

Competitions with local partnerships as a teaching mode to develop students' learning

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ABSTRACT: A flexible approach to teaching is discussed in this article. The method of teaching outlined is one in which competition becomes a means of measurement. This departure from the norm in teaching was implemented as a part of *urban design* module classes, taught during the sixth semester of the first tier of studies. The classes were taught in the form of an international student competition with representatives of the business sector, as well as the local government of the city of Bochnia, in southern Poland. Students who participated in it developed their teamwork skills and the ability to dynamically react to change. Awareness of the utility and usefulness of their work is important for the development of students, as is preparing them for their professional lives. Exposure to the teaching methods described here was found to stimulate the development of students' creativity in design.

INTRODUCTION

The city is formed by people. It is on the needs, dreams and aspirations of the people that the shape of the urban space and the character depend. The city is built and arranged for the community that inhabits it. Awareness of this is extremely important to the professional toolset of an architect - the urban designer.

The process of teaching future architects, the urban designer or architect-planner, requires that students have the skill to identify the problems of cities and the needs of local communities. Students develop competition urban designs and spatial planning competition projects for specific sites and in reference to local conditions. Most often they find through analysis and by themselves the problems that need solving, which teaches them critical and creative thinking. However, it is equally important or perhaps even more difficult in teaching, to place students before an actual problem that a city faces and to attempt to find a correct solution.

Competition is an important tool with which to activate the student's creativity [1]. Co-operation with municipal authorities is a valued aspect of teaching students. Projects prepared by students touch on the actual problems of the cities and the solutions proposed in them can lead the local community and municipal government to see potential and various possibilities for arranging the space of the city.

The author's goal in this article is to present a flexible teaching process conducted in the form of a competition that has been developed in the Institute of City and Regional Design at the Faculty of Architecture of Cracow University of Technology (FA-CUT). The implementation of semester projects and tasks in the form of a competition in co-operation with local governments and business is one of the forms of student education [2-4]. The process was tested during the teaching of urban design module classes to students in the sixth semester of the first tier of studies. The design project task was based on an agreement with representatives of the municipality of Bochnia [5]. It was the subject of an international student competition connected with the Twenty-second Meeting of the Network of Architectural Schools from France, and central and eastern Europe (REA - *Réseau des écoles d'architecture françaises, d'Europe centrale et orientale*), which was held at Kraków in 2018.

STUDENT COMPETITION: SUBJECT BACKGROUND, MATTER AND GOALS

The REA is, as described above, a network of architectural schools from France and central and eastern Europe. It was established in 1990 in Montpellier to broaden and enrich academic, technical and cultural co-operation [6]. The network has a yearly academic and teaching meeting. During each meeting an academic conference is held, and an international student competition and workshop take place. All is organised by the host university. The author was responsible for organising the Twenty-second REA Meeting Kraków 2018, at the FA-CUT. A significant part of this was carrying out and supervising the student competition and workshop.

The focus of the Twenty-second REA Meeting was the spatial development of metropolitan areas of large cities that constitute a diverse mosaic of functions, spaces, corridors and nodes of activity. Metropolises - most often discussed from the perspective of the primary city - include large- and medium-sized cities and towns in the territory, as well as rural areas. Built in them is a network of activity centres of varying scales. These centres are characterised by various functions, including those that are specialist, as well as those concerning development. The subject of both tasks for students (the competition and the workshop) was associated with the historical medium-sized city of Bochnia, which dates from the Middle Ages and is in the Kraków metropolitan area.

Since the start, Bochnia has been associated with rock salt mining. Mining and salt-making has shaped the city, the spatial development, architecture, identity, specific climate and landscape for 750 years. The Salt Mine located there is the oldest continuously operating industrial plant in Poland, having been constantly active since the middle of the 13th Century. At present, after the end of mining operations, the city is a health resort and a tourism and pilgrimage centre [7]. The underground sanatorium and museum have significant potential for development, particularly after 2013, when the Salt Mine was placed on the UNESCO World Heritage List [8].

The theme of the international student competition, *City at the edge of a metropolis*, was prepared in co-operation with the mayor and municipal architect of Bochnia. The project was meant to transform selected areas in the city centre and incorporate them into a network of attractive public spaces. As a part of the task, students were to develop two squares: Floris and Bolesława Wstydlwego (Bolesław V the Chaste) which at present are designated as parking, and reference the mining and salt-based identity of the place. The main guidelines defined by the municipality of Bochnia included:

- introducing a specific service-related function (a library);
- solving the problem of parking in the form of multi-level facilities;
- arranging public space with urban furniture and sports and entertainment installations.

Basic guidelines were included in planning documents, and the local spatial development plan also was to be taken into account.

The competition project was prepared in two stages. The first internal phase took place during design classes with sixth-semester students of architectural studies at universities that had signed up for the Twenty-second REA Meeting. To the second phase could be submitted a maximum of two best projects from each university. An international jury selected laureates from among the entries submitted by each university.

In the FA-CUT the overview of the competition project was carried out at the Institute of City and Regional Design, during urban design classes, in the group supervised by Professor Elżbieta Węclawowicz-Bilska, DSc PhD Arch. The projects could be prepared either individually or in two-person groups. Preparing students for the competition, as well as selecting the most promising projects, required a flexible teaching process.

To meet the date of the Twenty-second REA Meeting, work on the competition projects had to be performed at an intensive pace during all stages of preparation of the conceptual proposal. Over this period, the project was prepared with the maximum possible amount of work in classes and additional corrections during consultations. This mode of work was highly demanding both for students and tutors. The students needed to concentrate on the project, also adapting work time and organising tasks over the course of the semester. To this end, the project was divided into detailed stages. Each of these stages was concluded with a progress review, which made it possible to progressively cull the number of teams.

As a result, a group of students was selected. The remaining students continued their projects, but without the time constraints associated with the Meeting. This made it possible to adapt the mode and pace of work over the course of the semester. The student work results are displayed in Figure 1. The scope of the project is described in Table 1.

Table 1: Scope of the project (Source: Author).

	Basic scope	Competition scope
Analytical part	Condition analysis	Condition analysis - schemes
	Condition synthesis	
Diagnostic part	-	Conceptual proposal
	-	Genius loci - identity
Design part	Conceptual urban design proposal drawn to a scale of 1:2,000, the scale of the city	Conceptual urban design proposal drawn to a scale of 1:2,000, the scale of the city (plans, schemes)
	Plot development plan drawn to a scale of 1:500 (plan, cross-sections)	Plot development plan drawn to a scale of 1:500 (plan, cross-sections, elevations)
	Architectural and urban details (views)	Architectural and urban details (schemes, views)
Visualisation	Visualisations, sketches, perspective drawing	Visualisations, perspective sketches
Assessment	Impact of the project on the city	-
Written section	Written project documentation	Written description



a)

b)

Figure 1: Bochnia. New public spaces - student's works made for competition: a) designed by students: Matylda Grzywacz and Maria Jaskiernia. Teacher: Matylda Wdowiarz-Bilska; and b) designed by student Karolina Rossa. Teacher: Jakub Błachut.

Table 2: Schedule of the competition project (Source: Author).

Stage	Scope of activity	Number of students who submitted work after the given stage	Number of students who did not advance into the next stage	Mode followed by persons who did not qualify for the next stage	Work intensity for people who did not advance to the next stage
1	Conditions analyses, conceptual sketches	30	13	Basic	Low
2	Spatial solutions drawn to a scale of 1:2,000. Draft visualisations	17	6	Competition	Low
3	Project, drawn to a scale of 1:500, visualisations, preparing competition project sheets	11	6	Competition	High
4	International workshop entitled: <i>The new life of the old saltworks</i>	5	-		High

The design assignment was divided into four stages. The first phase focused on the analysis of the site conditions. As a part of this stage, students participated in a study trip to Bochnia and listened to a specialist lecture on the history, spatial development, salt-related identity and problems of the city. Both tasks were conducted by Piotr Langer PhD Arch. Afterwards, students prepared schemes of environmental and cultural conditions, circulation linkages and social activity. This stage culminated in a conceptual sketch based on project guidelines and individual conclusions drawn from analysis.

The focus of the two following stages was an urban design project on the scale of the city and the immediate surroundings. Hand-drawn design sketches, as well as physical and virtual models, were produced. After each phase

a review was held to select laureates to participate in the international student competition and workshop during the Twenty-second REA Meeting. The schedule for the competition project is presented in Table 2.

INTERNATIONAL STUDENT WORKSHOP: SUBJECT MATTER AND OBJECTIVES

The second teaching activity conducted during the Twenty-second REA Meeting was the student workshop entitled *The new life of the old saltworks - in the Bochnia Salt Mine*. The subject matter and scope of the workshop was prepared with the Board of Directors of the Salt Mine [9]. It pertained to the renovation of the layout of the former saltworks of the mine near the Campi mine shaft.

The Old Saltworks building was an industrial plant in which brine was boiled and evaporated in vessels. It is a unique post-industrial building in Europe, a testament to the salt-making history of Bochnia and has an important role in the urban space [10]. This single-space historical building possesses historical, aesthetic, architectural and technical value. Of particular value is the architectural form, with rhythmically placed window openings, the form of the roof has a distinct ventilation element and structure of timber roof truss [11]. The original function of the building was maintained until the mid-1960s.

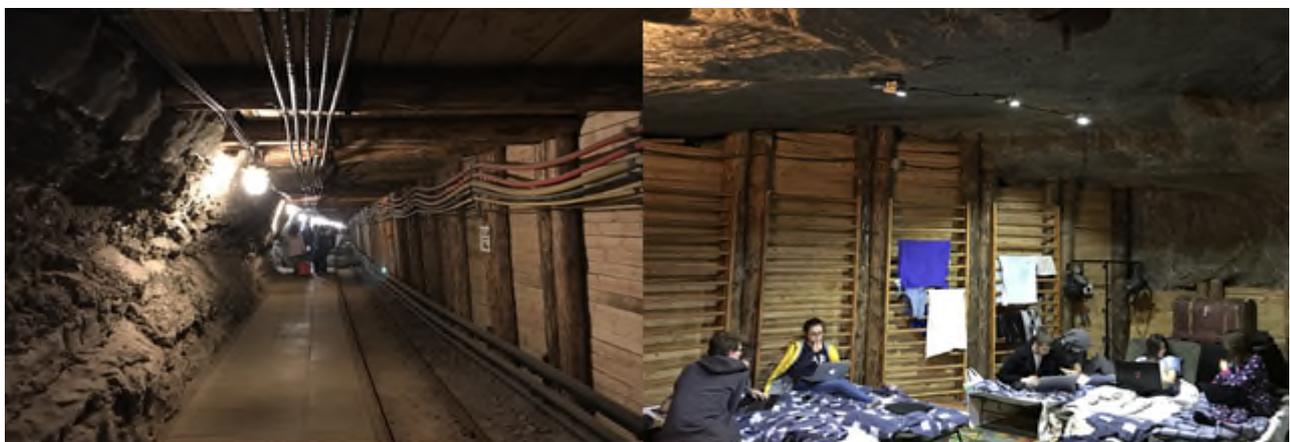
At present it is a storehouse, not suitable for its cultural rank [10]. Near the saltworks is the tall brick smokestack of the former boiler facility. This structure was never functionally linked with the saltworks. Despite this, both structures are perceived as a single complex with an interesting composition and spatial relationship [11]. Both structures form the frontage of the square in front of the entrance to the mine shaft.

The objective of the project prepared as a part of the workshop was to:

- adapt the historical complex for tourism (forming a multi-functional space);
- develop the area around the building;
- solve the problem of the entry to and accessibility of the interior;
- provide access to or expose the remains of the saltworks furnace as a monument of engineering.



Figure 2: Teamwork at the New Bochnia Conference Centre [12].



a)

b)

Figure 3: Students' experience in the Salt Mine: a) some walk through the underground city streets; and b) co-operation and atmosphere on their last nightly rest in the Salt Mine (Photograph: Piotr Mrowiec).

The workshop was conducted as an intensive three-day design session. On the first day, students familiarised themselves with the subject matter and the influence of salinary structures on shaping the space of the cities and towns of Lesser Poland, and took a tour of the Bochnia Salt Mine. This, for students, was how life must have been like in the underground city which, for so many years, had influenced the identity of Bochnia. The preparation made it possible to introduce students to the climate and atmosphere of a salt-mine city. The two days that followed were devoted to intensive design work in international teams (see Figure 2).

While working in small international groups, the students were to develop communication skills, overcome cultural barriers and open up to creative ideas. They also were to present views and ideas and compromise. The challenge and atmosphere of co-operation was also present during their nightly rest in the underground chambers of the Salt Mine (see Figure 3).

CONCLUSIONS

The two design projects: the competition and the workshop - conducted in co-operation with municipal authorities and the culture industry - were a valuable experience in terms of education. Co-operation between the university, municipal government and the private sector made it possible to conduct a task that featured developers' wishes and a series of external conditions. Students do not often encounter such tasks.

The issuing of conditions of a project for specific requirements proved high in educational value. It required teachers to adapt the guidelines of local partners to the level of difficulty of class and student, to individually search for technological solutions (e.g. in the case of advanced underground parking), which was an issue for the project.

Thanks to integrating the competition with module classes, it was possible to conduct a project with high educational value and with a sizeable group of students. The project combined exercises on theory, teaching principles and good practice with a practical approach to designing changes in an urban structure.

What were the benefits of this process to the students? Expanding the teaching process to include special forms, e.g. of a competition or a workshop, which requires a different, flexible process and provides students with the opportunity to prepare an interesting design. The awareness of the usefulness and utility of their work is most important to students, stimulating design creativity and responsibility.

One of the fundamental skills with which the entire group came into contact was the experience of teamwork. Over the course of preparing the individual stages of the project, two-person teams were clearly in the lead, demonstrating better results both in technical, organisation and conceptual design-related terms.

Three students of the FA-CUT were among the winners of both international competitions, which shows the correctness of the adopted method and value of the teaching. The laureates, who had the opportunity to participate in the international workshop, experienced dynamic teamwork in groups formed by their supervisors or that were formed *ad hoc*. This placed them in an unknown situation (during their studies students typically work with colleagues whom they know); one that requires skills necessary in discussing and promoting their ideas, to flexibly react to change and make quick decisions on design. The contact between cultures and overcoming natural differences between universities is also important.

Competition and co-operation constitute important elements in the work of an architect or urban planner, which is why placing students before such challenges is important in preparing them for future roles and teaching them how to be successful in their profession. In addition, the belief that their design will not be *filed away*, but can be used in discussions on changing space causes students to feel valued, giving them satisfaction with their work.

The teaching activities ended with interesting results. Over the course of the jury's discussion, representatives of the Office of the City of Bochnia and the board of directors of the Salt Mine were impressed with the students' skills, their creativity and the inventiveness of their solutions. It was acknowledged that the proposed solutions were inspiring, but also highlighted a high degree of realism. It is a quality that is rare, but is most important in the context of the education of future architects. Both design activities have proved that conceptual proposals formulated by students and prepared in the form of a competition constitute an excellent basis for discussing various solutions for the future development of a city.

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