

Issues of public spaces in the education of architects and urban planners

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ABSTRACT: This contribution aims to point out the necessity to reflect and develop the issue of public spaces within the study programmes of architecture and urbanism, given their significant role in the transformation and development of residential structures, and their fundamental impact on the spatial, social and environmental quality of cities and rural settlements. Due to the permanent development of knowledge and the changing needs of practice in the given area, it is necessary to constantly innovate the content and teaching methodology focused on the problematics of public spaces. The goal of teaching innovation is to provide future graduates with adequate knowledge and experience that will prepare them for current and new challenges regarding public spaces, which go beyond the fields of architecture and urban planning. The author traces the development and status of teaching the topic of public spaces in the Faculty of Architecture and Design at Slovak University of Technology in Bratislava, Slovakia over the past thirty years, depending on the changing needs of society and practice. At the same time, the contribution points out the innovation methodology and organisation of teaching within the newly introduced subject Public Spaces. All this is discussed in the context of experience with teaching the given subject at foreign partner universities - and their faculties of architecture.

Keywords: Public spaces, architecture and urban education, teaching methods, innovation, interdisciplinary

INTRODUCTION

Public spaces represent the basic elements of the settlement structure. In addition, they have a fundamental operational, economic and social significance for settlements.

The spatial fabric of cities has undergone significant changes over the past hundred years. These were caused by the modernist approach to urban construction, which destroyed their centuries-old traditional form [1],

based on the concept of public spaces (streets, squares, parks) as basic elements of settlements, which were organising their form and life. Classic urban spaces were replaced by open spaces with freely distributed buildings, especially after the World War 2. The free principle of development, linked to the concept of functional zoning, meant a change in the organisation of urban fabric, an increase in operational requirements, and above all a loss of natural social ties, which the classical public space and its functional richness provided. An indifferent and functionally sterile space, moreover under the pressure of increasing traffic, could not create a suitable and stimulating background for human contact.

At the turn of the 1960s and 1970s, problems related to the functionalist principle of urban development began to manifest themselves. One of the reasons for this phenomenon was the underestimation of public spaces as important spatial and social elements of settlements. Experts, such as Jacobs [2], Lynch [3], Gehl [4], Krier [5] and Whyte [6], began to point out the connections between the character of public spaces, the quality of life and social ties in the cities. The investigation of the relationship between public spaces, society and the efficient functioning of the cities gradually became an integral part of architectural, urban planning and sociological research [7-11].

The outputs of research were subsequently reflected in the renewal of public spaces in cities in many countries around the world. This conceptual approach to public spaces returned spatial quality to cities, supported community and social life. In post-socialist countries, the problems of modernist approach to urban development were increased by central planning, the erosion of ownership relations, and later by the absence of appropriate planning tools. Compared to advanced Europe, new theoretical knowledge was introduced into practice late and slowly.

In the context of the topic, it is appropriate to mention some terms related to the unbuilt or public space of the city. At the same time, they point to current research areas, problems or trends. From a spatial point of view, the urban structure is divided into its built-up and non-built-up parts, the so-called free space. Carmona et al talk about *the space*

defined by buildings [9], Gehl uses the term *space between buildings* [4], Staněková refers to *the negative of the built-up area of the city* [12]; for the urban spaces the definition of their space characteristic is also important.

From the point of view of ownership relations, one defines the unbuilt part of cities that is used by the public as public space (in English literature terms it is: public space, communal space, collective space, public realm) or semi-public space. One would currently follow the phenomenon of appropriation of public space by private users, or *vice versa*, the opening of private spaces to the public [13]. For the viability of public spaces, the form and way of movement in it is also essential.

- How is public space created, regulated and used?
- What is the relationship between its form, accessibility and its use?
- What are the boundaries between private and private space?
- How is the way of life, democracy, culture of the city reflected in public space?

These are the questions that require adequate attention during the education of future architects, urban planners and landscape architects. At the schools of architecture, the issue of teaching public spaces has been primarily connected with their spatial form. However, due to their social, cultural, ecological or economic importance, it is necessary to reflect interdisciplinary aspects or innovative and participatory methods of their evaluation and creation in teaching.

The article follows the state and development of the teaching of public spaces in the Faculty of Architecture and Design (FAD) in Slovak University of Technology in Bratislava (STU), Slovakia, in the context of education at partner universities.

TEACHING THE ISSUE OF PUBLIC SPACES AT THE FAD-STU

At the FAD-STU, the issue of public spaces has been systematically, and for a long period, included in the teaching of subjects, which were focusing on the theoretical, but also the practical side of urban development at various scales and from various perspectives. These are the following subjects: Urban Composition, Urbanism I (morphology of urban fabric), Urbanism II (morphology of settlements) and Landscape Architecture.

The teaching of public spaces within the mentioned subjects is primarily focused on the acquisition of relevant theories and the ability to master the basics of creating public spaces as part of urban structures. Within the teaching of studio creation, especially on an urban scale, emphasis is placed on the formation of high-quality public spaces as a basic spatial, operational and social element of the settlement structures. In general, when teaching architecture and urban design studios, emphasis is placed on the connection of objects with their surroundings, especially public space.

The pillars of the teaching are based on the theories and methods of evaluating and creating public spaces introduced by architects such as K. Lynch, L. Krier, J. Gehl, W.H. Whyte, M. Carmona, M. de Sola-Morales and others. These are supplemented by the theories and methods of STU professors and teachers, T. Alexy (concept of the hierarchical linear-nodal system) or P. Kardoš (method based on spatial endoscopy), and articles by Boháčová (intervention in public spaces) [14][15], Vitková (social aspects of public spaces) [16], Görner and Štefancová (aspects of participation) [17].

Since 2005, the final Bachelor project as a *construction project* has been introduced within the architecture and urbanism study plan in two forms: focus on an object or a public space. This last form of the urban studio is supplemented by a seminar covering the theoretical and structural-technical aspects of creating public space. Students have a free choice between the aforementioned forms. Table 2 is an analysis of teaching public spaces at the FAD-STU over the last 30 years including the subject, focus area and the teaching methods.

Table 1: Teaching public spaces at the FAD-STU over the last 30 years and its specific focus.

Bachelor degree		
Subject/year of study	Focus on	Teaching methods - <i>learning by doing</i>
Urban Composition - 2nd year	Spatial aspects	Creative work, through models, sketches, field work
Urbanism I - 2nd year	Spatial and operational aspects	Design process, working with models
Urbanism II - 3rd year	Spatial, operational and organisational aspects	Field work, evaluation and design process
Landscape Architecture - 3rd year	Landscape aspects	Field work, evaluation and design process
Urban Studio- 3rd year	Analytical and creative aspects	Field work, evaluation, participation, design, teamwork, presentations
Bachelor urban work - <i>Public Space Project</i> - 4rd year	Analytical, creative and technical aspects	Field work, evaluation, participation, design process and presentations
Seminar for Bachelor work - 4rd year	Theoretical, analytical-evaluative, technical aspects	Evaluation, participation process and presentations

Engineering degree		
Public Spaces - 1st year	Complex and interdisciplinary aspect	Field work, evaluation, participation, design, construction, teamwork, presentations
Urban Design Studio - 1st year	Analytical and creative aspects	Field work, evaluation, participation and design process, teamwork, presentations
Transport and Technical Infrastructure - 1st year	Technical aspects	Evaluation
Urban Economy - 2nd year	Economical aspects	Evaluation

Public Spaces as a Compulsory Subject at the FAD-STU

In 2021, the subject *Public Spaces* was introduced as part of the needed innovation of the architecture study programme within the engineering degree in the field of architecture and urbanism. The subject was included among the compulsory subjects (winter semester, 1st year), due to the utmost importance of the mentioned problematics, which is currently one of the most frequent topics in professional discourse. Although the issue of public spaces was addressed during studies in various theoretical and creative subjects, the synthesising and interdisciplinary view of the topic was absent.

The compulsory subject *Public Spaces* was transformed from the optional subject of the same name. The alteration of the subject is mainly related to the application of an interdisciplinary approach, which enriches the standard urban-architectural approach with a social, cultural, environmental and economic dimension of understanding public spaces, as well as a closer connection to practice. At the same time, the subject was supplemented with innovative and non-standard teaching methods. Innovation of the subject also consisted in changing its organisation. The former strict division of teaching into lectures and practical parts for several weeks has been replaced by a flexible system that creates larger and more suitable capacities for testing practical skills in the field.

Characteristics of the Subject

Subject in the context of the study programme: The subject is focused on the theories and methods of evaluation, and the creation of public spaces from an interdisciplinary point of view. It offers discussions on control, freedom, status and identity of public spaces in the fabric of cities and rural settlements.

Learning outcomes: The subject is primarily concerned with the issue of public spaces relating to residents of settlements as their main users. The aim of the subject is for a student to understand the relationship, especially between the social and spatial dimensions of public spaces. It is focused on the methods of research and evaluation of public spaces, as well as the methods and principles of creation, so that public spaces are inclusive, safe, easily accessible, attractive, active, sustainable, barrier-free and democratic.

Educational methods: The subject is based on innovative teaching methods linked to the support of a creative approach, critical thinking and the practical acquisition of statistical, evaluation, participative and creative methods organised and carried out in a logical sequence. Due to the complexity and comprehensiveness of the topic, the subject is focused on the application of *outside the box* teaching methods. Their selection was based on the following criteria: usefulness of the method, ease of implementation, efficiency in achieving results, attractiveness and stimulation of processes.

Educational activities: the subject is focused on the following educational activities:

- 1) evaluation and mapping of public spaces;
- 2) *urban walking*;
- 3) participatory planning;
- 4) discussions and critical reflections;
- 5) excursions in selected public spaces with authors;
- 6) experiment and realisation of objects in public space (1x1);
- 7) collaboration with experts and stakeholders;
- 8) teamwork;
- 9) development of verbal and graphic communication.

Teachers: Educators from the Institute of Urbanism and Spatial Planning of the FAD-STU with experience in the creation and evaluation of public spaces are involved in the teaching of the subject. The teacher's personality and erudition are essential. Therefore, successful practising architects, winners of architectural and urban planning competitions, authors of realisations linked to the topic of public spaces, landscape architects, as well as colleagues with experience in the field of participation or experimental activities in public spaces are involved in the teaching of the subject.

Co-operation with practice: Co-operation with the City of Bratislava, Slovakia and its Metropolitan Institute (MIB) is essential for the subject. Its units focused on urban spaces prepare long-term concepts and verification projects of the city's public spaces, create methodologies, and formulate principles for the creation and renewal of public spaces. Within the subject, students are directly involved in selected activities and assignments of the MIB. Its experts provide

students with not only professional consultations within the subject, but also lectures on selected topics and areas (human geography, participation, landscape architecture, transport, ecology).

Practical Assignments and Teaching Methodology

The targeted openness and flexibility of the subject is also reflected in the assignments. In each academic year, the ambition is to offer a different current topic within the course. In the academic year 2021/2022, it was the mapping of selected urban areas of Bratislava in co-operation with the MIB.

In the academic year 2022/2023, students were working on the transformation of public spaces belonging to the FAD-STU, supplemented by a presentation pavilion and implemented interventions, as part of the assignment. Before the proposal of the territory transformation, students realised several purposefully selected educational methodical steps: space mapping, participation, selection of suitable locations for the placement of activities and the pavilion itself. The main teaching methods were tied to the principle of *learning by doing* through the adoption of participation methods, space mapping or the implementation of interventions on a 1:1 scale.

Mapping of the space was focused on the intensity and potential of its use, specifying existing barriers and evaluating the quality of greenery. As part of the participation methods adoption, students addressed different target groups of respondents (students, teachers, affected groups of residents and visitors) through questionnaires, polls and interviews. Students also mapped and evaluated existing events and activities in the space, and implemented their activities. An important part of the teaching process was the construction workshop, during which the students implemented several interventions based on their designs. The design of the pavilion and the transformation of the spaces around the Faculty had to logically reflect the obtained preferences of the respondents, the principles of sustainability (the use of wood, solar energy and the possibility of recycling), principles of universal design and simple feasibility.



Figure 1 - Figure 5: Examples of the participation process (Authors: students of FAD-STU 1st year of Master's level - year 2022/23).



Figure 6 - Figure 8: Examples of the implemented small interventions within the teaching of the subject Public Spaces (Authors: students of FAD-STU 1st year of Master's level - year 2022/2023).



Figure 9 - Figure 10: Special reward in the framework of the evaluation of the works of the FAD pavilion (Authors of the proposal: L. Bím and J. Čerešník, both FAD-STU Bachelor's level).

Within the subject, the teachers supported and encouraged students to take the initiative (through self-organisation, creation of teams, selection of leaders, preference for applied participatory methods, mutual sharing of acquired information through presentations and discussions, as well as healthy competition). The students' designs of the pavilion were evaluated by an independent commission, as a competition. The students were also motivated by the fact that the winning proposal would be implemented. Mentioned activities were supported by experts from practice, faculty management and the investor. An important factor was that the students were involved in shaping the space they use themselves, with the support of experts from practice and faculty management.

INSPIRATIONS FROM PARTNER INSTITUTIONS WITHIN INTERNATIONAL PROJECTS

From 2019 to 2022, the FAD-STU was involved in an educational project *Creative Danube, Innovative Learning for Inclusive Development in Small and Medium-sized Danube Cities*. Seven universities from five Danube regions were involved in the project: *Ion Mincu* University of Architecture and Urbanism in Bucharest (UAUIM), Romania, which was the project leader; University of Belgrade (UNB), Serbia; University of Novi Sad (UNS), Serbia; Budapest University of Technology and Economics (official abbreviation: BME), Hungary; University of Technology in Vienna (TU Wien), Austria; University for Continuing Education Krems (DUK), Austria; and Slovak University of Technology in Bratislava (STU), Slovakia.

As part of the project, the research aimed at the mapping of education at partner faculties, which related to the transformation of the urban fabric of small and medium-sized cities [18][19]. In this context, the issue of public spaces proved to be essential. In addition to the aforementioned research, the set system and teaching content, as well as innovative teaching methods in the framework of joint workshops, were simultaneously verified.

Mapping the Teaching of Public Spaces at Partner Universities

The teaching of public spaces is implemented at partner universities in a similar way to the FAD-STU. This means that it is implemented in subjects focused on the morphology of urban structures of various scales and in urban design studios. In addition, four universities (UAUIM, UNB, TUW, STU) out of seven also offer a separate Public Spaces subject. The teaching of the mentioned subjects is carried out both at the Bachelor and engineering level of study, while the emphasis is placed on the practical side of the teaching, which is supplemented by a theoretical base. In most cases, the subjects are connected to practice and co-operation with stakeholders [18][19]. At the same time, the research showed that most universities apply innovative forms of teaching in the teaching of the mentioned subjects [18][19].

Teaching Methodology

In relation to teaching public spaces in the context of small and medium-sized cities (the focus of the project), the following fundamental teaching methods for individual stages of the teaching process were evaluated:

- for the analysis and data collection stage, these are: mapping through survey; mobile diaries; hiking; emotional mapping; georeferencing; living laboratory; the *Cityscape* method and more;
- for the synthesis stage, these are: SWOT analysis; mapping of potentials and barriers;
- for the strategic planning stage the preferred methods are: project based on problem solving; project based on scenario planning; city games; space syntax scenario, urban acupuncture;
- for the stage of the creation and technical solution process the following tools were identified: participative decision-making; mutual learning; common design;
- For the stage of presentation and evaluation the optimal methods are: presentations and exhibitions; joint assessment; panel discussion [19][20].

The set teaching methodology was verified during workshops organised by partner institutions within the Creative Danube project. Thanks to the project many innovative procedures were applied in the teaching of the subject Public Spaces at the FAD-STU.

CONCLUSIONS

The quality of study programme teaching is largely dependent on the quality of individual subjects, which consists of the systematic updating of their theoretical base and teaching methods. In this context is essential research realised through research or educational projects, ideally in an international context. No less fundamental in the fields of architecture, urban planning, landscape and garden architecture is the creative-projecting practice of educators. It is also important to connect the teaching itself with practice through real tasks in co-operation with local governments. In this way, students gain practical experience not only with mapping, evaluating and understanding real problems, but also with proposals for strategies, through projects or the implementation of interventions. They practise communicating with residents and experts from various fields. Such a simulation is especially necessary for topics that require an interdisciplinary approach and that are so fundamental to the quality of life in the city. One such topic is public spaces. An important role in the application of teaching procedures and innovative methods is the international co-operation of partner universities. It is an ideal space for a positive synergy of experience and knowledge. Moreover, it transfers knowledge from the local to the global level.

The basis of the innovation of the Public Spaces subject at the FAD-STU was the application of progressive teaching methods and *outside the box* activities. Therefore, teaching approaches focused on: usefulness - practicality, ease of implementation, efficiency, attractiveness, stimulation and creativity played a significant role.

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BIOGRAPHY



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