves a good example as on the one hand, there is a group of students who learn, attend obligatory classes in accordance with the teaching curricula whereas, on the other one, it is a community that would like to fulfill the needs connected with their interests, life style, affiliation to a certain age group, because they treat the Faculty building not only as a place of study. The field of the study is also important. Architectural courses are semi-artistic, the students are creative individuals who like to surprise other people with forms of presentations of their work, sometimes taking the initiative of organizing and participating in new forms of scientific meetings, where they present their work often in a very unconventional manner.

Typical attributes of the so called "knowledge society" to which students indisputably belong are: openness, freedom and flexibility of thought and action, social activity, desire to enrich knowledge. The ways of communication, cooperation, undertaking joint projects and initiatives have changed, as well as the organization of students' life. Rapid advancement of IT had triggered changes in the manner of conducting classes and lectures, in assessing students' progress and in the ways of presenting students' works. Such conclusions stem from group discussions and the subsequent Internet questionnaire.

4. QUESTIONS CONTAINED IN THE QUESTIONNAIRE

The questions were both open and multiple choice, including the following:

- Information on the respondents – Faculty, year of study, sex, accommodation, form of financial support, means of traveling to the Faculty;
- Questions concerning the organizational needs in view of the most important facilities: lecture rooms, classrooms, library, workrooms;
- Questions concerning the organizational and spatial changes in the above mentioned facilities;
- Questions concerning the social needs (integration) and behavioral ones (privacy, methods of consultations with the teaching staff);
- Questions concerning the public and semi-public zones (hall, gallery, canteen, rest places, etc.) and the assessment of their performance in terms of the social requirements.

5. RESULTS OF THE SURVEY

Undoubtedly, the success of the research is the fact that the issue evoked big interest of the students, as proved by the reliability, sincerity and culture of their responses to the questions. Although the survey involved only 93 people, their comments and remarks are an important clue which may be used for the preparation of more detailed analyses conducted at particular Faculties.

Thanks to open questions the elicited answers seem sincere and adequate. The compilation of all the answers to the same question had a form of a discussion. Surely, there are problems in the Faculty facilities of which the students are deeply aware, hence their willingness to respond to the questions. Secondly, needs of analyses make future architects more sensitive to the utilitarian aspect of architecture. The results to the so-called open questions were drawn on the grounds of the respondents' repetitive replies from all the Faculties participating in the survey. They have a very general nature and should be interpreted as only indicators of the problems that the Faculties have to face. The recapitulation of the questionnaire results in the form of a MS Power Point presentation, additionally includes the conclusions from particular Faculties, i.e. Gliwice and Wrocław Faculty, in a more detailed form that precisely identifies the problems occurring in the buildings in question; however, the solution of the problems requires more profound interdisciplinary studies.

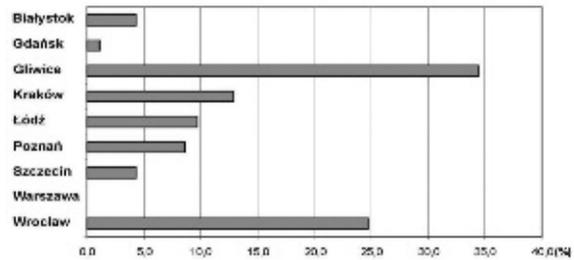


Figure 1.
Participation of the Faculties in the survey

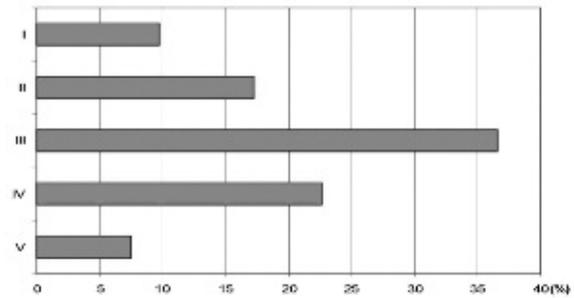


Figure 2.
Information on the respondents: Year of study

6. QUESTIONS SELECTED FROM THE INTERNET QUESTIONNAIRE

6.1. Lecture rooms/auditoriums

The majority of the questions contained in the questionnaire referred to the most important functional rooms used by students. From the first group of questions general conclusions were drawn on lecture and class rooms. The question: “How do you assess the adjustment of the lecture rooms to current needs?” – 10% answered it was very good, 30% – satisfactory and 60% – bad. The replies to open questions on the functions of lecture rooms rendered sufficient information for the formulation of general conclusions:

- OHPs and other equipment installed permanently;
- Improvement of the acoustics, sound systems;
- Improvement of the micro-climate – better ventilation;
- Air-conditioning, automatically controlled heating system (temperature sensors);
- Introduction of the lighting control system;
- Shadings, lighting of the desktops;
- Ergonomic chairs or desks and slightly inclined desktops (“so that our notes would not fall down on the floor”);
- Extension of lecture rooms (“so that the whole

year could squeeze in”);

- Improved technical standards of the rooms.

6.2. Class rooms

The next questions concerned the efficiency of class rooms. Formulated in the same way, they rendered statistical assessment and general conclusions for all Faculties. The question: “How do you assess the adjustment of the class rooms to current needs”? – 60% answered satisfactory, c.a. 40% – bad. The replies to open questions on the functions of class rooms rendered sufficient information for the formulation of general conclusions:

- Introduction of mobile furniture which could be joined or separated, depending on current needs;
- Rooms should be adjusted to the specific nature of the class – design, model making.
- Improved acoustics – background sound “absorbing” the noise;
- Sound systems for seminar rooms;
- Artificial lighting, individual for each work place;
- Audiovisual equipment;
- Internet access;
- Improved micro-climate – better ventilation;
- Air-conditioning, automatically controlled heating system, liquidation of shining;
- Flexibility of rooms arrangement, depending on the number of students and types of classes;
- Adjusting the size of the rooms to the number of students.

6.3. Faculty library

The library was another issue discussed in the survey. The conclusions drawn from the replies concerned the organization of space and services that are expected from modern Faculty libraries. It turned out that most of them do not fulfill the students’ needs, because their expectations go far beyond the present image of the Faculty library. Generally, young people want the library to be a place where, apart from borrowing books and publications (including electronically recorded materials), they could work, learn and discuss. Such places enhance integration and facilitate “free flow of concepts and ideas”.

The question: “How do you assess the adjustment of the faculty library to current needs”? – less than 10% students answered: very good, c.a. 50% – satis-

factory and more than 40% said bad. The replies to open questions on the functions of faculty library rendered sufficient information for the formulation of general conclusions:

- Free access to the resources;
- Internet catalogue;
- New publications, increased number of copies of the publications that students often use;
- Specialist publications in foreign languages;
- Opening hours suitable for students;
- Integration with other public zones and functions, i.e. a canteen, a print shop;
- Qualified staff – able to assist students;
- Modern furniture – comfortable to work and learn;
- Improved manner of searching and ordering books;
- The library should be a media-file library;
- It should integrate the students’ environment, “exchange of ideas”.

6.4. Students’ individual work

Another set of questions concerned the organization of students’ individual work connected with learning outside the classroom, yet on the Faculty’s premises. The target was to detect the students’ needs for the space that they use outside the classroom, as well as to find out what kind of facilities they require. The conclusions indicate that the students need the space that would make it possible from them to feel free to work outside the scheduled classes. A specific nature of architecture studies involves a lot of non-routine work, difficult for time-measurement, often on materials that have big formats or dimensions, requiring larger space available at any time during the day.

According to the survey, there is also a clear need for “temporary” sites, where you could glue, correct, or add up something to the drawings, or to revise before exams. It is the students’ opinion that such sites should be located within the public zone – easily accessible from the corridor.

6.5. Students’ behavioral needs

The next set of questions concerned the students’ behavioral needs, including: privacy, partial isolation, group integration and manners of fulfilling these needs in the Faculty building. One of the issues often raised was privacy in the course of tutorials/consultations with

the teaching staff. The majority of the respondents gave a negative answer (c.a. 60% of respondents) to the question: “Should tutorials/consultations be conducted in the presence of other people?”.

The question: “What changes should be made in the research and teaching staff rooms (in view of their contacts with students)” rendered the following general conclusions:

- Insufficiency of space required for tutorials/consultations;
- Lack of privacy and distractions caused by hearing other staff members talking in the course of tutorials/consultations;
- Absence of the waiting room;
- Tutorials/consultations should take part in rooms especially selected for this purpose;
- Staff rooms should be acoustically insulated.

6.6. The integration of the students' social environment

The next question concerned the integration of the students' social environment (integration understood as: being together, creating, playing, making private contacts, organizing parties and events, exhibitions, presentations of the students' individual work, discussions, scientific events, workshops, etc. all activities that consolidate the environment of future architects and have an impact on their professional development), both with colleagues and teaching staff. The replies indicate that the majority of the respondents identify with their environment and feel the need of acceptance and professional affiliation.

The question: Give your personal opinion: Does your closest environment (group of friends or colleagues) feel the need of integration? – nearly 70% answered – yes.

The question: Do you feel the need of integrating with the teaching staff? – more than 60% answered – yes. On the grounds of the responses to the above questions, the conclusion is that in the majority of cases, Architecture Faculty buildings do not support integration in terms of their functional solutions.

According to the respondents, the following facilities/places promote integration:

- Entrance hall;
- Canteen, kiosk, print shop;
- Extensions of corridors;
- Entrance zone;
- Smokers' room;

- Exhibition sites and notice board sites.

Why is it that the Faculty buildings fail to provide the space that support integration? General conclusions:

- Insufficiency of space for team work, for joint projects;
- Absence of waiting sites along the corridors;
- Too small canteens;
- Absence of “students' space”;
- Absence of something like a club, where time could be spent in-between the scheduled instruction – no place for discussions;
- Low aesthetic quality of the interiors, “sad buildings”, “dismal buildings”;
- Absence of the space that could serve as workshop or leisure rooms;
- Absence of the space that could “hold the students inside because they feel like staying on the premises”;
- In traditional buildings, the public zones are mainly corridors which do not promote integration;
- Faculties have facilities located in several buildings;
- Absence of facilities/rooms for smokers.

What solutions would support facilitate (if available at the Faculty)? What should integrative space look like? General conclusions:

- Multi-functionality of the public zone – direct vicinity of the following functions: entrance hall, canteen, print shop, exhibition sites, show rooms;
- Media-file library connected to rest places and canteen;
- Creation of waiting rooms /sites along the corridors – while waiting for their tutorials, students could discuss ideas;
- “The building should be furnished in an inspiring way”;
- Places for creative discussions – i.e.. entrance hallway should have a nature of a club in the vicinity of lecture rooms;
- Canteen should provide space for eating, working and discussing;
- “All the ground floor should be the students' territory”;
- Canteen – only for the Faculty students and staff members;

- Large gallery for the presentation of the students' individual work and designs, multimedia shows, exhibitions, etc.
- Creation of specialist workshops – model making rooms only to be used outside the scheduled classes, where: “it would be nice to work together”;
- Work rooms should always be available for students;
- The arrangement of the space surrounding the Faculty building – benches, squares “where you could learn and discuss”.

7. CONCLUSIONS

The general conclusions point to the problems involved in the standards of equipping the teaching facilities and the manner in which they are used, which is often an implication of their outdated equipment and furnishing. This problem concerns both lecture auditoriums and classrooms. The students specified numerous inconveniences such as: poor standard of furnishing the facilities, lack of flexibility in internal space arrangement depending on current needs, shortage of rooms fitted to serve specific functions. (for example absence of seminar-type rooms, where the internal arrangement of space could promote a less hierarchical relationships between the lecturer and the students). The respondents also proposed several interesting functional solutions, for example, lighted desktops in auditoriums facilitating note-taking and multi-functional desktops in classrooms.

Faculty libraries arose a lot of discussion. The main problem indicated by the respondents was completely outdated service systems and poor organization of library space that hinders easy and free access to resources and restricts independent search.

The next question concerned the students' social needs, such as integration of the student environment and the manner in which it is supported by the design and spatial solutions of the Faculty facilities. The conclusion is that there are only few places that fulfill such needs and, in the majority of cases, the places that function as integrative space were by no means designed to serve this particular function.

The most interesting responses of the students who participated in the survey concerned the use of public and semi-public space, and the conclusions formulated on the bases of the responses set a new direction as to the shape of such space, especially in consideration of the suggestions of improving its func-

tionality and spatial arrangements. A concept of “students' spaces” that emerged from the survey is defined as places to be at in-between classes and lectures, places where students can rest, discuss “exchange ideas”, perform both individual tasks and group assignments.

There were also specific ideas and solutions proposed by the respondents, which proves that the investigated university facilities fail to provide some functions, or provide them in an insufficient manner at poor quality. Another conclusion is that students of architecture can clearly detect and define spatial problems, which distinguishes them from other target groups.

The described study is an introduction to further investigations into the shape of space and the quality of its furnishing in view of the requirements that modern university facilities should fulfill. In addition, it may off-set an interdisciplinary discussion on the priorities in the modernization strategy and revitalization of old university buildings.

It is unquestionable that our contemporary life and the needs of our modern society impose new quality requirements on the space, aesthetics, furnishing and equipment of university facilities which, to use a quotation from the Questionnaire, should “inspire and support the activities of their users”.

REFERENCES

- Gruszczyński L.*; *Kwestionariusze w socjologii. Budowa narzędzi do badań surveyowych.* (The Questionnaires in sociology. Construction of the instrument in survey researches) Wydawnictwo Uniwersytetu Śląskiego, Katowice 2001 (in Polish)



Figure 3.
One of small lecture rooms in Gliwice Faculty Building



Figure 6.
Computers Laboratory in Gliwice Faculty Building



Figure 4.
The "long" classroom in Gliwice Faculty Building



Figure 7.
Canteen in Gliwice Faculty Building



Figure 5.
The "small" classroom in Gliwice Faculty Building



Figure 8.
"Students' space" for preparation in Gliwice Faculty Building

