

Public space activation in architectural and urban design education

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ABSTRACT: This article is based on the findings and results of a survey taken among final-year architecture students working on public space analysis and proposals. The study's objective was to assess the students' ability to define the investigated problems in four aspects - spatial, cultural contextual, ethical and environmental, then propose solutions based on the findings. The investigation was focused on the possible approach to public space design - top-down and bottom-up. Top-down changes are usually created by authorities, architects or developers, who have the resources to initiate large-scale transformations of public spaces. Bottom-up processes are introduced by local communities and are driven by the needs of the specific community. The concern was whether graduate students are prepared to design public spaces using both methods, and whether they have obtained necessary skills to work on creating an open framework for local communities' activities. Findings suggest the need for improvements in existing curricula for public space design and activation, based on the user-oriented, open approach.

INTRODUCTION

Architects and urban planners are involved not only in building engineering, but also in the design of public spaces, which are an essence of the modern city [1]. Vibrant and active urban environments provide a range of social, economic and health benefits. It is important to teach future engineers how to incorporate those values in a contemporary design because those are essential components of liveable, sustainable and resilient cities [2]. This can be done at first by teaching architectural students how to create spaces that are not only functional and safe, but also aesthetically pleasing, accessible, sustainable, and promote the diverse needs of local communities.

Engineers play a critical role in designing urban environments that are responsive to the preferences of different individuals or to the changing needs of communities. Elements, such as greenery, public art, comfortable seating or shading can be incorporated in order to encourage people to stroll, interact and engage with their surroundings [3-6]. Similarly, engineers can ensure that public spaces are open to temporary initiatives and changes. Such elements as open pavilions, platforms, adaptable furniture can be introduced into common space, and thus enable individuals to influence their immediate surroundings and act freely in a common area [7-9].

TEMPORARY TRANSFORMATIONS

More and more activities are moving into virtual space, so the ability to design attractive and changeable real environment is crucial to avoid its abandonment or misuse. Nowadays, temporary urban transformations are aiming at promoting values, expanding the space of commercial and public services adjacent to the public space, manifesting beliefs and political opinions, providing information [10].

Temporary transformations can help in activating areas that may be perceived as unsafe or uninviting, thereby contributing to an increase in the sense of security and improvement of the perception of the neighbourhood. Furthermore, these temporary interventions can help test new ideas and concepts in a low-risk environment, enabling city officials, planners and community members to measure the potential for more permanent solutions.

Teaching future architects to plan for temporary transformations of public spaces is critical to ensure the success and sustainability of their design. Effective planning can involve engaging with community members and stakeholders to identify areas that would benefit from temporary interventions, developing a clear vision and goals for the temporary transformation, and establishing metrics for measuring success. That way underutilised or unused spaces can turn into vibrant, dynamic, engaging places, and cities can increase social interaction, foster a sense of community, enhance the cultural diversity.

ACTIVE PUBLIC SPACE DESIGN – TOP-DOWN AND BOTTOM-UP APPROACH

Collaborative and participatory design, where communities are included in the process of creation of space, is contemporarily a well-regarded and increasingly more common architectural practice [11-13]. Public consultations, design workshops or even leaving parts of public space for future changes introduced by inhabitants, are examples of practices that support a democratic design process. It allows for the creation of common spaces that are based on the needs and experiences unique to a given local community [14].

The democratic design process can be related to temporary transformations as a result of actions of various groups of people. They can be initiated and steered by professionals, but they can also be unrestricted actions of the users themselves. Thus, public space activation can be a result of interventions that are either top-down - led by professionals or bottom-up - led by users.

In order to establish the extent of bottom-up actions among contemporary changes of public spaces, a study was conducted on the authorship of temporary transformations. In the study, 559 such initiatives were analysed and included:

- 310 well-known, temporary transformations;
- 249 locally-observed, temporary transformations, which were the result of the analysis of comparable areas in three major European cities: Wrocław, Copenhagen, Vienna.

The temporary transformations considered in this research took place between 2000 and 2021, which allowed for consideration of contemporarily relevant examples.

Three groups of initiators of temporary spatial changes were distinguished. As shown below in Figure 1 the initiators were: professionals, professionals with users or users themselves.

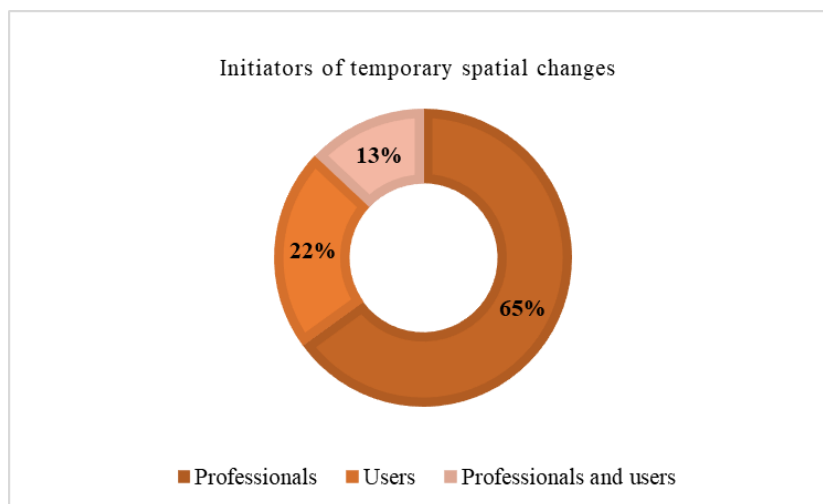


Figure 1: The distribution of involvement of different initiators of temporary changes to public areas.

Almost 2/3 of all analysed temporary transformations were the result of professional initiatives. They were a dominant group in generating changes to public space. That is primarily due to their occupational interests, expertise, awareness of such possibilities, and the resources they have. Initiatives created by professionals were often focused on giving users an opportunity to experience public space in a way unusual for that space, by introducing e.g. installations, pavilions, festivals. Nevertheless, repetitive temporary changes, dedicated to providing well-established but not permanent functions, were also introduced. A change to the public space designed this way steered and dictated how users could use and experience their surroundings at a given time.

Temporary transformations were also generated by individual users or local communities, and those accounted for over 20% of all observed actions. They were often smaller in scale and supported by existing architectural infrastructure. Users' initiatives were connected with meeting private needs, as well as integrating the community and acting for common good. Users changed their surrounding according to their abilities, focusing on site-specific possibilities and issues. The unrestricted nature of those actions showed that for users particularly important was introducing greenery, changeable infrastructure, finding areas dedicated to local initiatives, and rehabilitating abandoned or littered areas.

A little over 10% of all temporary changes were introduced by professionals together with users. Those kinds of collaborations with active and willing groups or individuals in the community supported spreading inclusiveness and promoting bottom-up initiatives. Results of those partnerships were often focused on site-specific needs and problems. It helped professionals to understand a given environment, and supported communities in shaping their own place.

Users' initiatives were a substantial part of the analysed group of temporary changes, which shows that it is vital to allow for a democratic approach in a design process. It is also important to teach architecture students how to shape those processes and how to design public spaces dedicated to supporting bottom-up initiatives, which allows for the development of active cities [10].

PUBLIC SPACE DESIGN IN ARCHITECTURAL EDUCATION

In the curriculum of architecture major at Cracow University of Technology (CUT), Kraków, Poland, public space design is introduced during the first academic year in the second semester as an *étude* to a square design, which becomes the location of the final project - the pavilion. The objective of the design assignment is to analyse urban space in the scale of urban enclosure, and then to make a proposal of the arrangement using paved surfaces, greenery, small architecture in an aesthetic and sustainable way. This is an example of a top-down approach imposing a design solution on a given place.

During the second year of studies, students in the summer semester deal with urban enclosure for semi-public use - a common space for inhabitants of single-family complexes. Mostly a top-down approach is presented in their designs, but in some cases, students consider the common space as a place for inhabitants' diverse interactions, urban gardening or integration.

The third-year design studio is focused on a mixed-use city quarter, mostly residential, accompanied with commercial spaces. In this case there is a large intervention in the city structure based on a top-down approach.

The Bachelor's programme is concluded with a diploma design project pursuing a topic chosen by a student.

The scope of the Master's degree is oriented towards large-scale, highly specialised projects. The approach to the public space design is more dependent on a student's choice, therefore it is considered mostly as an individual contribution to the course of study.

ACTIVATION OF PUBLIC SPACE COURSE

The research presented in this article was based on the results of the Master's degree facultative 15-hour course *Public Space Activation*. It was introduced in the academic year 2020/2021 and 2021/2022, as part of the Erasmus+ project entitled: *The Activation of the Public Spaces of the City Centres through Ethical and Sustainable Design Based on the Local Communities Participation/Response/Proaction*. It was carried out by Cracow University of Technology, Poland, as a leader, together with the Polytechnic University of Milan, Italy, and the CEU Cardenal Herrera University in Valencia, Spain.

The aim of this course was to gain knowledge about scientific methods of conducting urban analysis of contemporary urban spaces, to develop the ability to carry out analyses of features of contemporary Polish public spaces in city centres, and to indicate their activation potential in terms of ethical and environmental responsibility issues with the participation of local communities. Groups of students were taking part in five seminars each year. They were also conducting urban analysis and preparing proposals for activating public spaces.

During the first academic year of this course, students were free to choose the intervention site, however, in the second edition of the course, projects were prepared for well-developed urban areas, still not actively used by the inhabitants.

Design teams consisted of two-three students and were tasked with delivering analytical charts, as well as a presentation or a poster showing the ideas for enriching the space in four aspects: physical arrangement (spatial), cultural context, ethical and environmental issues. The assessment of the outcomes was based on the ability to:

- carry out a multifactor analysis;
- draw conclusions from research;
- identify problems and propose solutions.

After the evaluation of the final results of the course in the second occurrence it was found that the design solutions proposed in both academic years were mostly top-down oriented, although the nature of the task would suggest otherwise.

INTERNATIONAL DESIGN WORKSHOPS

The second part of the observation was carried out during international student workshops conducted during the Activation of Contemporary Public Spaces (ACPS) Erasmus+ project. Three editions of the workshop took place in Milan (November 2021), Kraków (April 2022) and Valencia (October 2022). The subject of those workshops was based on the same assumptions as the course in Kraków. In the first stage, the work covered multifactorial analysis, and in the final stage solution proposals.

During each edition, students worked on analysis and design solutions for a given area in the host city. In Milan, the case of the Piazza Tirana was chosen in order to propose a new public space to create a local centre. In Kraków, students had to address the problem of public spaces in revitalised area with a cultural heritage object - fortifications. In Valencia, the site was a space connecting the inner city with the newly revitalised coast area. Design teams consisted of participants of different origin, in terms of nationality and university background.

Students worked in diverse teams, on different types of spaces, however, the clear preference was in favour of closed design systems, with the top-down approach.

DISCUSSION OF THE RESULTS

In total, 53 students submitted design proposals, created within two years that were taken into consideration for this research. Analysed projects on public space activation were created by nearly 150 students of different academic background. The proposals were examined according to whether they addressed the problems of physical arrangement, cultural context, ethical and environmental issues given in the analytical and design assignments (Figure 2).

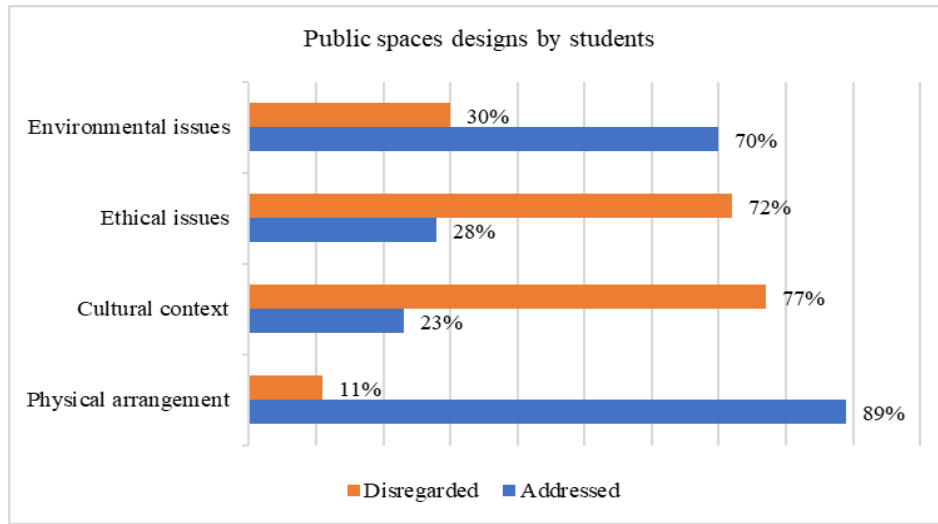


Figure 2: The distribution of the addressed/disregarded issues in students' public spaces designs.

The physical arrangement of the space, aesthetical and compositional aspects of the architectural and urban creation were the main focus for students in most interventions, as visible in Figure 2. Changing the terrain topography, adding new structures, introducing spaces with new functionality were the main design concepts proposed by the students. Most of them took into consideration the sustainability of the proposed transitions, such as introducing greenery and water features to reduce the urban heat island effect. That way they managed the difficult climate and comfort within the public space. Solutions promoting pedestrian and bike pathways, public transportation, traffic calming by introducing a *woonerf* street, were also common in both course and workshop projects. There were also attempts to use solar energy for lighting in public spaces. On the other hand, social issues, such as local identity in the cultural context, accessibility, universal design and privacy were neglected in most cases. Even mature students, after recognising the non-physical qualities of the sites, were not addressing them in their design.

The second aspect of the analysis was to consider the chosen approach in relation to the possibility of free space transformation by users, adapting it to their needs in the life span of the project (Figure 3).

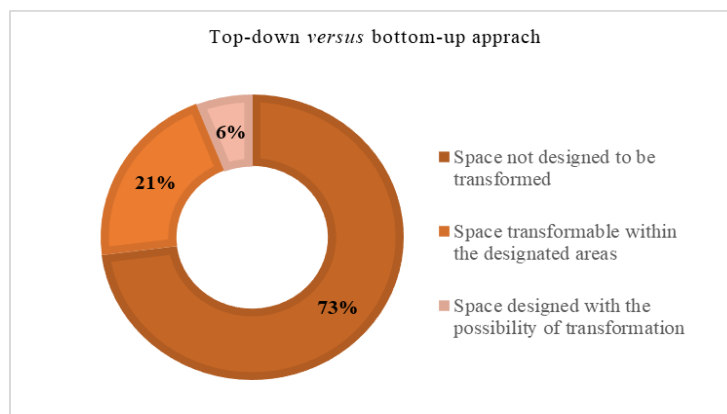


Figure 3. The distribution of the transformable and non-transformable approach in students' public spaces designs.

Only 6% of the students based their ideas on the possibility of transforming the space by users, and another 21% thought that the designed areas may be adapted temporarily, as visible in Figure 3. There was no correlation found between addressing the social issues and bottom-up activation strategies. The result of the study suggests that architecture major students are trained to achieve attractive space design. Users' comfort, as well as satisfying their individual or temporary needs are not nearly as important for young designers.

The understanding of urban spaces has evolved in recent decades. Its physical concept has been replaced by the more abstract definition of this entity actively created by society [15]. In the middle of the 20th Century, Lynch described public spaces as cognitive objects constructed by people [16]. The spatial design pursued by scholars in the 1970's was based on searching for the best compositional values [17].

Contemporarily, public spaces can be also considered as the stages for public life [1][10]. Therefore, the methods of investigating, creating and evaluating public space can be diverse. They range from the conventional approach of behavioural psychology to the state-of-the-art digital technology, which proves that the academic training of future architects and urban planners should be multifaceted.

The research on the features of an ideal public space and the methods of its planning is set in an interdisciplinary context. One of the qualities of common urban areas is the possibility of the execution of the right to the city by its inhabitants [18]. From this perspective, another field of education emerges - spatial education of citizens in order to deliver competencies to propose, undertake and evaluate placemaking actions. *Governing bodies and local groups can work in tandem to strategically shape cities while empowering communities* is the thesis brought up by Depani [19]. It seems to be a solution with the highest range of possible positive impact on the urban space design as a process of inclusive and sustainable urban growth.

The top-down approach, while enabling a well-planned clear structure of the city and contributing to its diverse economic development, may in time produce anonymous, repeatable space without identity. Bottom-up scenarios are characterised by focusing on site-specific values, creating an attachment, which together offer the potential for placemaking [20].

On the other hand, they can cause spatial chaos, dysfunction and misuse of space. The current discourse on the design of public spaces does not show whether top-down or bottom-up strategies are more suitable for the contemporary city. Therefore, future architects and urban planners need to be equipped with the skills to work equally effectively in both frameworks. Some of the most vital and vibrant spaces in contemporary cities are the ones discovered by the users, but usually later redeveloped. In that sense, it is crucial to educate future architects and urban planners to work on the design and revitalisation of public space using all possible scenarios. This includes providing the space for emerging and evolving community activities, while maintaining the bond between the urban space and the local community [21-23].

Examples of top-down and bottom-up approaches in students' designs are presented in Figure 4 and Figure 5.



SEGMENT A SEGMENT B SEGMENT C SEGMENT D SEGMENT E

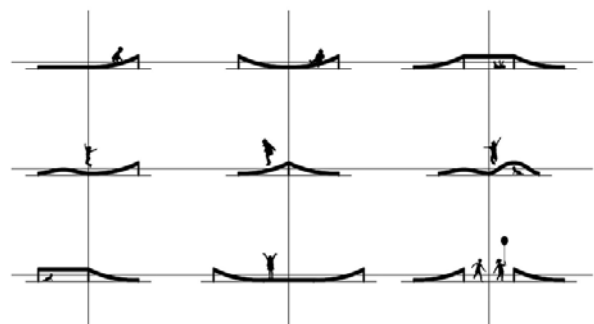


Figure 4: Top-down approach to design - bridge connection in Kleparz, Kraków, Poland, by Team06.

Figure 5: Bottom-up approach to design - modules for creating convertible public space in Czyżyny, Kraków, Poland, by J. Tyka and A. Wojas.

SUMMARY AND CONCLUSIONS

Both, the carefully planned and neglected public spaces are being constantly redefined and reformulated by the users. Therefore, there is a need to educate architects and urban planners on what those changes are and how to plan for them. Swiftly understood as flexibility and adaptability is one of the key competencies of the 21st Century [24]. This is the reason why students of architecture and urban planning majors should be encouraged and methodologically supported to understand and anticipate bottom-up initiatives.

While developing curricula for architectural and urban design, attention should be paid to the fact that, according to the recent studies, 35% of temporary initiatives in public spaces are created by users themselves or with the support of professionals. This group of activities is more widely represented in actual actions in the space than it is in the students' designs. This conclusion leads to the need of emphasising the necessary change in the approach to teaching public space design from top-down to bottom-up scenarios.

The additional conclusion is that there is a need for general spatial education for the 35% of the final users who are responsible for public space transformations. Since the quality of space depends in one third on the actions of local communities, architecture schools should also address them as a potential target of education. It is crucial not only to support spontaneous spatial arrangements but also to shape them through design. Equally vital is basing contemporary design on participatory processes and collaboration with users.

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