The Silesian University of Technology



GUIDELINES FOR PROGRAMMING AND MODERNISING FACADES AS A FOLLOW-UP OF USERS' NEEDS ANALYSES

FNVIRONMENT

Joanna TYMKIEWICZ

Faculty of Architecture, The Silesian University of Technology, ul. Akademicka 7, 44-100 Gliwice, Poland E-mail address:: joanna.tymkiewicz@polsl.pl

Received: 12.11.2007; Revised: 8.01.2008; Accepted: 29.01.2008

Abstract

The paper is a description of pilot research conducted among the students of *the Faculty of Architecture* in Gliwice to test the questionnaires and draw conclusions for further studies on aesthetic and behavioural quality. An additional target was to define the guidelines for the design of the external image of a university building, which constituted one of the projects run within the framework of the curriculum subject.

The analyses were conducted in stages and consisted of open questions, surveys, discussions and free interviews. The conclusions were systematised and, in feasible cases, presented in percentage. The students' aesthetic preferences were established and guidelines for the design of the facades of university buildings formulated, as well as for their possible modernization.

Streszczenie

Artykuł stanowi raport z badań pilotażowych, jakie przeprowadzono wśród studentów Wydziału Architektury w Gliwicach na temat wyglądu zewnętrznego zajmowanego budynku oraz kierunku ewentualnych zmian modernizacyjnych elewacji. Pytania dotyczyły także opinii o "idealnym" wizerunku zewnętrznym budynku, który mieściłby taką właśnie funkcję. Przeprowadzone ankiety, wywiady i dyskusje pozwoliły sformułować wstępne wytyczne do modernizacji elewacji budynku istniejącego, a także do projektowania wizerunku nowych obiektów dla Wydziałów Architektury. Zaowocowały one również wnioskami dotyczącymi organizacji badań oraz sposobów formułowania pytań ankietowych.

Keywords: Guidelines; Modernising; Facades; Users; Analysis.

1. SCOPE OF THE ANALYSIS

The body of the building and façade communicate its function, cultural affiliation, construction period and prestige of the organization that inhabit the building. These two important elements evoke different emotions and provide a very interesting subject for architectural research.

The analyses undertaken by the author of this paper are at their initial stage. They were conducted on the building of the *Faculty of Architecture, Silesian University of Technology*, designed by Professor *Tadeusz Teodorowicz-Todorowski* and commissioned for operation in 1973. The scope of the analyses was to survey the users of the building and draw conclusions for further research:

- Students' needs in view of creating the external image of an organization (e.g. *Faculty of Architecture*) by means of the body and façade;
- Students' opinion on their concept of creating the external image of the building and the functions of *the Faculty of Architecture* (associations, symbolism, feelings);
- Determination of the connection between architectural solutions and visual perception of a building;
- Formulation of proposals for changes in the body and façade of the building of *the Faculty of Architecture* in Gliwice, in accordance with the expectations of one group of its users (students);
- Designation of guidelines for designing the body and façade of buildings performing the function of faculties of architecture.

The analyses were conducted in several stages, in December 2005 and January 2006, within the framework of the curriculum subject: Design Strategies and Design of Public Utility Buildings by means of questionnaires and interviews. First, third and fourth years students were asked to fill in the questionnaire (full-time courses and evening courses).

The respondent group was similar in the two stages of the analyses (predominantly students of design subjects taught by the author) however, not identical (absentees, etc.).

2. INVESTIGATION – STAGE I (OPEN QUESTIONS)

The questionnaire consisted of two steps. Step I included open questions aimed at eliciting free responses:

- 13 third year evening courses students
- 9 third year full-time courses students.

The questions and comments are presented below:

Question 1: How would you describe the building of *the Faculty of Architecture* in Gliwice to a person that has never seen it ?

The question was inspired by research conducted by *Hall* [1] in a newly constructed building – *Deere's* head office designed by *Eero Saarinen*. The intention was to elicit a short answer – a description of the building that could be communicated to a passer-by. The first problem that emerged, was terminology concerning the façade components. One of the descriptions ran: "It is a 20 m building with rectangular layout, with vertical partitions of the external walls by means of concrete pilasters spaced in between windows". Such "vertical partitions" were also described as: "ferro-concrete shutters".

A substantial group of answers were focused not on the building but on its location, for example: "it is on the left behind a long yellow building", "next to the yellow building", "a hidden building behind the yellow building of the *Civil Engineering Faculty*", "next to a very tall *Computer Science Faculty* building at the roof of which the *Silesian University of Technology sign* is mounted", "opposite of *Computer Science and Robotics Faculty*", "a small building behind the *Civil Engineering Faculty Building*".

Fig. 1

The elevated walkway turned out to be a distinguishing feature of the building. In most cases, students described it as: "this building which is joined to the



The Faculty of Architecture behind the Civil Engineering Faculty Building

Civil Engineering Faculty", or "joined by the passage to the yellow building", or "the one with a sculpture in the square in front of the entrance and the stairs below the elevated walkway". Some comments emphasized that the building looks as if it was another part of the *Civil Engineering Faculty* and not a separate entity, or: "we are connected to the *Civil Engineering Faculty*".

Some characteristic qualities connected with the body, its shape, size and proportions were also given. The building was described as: a huge edifice, tall, on rectangular layout, with orthogonal walls, narrow, long, lengthwise, slim, with vertical partitions. The elements of façade division were mainly perceived to be the number of floors, windows and colour: "grey concrete with timber windows", "grey with big windows", "grey with orange windows", "plain with brown windows", "with many windows", "with a big number of windows".



Figure 2. "Big grey edifice" of the Faculty of Architecture

Question 2: What feelings or emotions should be evoked by a building that functions as *the Faculty of Architecture*, what associations, what should it symbolize?

In replies, many respondents were clearly convinced that the building that functions as *the Faculty of Architecture* should be interesting, special, should have a courageous distinguishing form, should draw attention and evoke admiration, interest, curiosity, delight and surprise.

The respondents also emphasized that the building should confirm an artistic nature of the Faculty, symbolizing inspiration, "should be associated with unlimited possibilities that architects and other creators of space should explore. It should symbolize ingenuity", connotations with art, order and harmony, rhythm and space.

The building should be distinguished by its innovative nature in terms of functional, architectural and technical solutions: "should be associated with technical and engineering advancement, should serve as an example of good quality architecture, should symbolize the place where architects are made", "intrigue passers-by and make them familiar with modern architecture".

The seat of *the Faculty of Architecture* should have a certain prestige, should be associated with an university facility and be a token of the organization, its high-level, should be well-designed-actually, should have the best design among all other campus facilities.

It should also be a token of good workmanship, "an example to be followed by future architects that are trained in the building. It should have ideal or close to ideal proportions and form. Also, it should serve as a good example of urban development. Each student, as years go by, should be able to detect good workmanship and art in this building".

Question 3: What architectural solutions can be employed to achieve the required emotional response?

Students of architecture should be prepared to answer such question, as under the teaching programme of the subject: "Design Strategies" they had classes on emotional response and perception of works of architecture. Moreover, the heading contained an explanation that "architectural solutions" are elements connected with location, body, details and ways of their arrangement, colours, helioplasty, etc. In your answer please name specific elements and their features".

The author's intention was to obtain some definite features of the body and façade. Unfortunately, the replies were very general. Such answer seems to be the easiest, fastest and least engaging. In most cases, façade materials were mentioned and described as: unconventional, splendid, well-made, modern, economical. However, specific materials were not named. Next, colour arrangements were indicated, yet also without much precision. More definite and recurrent answers involved "a lot of glazing". The remaining group of answers contained various elements, such as: interesting body, beauty and simplicity, proportions, height, façade, dominants, details, entrance, foreground and entrance zone, fabrics, light and shadow, contextualization.

Question 4: What feelings and associations do the body and façade of the building of *the Faculty of Architecture* evoke?

The first, most numerous group of answers emphasized that there is nothing exceptional about the architecture of the building. The most common opinions were: "sad building, inconspicuous among other university facilities, evoking the feeling of tediousness rather than curiosity", "if I was a passer-by I wouldn't pay any attention to it", "unattractive, lost among other building," "doest not stand out", "grey and dull, boring", "there's nothing special about it, does not please the eye, is associated mainly as an extension of the Civil Engineering Faculty", "so bland that its only task seems to protect us from the rain and wind. It's just walls and roof, nothing special".

The second group of replies indicated certain difficulties in an obvious definition of the function of the building: "the building as such is not associated with architecture, yet, seen against the background of other buildings it seems most fitting to serve the function of the *Faculty of Architecture*", "it is not associated with Architecture but reminds the neighbouring laboratory building", "it's difficult to say at once what its function is". The building was associated with a block, workers' hotel, office building, and, more positively, with a box full of new ideas, solutions and modern developments.

The list of feelings evoked by the building has a slightly negative overtone. The replies specified a sense of being overwhelmed, oppressed, monotony, indifference. However, there were also more positive opinions: "It stands out with its modernist form, I really like the vertical ferro-concrete partitions", "the body is rather plain but after all it is a school building and as such was easiest for classroom arrangement", "interesting body but absence of finishing details", "plain and dull body but impossible to extend", "not bad for the times when it was constructed".

Question 5: What architectural solutions evoke such perception?

This was a follow-up to Question 4. The replies were divided into two groups: the first containing positive, the second negative features.

Among the advantages of the building the following were identified by the respondents: simplicity of body, interesting detail (vertical partitions). "The building is acceptable but too stagnant", "elegantclarity of form, proper regularity of walls", "the body has good proportions, is adjusted to the human scale, does not oppress, a clear style of the previous era". The respondents complemented the use of ordinary concrete.

The second group expressed the following opinions: the facade is too modest, monotonous, too regular, absence of innovative solutions. Grey colour dominates, grey shade of concrete, grey surroundings, not enough contrast. The technical condition of the façade is poor, the materials outdated, worn and torn (cracks, devastated foreground square), cracked pavement plates, damaged flower beds, dirty windows). As far as the façade arrangement is concerned: "tiring monotony of partitions", assemblylike window arrangement, too much regularity, vertical poles with monotonous rhythm, absence of emphasis, absence of variety also as to materials, stiffness, excess repetitiveness, severe and closed structure, including window arrangements on every floor. Many respondents made comments concerning the entrance to the building, pointing out its inaccessibility (the disabled, child prams, etc), absence of emphasis and prestige ("entrance behind the corner, constrained from above", "side entrance as if to a staircase"). The lack of foreground and improper entrance zone are evidently detected as negative.

Question 6: Would you change anything in the body and facade of the building and, if, yes, what would you change?

The replies mostly reiterated the proposals of stronger emphasis given to the entrance zone ("as it is ugly and set in the wrong spot – below the elevated walkway", "I would indulge in a certain extravagance and highlight the entrance to the building by eyecatching solutions, e.g. a tube, a funnel, etc.") or by moving the entrance to the gallery part and expanding the entrance zone (foreground with parking lots and parking layout).



The elevated walkway between the two Faculties

The expressed opinions contained proposals of changing the colour structure (yet without indication to a specific colour), the type and fabrics of materials (also without specific indication – only repeating that the materials should be modern).

Among the answers and very general remarks (that are not informative, e.g. redecoration of the façade) there were some definite proposals, including: breaking the monotony of the floor strips by adding impermanent elements to the solid and simple building structure, changing with the seasons, day or event, or by means of screens", "removal of cracked glass under the windows and its replacement with other materials", "introduction of double facades with loggias, balconies opening up from the inside to the outside".



Figure 4 The regularity of ribs and windows

The responses elicited at the first stage of the study, irrespective of their open or close nature, were not subjected to any statistical analysis and conclusions. Yet, the results were helpful in the designation and determination of the questions planned for the second stage of the research, where optional replies were proposed (for multiple choice) yet with an opportunity of substantiation and further explication of the answers given.

3. INVESTIGATION – STAGE II (THE QUESTIONNAIRE)

There were 65 respondents participating in Stage II, including:

- 23 first year full time students
- 13 third year evening (part time) students
- 12 third year full time students
- 17 fourth year full time students.

The results were discussed separately for 3rd- 4th and 1st year students, to check if, in the experience of studying architecture which should be formative for tastes and opinions to emerge, any changes occurred in their assessment of the building.

The questions and comments are presented below. The percentage figures quoted in brackets refer only to the students who participated in the survey and cannot be generalized to other student groups.

Question 1: Give three expressions characterising the building of *the Faculty of Architecture* in Gliwice:

The $3^{rd/4th}$ year student group came up with 32 expressions (the percent figures refer to the number of students who mentioned a certain quality, so, for this student group 100% = 42 respondents). The most frequently repeatable replies included:

grey (40.47%) plain (35.71%) monotonous (12%) modernist (12%) austere (12%)

The building was also described as: interesting, rhythmical, dull, cuboidal, functional, concrete, glazed, longitudinal.

The 1st year student group mentioned 35 different expressions, among which the following were most commonly repeated:

plain (47.8% 100% = 23 respondents) grey (30.4%) modular (13.0%) rhythmical (13.0%) Other repeated recurring terms included: interesting, harmonious, modernist, not aesthetic, not standing out, box-like, old.

As seen above, the surveyed student groups most frequently described the building as simple (43.07%)and grey (33.84%) (100% = 65 respondents). Accordingly, such qualities should be treated as the most typical of the said building. However, they are devoid of a qualitative assessment: it is impossible to state if "plain" is positive simplicity, or too much of it; similarly, is grey only the name of the colour or a synonym of sadness and dullness.

Question 2: What emotions do the body and the facades of the building evoke?:

- positive
- negative
- neutral/indifferent

Give a short explanation of your choice.

The majority of the opinions elicited at the first stage of the investigation were negative (compare with Question 4). However, the results of the "direct" question were much more favourable for the building. In the $3^{rd}/4^{th}$ year students they were as follows:

- positive perception -42.2% (42 respondents = 100%)
- negative perception 19.04%
- neutral perception 40.47%

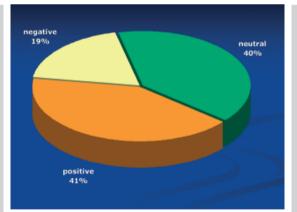
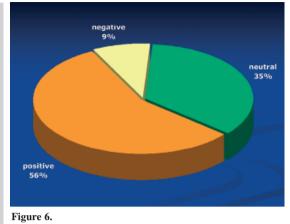


Figure 5.

Feelings and emotions evoked by the body and façade of the building of the Faculty of Architecture as perceived by 3rd/4th year students

The first year student group rendered even more favourable answers:

- positive perception 56% (23 respondents = 100%)
- negative perception 8.6%
- neutral perception 34.8%



Feelings and emotions evoked by the body and façade of the building of the Faculty of Architecture as perceived by $1^{\rm st}$ year students

The 3rd/4th year students explained their positive perception by mentioning the following qualities: simplicity (14.28%), body proportions, rhythm of windows and ribs, play of light and shadow on these elements, natural materials, moderation, repeatability. It was also emphasised that the body is toned down (muted), non-aggressive, fitting in with the surroundings, the form does not triumph over the content, there is a certain modesty in the selection of construction materials. The respondents emphasised that the building looks good against the background of other University facilities and that it is an expression of architectural inspiration and, despite the passage of time, its form has not grown old.

The opposite pole of negative perceptions was substantiated by describing the building as: dull, uninteresting, with monotonous façade, the body does not indicate the functions of the building, it is neglected, the dominating colours of the façade are dreary and bleak, the surroundings are overwhelming, the entrance zone is not a good visiting card of the organization occupying the building.

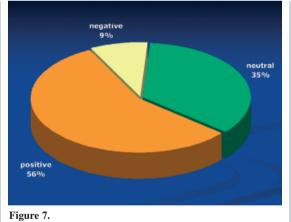
Among the explanations of the neutral or indifferent perception of the building the most frequent replies emphasised that the indifference is a result of the building "not being outstanding against its background", "not attention-drawing", "devoid of expression", "no specific character", "no surprising details", "the building does not bother you but also does not delight you", "I don't pay any attention to facades".

Some first year students did not enclose any comments and their answers were not precise, yet, those that were definitely formulated converged with the above quoted expressions. Question 3: Do you think that the building that functions as *the Faculty of Architecture* should be:

- a "sculpture-like" structure shocking in form, colour and materials
- a modernist box with well-balanced proportions, quiet colours, in accordance with the principle that less means more
- other proposal.

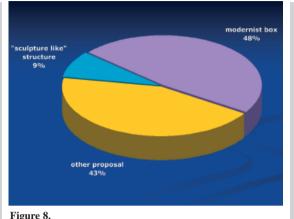
The replies to Question 3 enabled the determination of dominating formal preferences in line with the concept of an "ideal" building housing *the Faculty of Architecture*. In the $3^{rd}/4^{th}$ year student group they were as follows:

- 26.19% of students opted for "a sculpture-like" structure (42 respondents = 100%)
- 57.14% opted for a modernist box
- 16.6% opted for other solutions, among which the following concepts were most commonly brought forward: "interesting but not shocking sculpture-like building", "good architecture, not dependent on formal solutions", "simple, reflecting the nature of the surrounding space, transparent", "exemplifying the most recent trends and technologies", "facades emphasising the function of the building", "functional structure with artistic details".



The form of the building in accordance with the concepts expressed by the $3^{rd}/4^{th}$ year student group

In the first year student group 8.6% opted for a sculpture=like building, 47.8% for a modernist box and 43.4% for another proposal. The proposals included concepts that were not as extreme as those provided in the questionnaire, for example: "sculpture-like building but not shocking", "well fitted in the surroundings", "sculpture-like building but without extremities", "simple but remarkable, something in between". "It could also be modern, functional, inspirational".



he form of the building in accordance with the concepts expressed by the 1st year student group

A certain regularity was also observed: among the respondents with a positive perception of the facades (13), there were 10 (77%) who stated that the building that functions as *the Faculty of Architecture* should have a form of a modernist box.

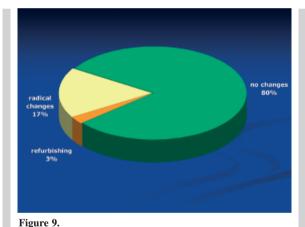
Question 4: Would you like to make changes in the body and facades of the building of *the Faculty of Architecture* in Gliwice.

- I like the building and I think that changes are not necessary
- I like the building but I think it should be refurbished, i.e.
- I think that the building requires the following changes (choose 3 most essential proposals)
- Change in the shape of the body by
- Extension of the front-entrance zone, i.e.....
- Alteration of the entrance zone by
- Break-through and variety given to the regularity of the windows and ribs
- Differentiating the facades in accordance with the geographic directions by
- Adding details such as
- Change in the colour of the facades (what colour would you choose)
- Use of finishing materials such as
- Lightning the façade at night (light stenography)...
- Graphic information on the façade (logo, caption,

inscription, etc.) in the following form

In the $3^{rd/4th}$ year group there was only one student who accepted the building without any reservations. The option of refurbishing the building without the implementation of radical changes in the body and facades was chosen by 16.6% of the respondents (42 respondents = 100%). By a general term of "refurbishing" the building the students understood the activities of refreshing, cleaning up, washing, painting, plastering, exchange of broken glass underneath the windows for black plates, renovation of the construction materials, replacement of the widows on the first floor and the wave-like asbestos-cement plates at the entrance zone. These proposals shall be commented on below.

The majority, i.e. 76.19% of the respondents stated that the building would require more substantial changes.



3rd and 4th year students' opinions on the extent of refurbishing works for the building of the Faculty of Architecture

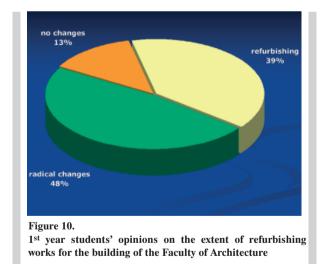
Among the proposals, the most frequent suggestions concerned the alteration of the main entrance (more powerful emphasis, exposure, change of location) as well as the extension of the foreground area (change of tiles, emphasis by means of details, extension aimed at highlighting the prestigious function of the building, making it more attractive and front-like, accessible for the disabled, the removal of the parking spaces below the entrance, the change of architectural shape). Both proposals concerning the entrance zone and the foreground were put forward by about half of the respondents who opted out for changes. Also, a half of the respondents enjoyed the idea of lighting the building at night in view of designing the light and dark stenography.

A considerable group of respondents chose the graphic information of the façade ("legible, not overwhelming", "name of Faculty, "something characteristic", "similar to the information board", "logo on the glazing of the western façade". A similar amount of replies concerned the finishing materials (polycarbonic, steel network, stone, wood, glass, metal, membranes, modern concrete materials).

One of the less frequent options involved breaking through and adding variety to the regularity of the windows and ribs. The proposals included colour variety, technologically diverse elements, filling in the sub-window panes with other materials. Even fewer respondents opted for differentiating the facades in relation to the geographical directions (creation of the second "skin" from the south, shades and other elements shading the glazing of the staircases and the classrooms). Other proposals rendered below 10%.

The 1st year student group responded in the following way:

- I like the building and I think that the changes are not necessary 13.0%
- I like the building but it needs refurbishing -39.1%
- The changes are necessary -47.8%.



The most frequently repeated proposals for changes included the lighting of the façade at night time, the extension of the entrance zone ("attractive square with benches functioning as a meeting place", "giving specific functions to the square between the *Faculty* of *Civil Engineering* and *the Faculty of Architecture*", additional exits, etc. to the parking lot), change of façade colour arrangement (introduction of colours signifying particular rooms or white-blue, green or white brown) and use of specific finishing materials (wood, brick, concrete, glass, steel).

On the grounds of the replies elicited in Stage II of the investigation it is difficult to formulate definite conclusions. Some answers seem to be not thoroughly thought of, contradictory, or unworkable. The arising doubts were subjected to discussions conducted in the surveyed groups.

4. INVESTIGATION – STAGE III (DIS-CUSSIONS, FORMULATION OF CON-CLUSIONS)

The first issue subjected to discussion concerned the specification of some repeatable terms. The students' replies as to the refurbishing of the building mentioned the proposals of "modern technologies" and "modern materials". When asked to explain, the students agreed that "modern technologies" are those associated with intelligent, energy-efficient buildings. Hopefully, our future building shall be centrally computer-controlled, adjusting all the required parameters to the users' needs.

As far as "modern materials", the students consistently enumerate: concrete, glass, steel, wood and clinker brick, most of which have been recognized and established in the architectural practice for a long time, therefore, the terminology of describing the materials should rather be changed for: everlasting materials, natural, high-quality. The proposal of using natural stone (marble) was definitely rejected, as it was considered to be too serious for the finishing of the facades of university units, and more suitable, for example, for banks.

Another problem that needed clarification was the refurbishing of the building façade. The survey comments included washing, painting and plastering of the building. Accordingly, a certain discrepancy arose – what to do with the concrete ribs which, according to the investigation results, turned out be to distinguishing quality of the building. The students rejected any suggestions of plastering, or painting the facades, and defended the austere architectural expression of concrete. They were determined in their preference for such architecture as it was "in line with their education mode", the wet patches and holes are just informative about the age of the building. Accordingly, the plastering work, the students

pointed out to the plastering of the ribs as a result of which the building has lost its austerity and has created the feeling of being confined to the rooms "as if they were in secondary school classrooms". It seems that the best solutions would involve modern technologies of concrete preservation by means of renovation mortal.



A good spot for the introduction of colour

If the concrete poles were to remain grey, what about the proposal of introducing colour? Partially, the colour scheme could be provided by new window woodwork. It was settled that the window panels are a good place for the differentiation of colours, especially that the reinforced glass is cracked at many points. There was also a concept of filling in these spots with steel plates with visible rivets that would evoke the effect of "shining" of these elements in sunlight. However, this proposal (covering the ribs and asbestos-cement plates with metallic panels of e.g. Alcobound, or Reynoldbound) was not really accepted, as the building would stand out too much from the surroundings, and, accordingly, the ribs would be covered, which would do no justice to the modernist image of the building.

Apart from the window panes, terracotta pedestals, so popular in the 1960s and 1970s (plates in bath-

rooms, fountains) were indicated as spots where the old material could be replaced by new materials. One of the proposed solutions was to cover the pedestals with clinker. The part of the façade covered by wavy asbestos – cement is also questionable. The easiest solution would involve thermal insulation of the walls, plastering and painting. However, such proposal was not popular with the students, who stated that there would be a negative dissonance between the concrete ribs and a new even wall surface. According to the students, a better solution is to suspend precast concrete panels on the façade and give it a proper texture.



Figure 12. A good spot for the introduction of a new material

The entrance zone, as well as the ribs and windows were consistently considered good places for the insertion of details, such as:

- shades or other shading elements,
- glazed jutties, balconies, regularly or freely placed,
- double façade from the south, exposing a brandnew technology,
- panoramic elevator at the staircase,
- eye-catching logo and name of the Faculty (this could be placed on the wall currently covered with asbestos-cement).

The body of the building should be left intact. If extension works are necessary, they should be limited to roof-covering by a light, glazed structure that would hide the new functions.



Figure 13. A good spot for the introduction of a detail

4. CONCLUSIONS

In view of a limited number of the respondents, the investigation was just an introduction to further research. Nevertheless, it was possible for the author to draw conclusions as to the relevance of the questions, their ambiguity and the answers were too general. Question 4 at Stage II posed many problems. Some respondents did not follow the instruction of choosing only three options of changes. Also, it was unnecessary to use qualitative expressions in this Question - "I like the building" (I like the building and I think that changes are not necessary, I like the building but I think it should be refurbished, i.e. I think that the building requires the following changes...). It was the author's intention to determine the range of the necessary changes and not to establish if the respondents "liked" the building, which had already been established by previous questions and replies.

On the grounds of the findings from the analyses it seems possible to formulate initial guidelines for designing new facilities of architectural faculties or for modernising the existing structures. According to the opinions expressed by the majority of the respondents, the building housing *a Faculty of Architecture* should fit the context, should be characterized by simplicity, good proportions, moderation, reflecting the principle that "less means more". Hence, it should follow the trend of modernist architecture but in its new, eternal aspect. At the same time, it should be unusual, attractive, special. It should also serve as an example of good workmanship. Such guidelines are formulated in a very general way, however, they are sufficient for the stage of the emergence of a functional and spatial programme. It is up to the design architect how they will be "dressed up" in architectural solutions.

As far as the modernization of facades is concerned, the opinions expressed by the respondents and explained in more detail in the course of the discussions set forth the main directions of changes that would be acceptable to the majority of the respondents. An additional advantage of the research was that our students had a good look at *the Faculty* building and considered it in terms of function and structure.

REFERENCES

- Hall, M. R., Hall E T.; Czwarty wymiar w architekturze. Studium o wpływie budynku na zachowanie człowieka. (The Fourth Dimension in Architecture. The Impact of Building on Behavior) Warszawskie Wydawnictwo Literackie Muza S.A., Warsaw 2001 (in Polish)
- [2] 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 1999 (in Polish)