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## CHAPTER TEN

# URBAN DESIGN EDUCATION FOR PLACEMAKING: LEARNING FROM EXPERIMENTAL EDUCATIONAL PROJECTS

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**Abstract** | Placemaking is a people-centred, multi-faceted approach which aims at strengthening connections between people and the places they share as a basis for sustainable urban development. It creates a new context for urban design practice, a context in which urban designers should value the lay knowledge of "ordinary people" (who are considered to be place-makers too); should recognise the importance of both cognitive and emotional connections between people and spaces for creating a sense of place; and should participate as partners in a collaborative process of making a place.

Traditional studio-based urban design education, featuring solipsistic, elite, and abstract design practices, proves to be inadequate in relation to the placemaking paradigm of urban development. In search for a new approach, we argue that for urban design education to be relevant for the placemaking practice, it should broaden its basis to include not only gaining knowledge and developing skills in urban design, but also valuable site-specific and community-based learning experiences aimed at developing cognitive and emotional connections between people and spaces so as to produce a sense of place and a sense of sharing a place.

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Opportunities and constraints of urban-design education for placemaking, relying upon place-based and community-based learning approaches, were explored and discussed within the frames of two experimental urban design educational projects at the University of Belgrade - Faculty of Architecture, that were conducted in collaboration with local communities in Belgrade and Negotin (Serbia). Lessons learned from these projects have been further used as recommendations for shaping a curriculum of urban design education for placemaking.

**Keywords** | urban design, placemaking, education, cognition, emotion

## **Introduction: Placemaking as a Framework for Urban Design**

Urban design is a process and a product of designing and shaping man-made environment by creating connections between people and places, nature and urban fabric, urban movement and urban form. There are two broad traditions of urban design thought, and they stem from two different ways of appreciating design process and its products. These are "visual-artistic" tradition, emphasising visual qualities of buildings and space, and "social usage" tradition, primarily concerned with social qualities of people, places and activities (Carmona et al. 2006). This theoretical divide implies differences in approach to urban design education as well.

In recent years, "visual-artistic" and "social usage" traditions became blended into a third – "making places" tradition. With a purpose of making places for people, this urban design approach simultaneously refers to urban space as an aesthetic entity and as a behavioural setting (Carmona et al. 2006). From this perspective, urban design involves making places as the creation of a setting that imparts a sense of place to an area (The Center for Design Excellence 2013).

However, making places for people is more than just creating a better design of public spaces, since the potential for making places solely through physical design is limited (Seamon 1993). What we are facing today is bottom-up instigated conceptual move in place transformation: from making places to placemaking.

Placemaking is a people-centred, multi-faceted approach to planning, design, and management of public spaces. It is both a process and a philosophy of acting in human environment (Project for Public Spaces

2012) and a "hands-on tool for improving a neighbourhood, city or region" (Project for Public Spaces + Metropolitan Planning Council 2008).

The concept of placemaking has been introduced in order to reverse the process of urban space production from producing non-places to creating feelings of belonging and authenticity of space. This approach aims at strengthening connections between people and the places they share, so as to form a basis for sustainable urban development (Healey 1997). Since these connections are established through knowing, but also through experiencing particular places – emotional, affective dimensions of urbanism are recognised as important for urban sustainability (Kyle and Chick 2007). Therefore, placemaking builds on lay knowledge and emotions of local people, as well as on local community's assets, inspiration, and potential, and uses them in order to create good public spaces that invite greater interaction between people and foster healthier, more social, and economically viable communities. This implies the need for broadening knowledge base and awareness of urban designers.

The philosophy and process of placemaking facilitate creative patterns of activities and connections (cultural, economic, social, and ecological) that define a place and support its ongoing evolution. Placemaking is based on the premise that "the place is never truly finished, nor is the community" (Silberberg et al. 2013:11). The relationship of places and their communities is not linear, but cyclical, and mutually influential. Places grow out of the needs and actions of their formational communities and, in turn, shape the way these communities behave and grow.

Placemaking can be used to improve diverse spaces which include gathering places within a community such as: streets, sidewalks, parks, buildings, etc. Since personal and cultural identities are related to places, the role of urban design as artistic and socio-cultural process become crucial to placemaking (Madanipour 1996).

However, an effective placemaking process also capitalises on the local community's potential for creating good public spaces, those that promote people's happiness, health, and feelings of well-being, and those that have meaning and value for various people, with all their differences (Djukanović and Živković 2015). In that sense, "placemaking is how we collectively shape our public realm to maximize shared value" (PPS 2012). In recent years, placemaking becomes a movement in which communities are not only recipients but active participants in this process. The relationships that grow out of this collective "making" are equal to, if not more important than the places that appear. The very process of placemaking builds connections, creates civic engagement, and empowers

citizens, and in that way helps to build social capital (Silberberg et al. 2013:9). As a consequence, the placemaking "professional", who has traditionally translated wishes into reality, is losing its leading role and becoming a partner in the placemaking process. This redefines the position of professionals in the process of urban design and asks for development of their communication and collaboration skills.

All this adds a new dimension to traditional approaches to urban design, where emphases have been made on the quality of urban design project itself and professional cognition and knowledge of space. The concept of placemaking creates a new context for urban design practices that:

- Asks for broadening knowledge base to include lay knowledge of ordinary people, who are also considered to be place-makers;
- Recognises the importance of both cognitive and emotional connections between people and spaces for creating a sense of place;
- Recognises the importance of the process of making a place, perceived as a learning process (about both people and places) in which cognitive and emotional domains interplay in creating a sense of sharing a place;
- Defines a new position of the urban designer as broadly aware, well-informed, and imaginative partner who can provide both communicative and technical/design skills to the collaborative process of placemaking.

This leads to necessary changes in urban design professional practice, but also to changes in urban design education. In that context, this paper attempts to explore the ways in which urban design education can be conceptualised in order to enable future professionals to better contribute to placemaking.

In the first part of this chapter, we present traditional approaches to urban design education and discuss them in relation to changes that the concept of placemaking requires from the discipline of urban design. Building on this, we propose place-based and community-based learning approaches as a supplement to conventional learning forms in order to make urban design education more relevant to placemaking. In the second part, we present the experiences of two experimental urban design projects from the elective course "Public Art & Public Space (PaPs)" at the University of Belgrade - Faculty of Architecture, that were conducted in collaboration

with local communities in Belgrade and Negotin (Serbia). In these projects, the concept of education for placemaking combines place-based and community-based learning approaches. We analyse educational paths of these urban design projects and discuss potentials and constraints of the approach in order to provide recommendations for shaping a curriculum of urban design education for placemaking.

## **Urban Design Education for Placemaking**

Urban design education in schools of architecture is traditionally focused on the development of student's awareness, knowledge, and abilities (Milovanović-Rodić et al. 2013). This is based on Bloom's definition of educational objectives, according to which any given learning task favours one of three psychological domains: a) cognitive, that revolves around knowledge, comprehension, and critical thinking; b) psychomotor, that involves manipulative or physical skills; and c) affective, that describes the way people react emotionally, and relates to development of values, appreciation, empathy, and attitudes that result from the learning process (Bloom 1956:7).

In urban design education, this is achieved through three main educational formats: seminars, studio, and elective courses. Although learning about theories of urban design is usually achieved through seminars, a pivot in most urban design (bachelor and master) programmes is urban design studio. Work in an urban design studio enables students to connect theoretical knowledge with urban design methods and techniques (Scot Brown 1990; Milovanović-Rodić et al. 2013). In addition, smaller, elective courses can follow problem-based learning approach that teaches not only the facts but also the relevant thinking strategies. Involving students in problem-solving increases their interest in the subject matter. Besides transferring information, this approach makes knowledge more memorable (Altomonte 2012).

### **Are traditional approaches to urban design education appropriate for placemaking?**

Based on the theoretical divide of "visual-artistic" versus "social usage" traditions, two broad pedagogical traditions in urban design education can be identified: the notion of urban design as a creation of art versus urban design as a procedural and process-oriented activity. While these differing foundations are not mutually exclusive of each other, the theoretical divide

influences resulting programme objectives and curriculum content. This can be observed in academic institutions where urban design is taught: the project-oriented artistic tradition is followed by faculties and departments of architecture, while the process-oriented social usage tradition is followed by faculties and departments of planning (Kesner et al. 2002). In post-socialist countries, such as Serbia, urban design is taught at faculties of architecture which usually follow the visual-artistic tradition.

Visual-artistic approaches to urban design education are predominantly practiced through urban design studio. Projects are based on aesthetic norms as well as on factual information and knowledge about space. In a pursuit of attractive and provocative new urban forms, design experiments using various technological tools are widespread. In addition, current educational discourses seek to standardise the experience of students from diverse geographical and cultural backgrounds so that they may compete one day as professionals in the global economy (Gruenewald 2003b).

The prevailing author-oriented and transmission model of urban design education reduces studio works to passive abstract practices distanced from natural, social, and cultural realities. Such an abstract and general approach to education dismisses the idea of place as a primary experiential and educational context and displaces it with traditional disciplinary content and technological skills (Gruenewald 2003b). This approach takes into account emotions towards space but reduces them to the emotions of a student as the author of the project. Knowledge of local people and their emotions towards space are regarded in this approach as a result of the author's design project, not as its part.

This attitude is additionally supported by elitism that has historically been related to the discipline of urban design. In his overview of traditional attitudes in education for urban design, James Colman (1987) reveals that urban design has been seen as a discipline which can only be thought at graduate or higher degree levels since being regarded as a field of knowledge and as an activity which is an optional extra – to be added to a basic discipline acquired at an earlier time (architecture, landscape architecture, town planning). He acknowledges that "the end result of this attitude is the creation of professional elite whose members commonly see themselves as being chosen ones to give design advice" (Colman 1987:28). Colman suggests that the elitism which surrounded the discipline is counter-productive and that it discourages lay participation in the urban design process.

On the other side, the placemaking framework, as presented in the Introduction section, highly values lay knowledge of ordinary people and

both cognitive and emotional awareness of place (sense of place). It also stresses the importance of the process of making places, conceptualised as a learning process in which cognitive and emotional aspects of reality interplay in enabling communication and collaboration between various people: citizens, visitors, government representatives, and urban designers as well. None of which is properly developed in traditional approaches to urban design education.

In this regard, traditional studio-based urban design education, featuring solipsistic, elite and abstract practices of designing spaces, proves to be inadequate in relation to the placemaking paradigm of urban development. Complex relationships between people, urban environments, and social conditions "require more than just pure methods of formal analyses and abstract definitions of social theories" (Güven and Savaş 2012:358). Urban design education needs to develop broader awareness, wider and deeper knowledge, and different skills if it is to be useful for the practice of placemaking.

### **Place-based and community-based learning as a foundation for urban design education for placemaking**

In search for a new approach, we argue that for urban design education to be relevant for placemaking practice, it should broaden its basis to include not only gaining knowledge and developing skills in urban design, but also valuable site-specific and community-based learning experiences aimed at developing cognitive and emotional connections between people and spaces so as to produce a sense of place and a sense of sharing a place.

This argument builds upon the defining features of the placemaking concept: place and making. A place is a starting point and purpose of placemaking, and its sustainability relies on strengthening the connections between people and the places they share. These connections are made not only by using and experiencing places but also by participating in their making. Therefore, developing a sense of place and a sense of sharing (a place) are crucial for placemaking. Place-based learning and community-based learning are two educational approaches that aim to accomplish these goals.

#### **Place-Based Education (PBE) – Developing a sense of place**

Gruenewald conceptualised places as "centres of experience" (Gruenewald 2003a) that are profoundly pedagogical. "Places teach us about how the world works, and how our lives fit into the spaces we occupy"



(Gruenewald 2003a:621). They are meaningful contexts of human perception of and participation in the world. As such, they are shaped by our experiences and cultural tools we employ to make sense of our experiences (Judson 2010). Environmental experience forms a part of our awareness of the world and is, at the same time, a fundamental concern of urban design. It can be understood as a process of perceiving and getting acquainted with one's surroundings and a process of establishing an emotional and evaluative relationship with space.

Developing a sense of place means developing a sense of relationship with the world in which we live. Arodin (2006) suggests that a sense of place is used across disciplines to describe "the complex cognitive, affective and evaluative relationships people develop with social and ecological communities through a variety of mechanisms" (2006:118). According to this, a sense of place is made up of interconnected emotional and intellectual dimensions and takes shape around what we feel and what we know about a particular place (Judson 2010). Emotional and cognitive dimensions of our awareness of the world weave together to form a sense of place. Developing a sense of place is important because "with an emotional connection to one's place, it is much more likely one will protect it, making long-term survival more likely" (Judson 2010:74) and it stands at the very heart of Place-Based Education.

Place-based education is a concept of education evolving from the aspiration to overcome the division between conceptual knowledge and living experience, that seeks to establish different connections with places and communities (Nikezić and Marković 2015). It is cross-disciplinary and intercultural, informed and contextualised by the natural, cultural, and socioeconomic attributes of places that are studied (Semeken 2012). Place-based teaching and learning are situated in places, promote learning rooted in local conditions and use local surroundings as a context to integrate curriculum into wider society.

Place-based curriculum seeks to motivate students for deeper engagement with surroundings and tends to promote sustainability of local environments and communities. It becomes important to "reclaim the heart", to create experiences where people can build relationships of care for places close to home (Sobel 1996). Focusing on experiences with a place, place-based education challenges conventional education that keeps students indoors and thinking about places in abstract.

Development and enrichment of student's sense of place constitute an authentic learning outcome of place-based pedagogy (Semeken 2012). This concept of education does not dismiss the importance of content and

skills but argues that "the study of places can help increase student engagement and understanding through multidisciplinary, experiential, and intergenerational learning that is not only relevant but potentially contributes to the well-being of community life" (Gruenewald 2003b: 7). Based on Gruenewald's idea (2003b) that people are "place-makers", Judson (2010) defines main placemaking tools that might contribute to the development of one's sense of place: a sense of relation, emotional attachments to objects, and creation of special places.

### **Community-Based Education (CBE) – Developing a sense of sharing a place**

Community-based education refers to "wide variety of methods and programmes that educators use to connect what is being taught in schools to their surrounding communities, including local institutions, history, literature, cultural heritage and natural environments" (Abbott 2014).

It starts with a belief that communities have intrinsic assets and resources that educators can use to enhance learning experiences of students. The learning process aims to increase the learner's ability to gain understanding, use knowledge, and solve problems, while at the same time developing a sense of self. From this perspective, education can be seen as a process for creating life-long learners (Villani and Atkins 2000).

Community-based education is inspired by the ideal of attaining and maintaining community-based relationships and it goes beyond cognitive capacities to encompass the social and emotional aspects of learning. For Villani and Atkins (2000:122) "community-based education focuses on the student's pursuit toward the betterment of his or her surrounding community". In that sense, it affirms the idea that education is a foundation of democracy (Melaville et. al. 2006). At the academic level of education in planning and architecture, this approach is closely linked to service learning: community design programmes can provide service activities to local communities but can also function as models of interdisciplinary teamwork and collaboration with local communities (Hardin 2006).

Sharing the view that contemporary urban conditions can only be properly understood and improved through alternative processes of education (Güven and Savaş 2012:358), in the next section we present two experimental urban design educational projects for placemaking in which concepts of place-based and community-based education were combined and applied in order to broaden students' knowledge base, develop their cognitive and affective awareness and appreciation for people and places,

as well as to enable them to participate in the process of making places through collaboration with local communities.

## **Learning from Experimental Urban Design Educational Projects for Placemaking in Serbia**

Opportunities to develop urban design education for placemaking, relying upon place-based and community-based learning approaches, will further be explored by discussing two experimental urban design educational projects from the elective course "Public Art & Public Space (PaPs)" at the University of Belgrade - Faculty of Architecture, conducted in collaboration with local communities in the cities of Belgrade and Negotin in Serbia. Each project was framed by combining place-based and community-based learning models, but they differ in relation to their spatial and social contexts, particular development problems, and implemented educational paths. After describing the projects, we are going to explore:

- If and how they enabled the students to broaden their knowledge base and include lay knowledge of ordinary people;
- If and how cognitive and emotional awareness and appreciation of people and places enabled the students to develop a sense of place;
- If and how participation in the process of making place enabled the students to develop a sense of sharing a place.

and based on this discuss possibilities and constraints to develop urban design education for placemaking.

### **Educational Project 1 – "Step towards the River", Belgrade**

#### **a) Project description**

##### *Context and problem of development*

The project was located in Belgrade, the capital of Serbia – the biggest and economically the most developed city in the region. The city lies at the confluence of two international, navigable rivers – the Sava and the Danube. These two rivers define the city structure – separating its territory into 3 units while, at the same time, integrating it around centrally located

Big War Island, Belgrade's natural oasis. Unfortunately, the potentials of these rivers for public use have not been activated due to industrial development and port and rail infrastructure that cut off links between the city centre and its rivers (Radosavljević 2008). For decades, citizens and planners envisioned Belgrade functionally, physically, and symbolically re-connected with its rivers.

#### *Educational path*

The aim of the project "Step towards the River" was to bring people from Belgrade city centre to the riverbanks by using temporary spatial interventions. The idea was to sprinkle pedestrian pathways with the magnetic "art dust": small-scale but numerous temporary design interventions and events, which will lure people into exploring these distinctive shortcuts between the existing public spaces. The purpose was not to speed up walking but to make it more enjoyable, thus increasing the intensity of urban experience.

The experimental project "Step towards the River" was conceived as a simultaneous presentation of the results of 13 workshops conducted by interdisciplinary students' teams that worked with the team of mentors, local community and officials. The total of 3 academic institutions, 7 national public institutions, 15 local public institutions, 2 institutions of the civic sector, and 22 private sector participants were involved in creating or supporting the project. The work was structured in 3 phases: initiation, conceptualisation and design, and realisation. Each phase had its own material results that were presented to the public institutions and local citizens with an idea to gain their active support (Figure 1).

- Phase 1 – initiation: Defining goals, objectives, and fields of action. Identification of public spaces and analysis of their potentials for public art, done by students of the University of Belgrade - Faculty of Architecture. Result: "Catalogue of public spaces in the central urban core".
- Phase 2 – conceptualisation and design: 13 workshops for interdisciplinary teams of students working with the interdisciplinary team of mentors on developing design solutions for chosen urban sites. Result: "Catalogue of digital simulation of public art interventions in space".
- Phase 3 – realisation: Modifying design projects in accordance with the chosen path to the river and budget constraints. Various forms of public art presented to a diverse audience. Result: One-day event on 10 locations forming the path to the Sava river.

The one-day event "Step towards the River" was organised as a series of smaller public events on the chosen pedestrian paths. It took place on the 12th of July 2003 and was opened by the Mayor of Belgrade. More than 2,500 people attended the event and, after decades of living in oblivion, the old Sava port belonged to the people again, at least for a day. Joyful events were everywhere in the area and the intensity of urban experience gave a new meaning to the Sava riverfront: a valuable urban place (Živković and Đukanović 2010).

#### **b) Urban design education and placemaking**

In the first phase of the project, knowledge about citizens' emotions towards urban space was accumulated indirectly through the study of literature and art that expressed lay knowledge and the emotional response of the authors. This knowledge was included in the "Catalogue of public spaces in the central urban core" as a description of central and marginal urban spaces and helped students to identify locally valuable public spaces.

The second phase of the project took place on the site. The basement of the Museum of the Applied Arts, located between the city centre and the riverfront, became a "classroom" and a meeting point for the project participants. This enabled students to practically live on the site for almost two months. They became intimately connected to the area and had the opportunity to meet local people and talk to them on a daily basis. In this way, students were able to gain deeper knowledge and establish emotional bonds with a place, as well as to shape their visions in relation to local people's emotions and knowledge. Based on this, students proposed projects in the form of "Catalogue of digital simulation of public art interventions in space", discussed and developed them in relation to the suggestions from the local community.

Work with the local community was even more intense for some groups. In the third, realisation phase of the "Step towards the River" one-day event, they actually worked together, sharing space, time, feelings, and "ownership" of the project.



Figure 1: Step towards the River project, PaPs archive

## Educational Project 2 – "Vino-grad: The Art of Wine", Negotin

### a) Project description

#### *Context and problem of development*

The project was located in the peripheral town of Negotin, in the region of Bor, near the Danube, a fluvial Serbian–Romanian border. The region faces severe depopulation and economic decline. On the other hand, historically it has been famous for wine production. "Negotinske Pivnice" (Negotin wine cellars), recognised as a historical cultural landscape, are at the core of its cultural identity. Unfortunately, the wine-making tradition has been fading for the last several decades: the production of wine has been reduced, its quality lowered, and the image of the regional spatial and economic landscape deteriorated (Đukanović and Živković 2015b).

#### *Educational path*

The aim of the project "The Art of Wine" was to shed light to the Negotin wine region and to support activation of its spatial and cultural potentials. The idea was to introduce students' projects of small spatial interventions and cultural programmes based on thorough exploration of wine culture,

places, and people in the Negotin region. In order to achieve this, students worked with mentors, wine experts, local community, and officials of the City of Negotin.

The work was organised in three phases: initial, exploration, and design phases. In the first, initial phase, students were introduced to wine culture through several lectures and workshops. They also performed individual desk research. The second, exploratory phase started with an excursion to the Negotin region, so that students could learn more about the region, natural and cultural landscapes, people and the city – *in situ*. Broader and deeper knowledge about the local space and culture was within their reach in organised workshops and informal communication with local authorities and citizens. Based on the direct experience of place and knowledge gained through formal and informal communication, research, and lectures, students proposed design solutions for small but essential urban interventions that aimed to re-establish the identity and promote particular places in the Negotin region.

The third phase included exhibition and promotion of students' work in various urban locations in order to showcase spatial and cultural potentials of the place. The semester works were completed by spring 2012, and after three successful exhibitions, the Municipality of Negotin realised one of the students' project proposals: "Rogljevo wine and jazz festival" (Đukanović and Živković 2015b).

#### **b) Urban design education and placemaking**

In the first phase, students' knowledge base was broadened and their emotional response was induced by direct experience of diverse elements of wine culture from a variety of conventional and less conventional learning sources (academic and non-academic literature review, wine producers, expert presentations and wine-tasting events). Although connection with the place (Negotin) was not established, these steps enabled students to have a more open attitude towards people and places they were about to meet in the Negotin wine region.

The second phase exposed students to the direct experience of place and people by visiting and exploring wine localities in the Negotin region. They had an opportunity to listen to stories and to get insight into opinions of local people through interviews and questionnaires. Connection to the local community was also established through short but intense workshops and discussions. These workshops informed and shaped design projects, and also initiated construction of social relations between local officials,

inhabitants, and young designers, thus contributing to the development of a sense of sharing (Figure 2).

The third phase offered an opportunity for students and local representatives to work together on presenting the project results at various locations. The exhibitions and presentations were very successful on many levels. Although co-working and sharing values didn't happen between students–designers and citizens, positive emotional response actually did. In this case, local government appreciated students' efforts and provided support for the realisation of one of their projects.



Figure 2: VINO-grad: The Art of Wine, PaPs archive

### Lessons learned

The analysed experimental urban design educational projects offer several lessons to be learned. The most important one is that place-based and community-based approaches can be implemented in diverse spatial and



social contexts that face various problems and still offer valuable placemaking learning experiences for students. In relation to this, educational paths were tailored in different ways in cases of Belgrade and Negotin, the first being more place-based and the second being more community-based. And yet, in both cases, the main goals of broadening students' knowledge base, raising their cognitive and emotional awareness and appreciation of people and places, and enabling their participation in the process of making a place have been accomplished.

Insights into educational paths and results of those two projects show that it is possible to include lay knowledge of ordinary people in various phases of the urban design process and that this adds new levels of complexity and relevance to the resulting design solutions.

Also, at least three new positions of linking people's emotions with knowledge in the urban design process can be identified. The first one stresses students' knowledge on emotions of citizens towards certain spaces. When these emotions are sensed, identified and marked, they can be used to identify and compare urban spaces that people value the most, or that are in a need for intervention. This forms a part of a cognitive city – considering cognition as the ability of a system to learn from previous experiences and adapt its behaviour based on them (Mostashari et al. 2011). The second position relates to developing students' emotions through better knowing of certain urban space. Although emotional response can be linked to certain formal and aesthetic features and to the history of space, intensity and durability of feelings can be linked to the time spent on location and to the opportunities of knowing it in a more complex way. The third possible link between cognitive and emotional aspects of the urban design process relates to working together on urban design project considering emotions of both designers and citizens. For this to happen, personal openness, time spent together, quality of communication, and small but visible results, are necessary preconditions. This way, all involved stakeholders (citizens, designers, and decision makers) gain mutual trust, establish shared identity and develop a feeling of ownership towards the proposed solutions (Radosavljević et. al 2013).

The fact that in both experimental educational projects students managed to develop a sense of place and a sense of sharing the idea of the project with the local community confirms the adequacy of combining place-based and community-based learning approaches in urban design education for placemaking.

## Conclusions

"Making places for people" became a new paradigm for urban design, and in recent years evolved from making places (by professionals) to placemaking as a process in which people collectively shape public realm to maximize shared value. The concept of placemaking redefines the position, knowledge, and skills of urban designers in a process of making public spaces. It asks for broadening their knowledge bases to include lay knowledge of ordinary people; for recognising the importance of both cognitive and emotional connections between people and spaces in developing and creating a sense of place; and for developing skills to participate as an informed and creative partner in a collaborative process of making places.

Since changes in theory and practice imply the changes in education, we explored how urban design education may be conceptualised in order to enable future professionals to better contribute to placemaking. The analysis of traditional (visual-artistic) studio-based urban design education showed that, since it is based on solipsistic, elite and abstract practices of designing spaces, it is inadequate in relation to the placemaking paradigm of urban development.

Based on the defining features of placemaking concept (place and making), and the fact that developing a sense of place and a sense of sharing (a place) is crucial for sustainable placemaking, we proposed the inclusion of place-based learning and community-based learning approaches to accomplish these goals. This concept of education was further explored through analysing its application in two experimental urban design educational projects. Analysis showed that, although spatial and social contexts, development problems, and implemented urban educational paths in these projects were different, in both of them it was possible to broaden students' knowledge base, raise their cognitive and emotional awareness and appreciation of people and places, and enable their participation in the process of making a place. This resulted in developing a sense of place and a sense of sharing a place among students and local people, as the important learning experience and the basis for their future placemaking practice.

Lessons learned from these projects confirmed the adequacy of combining place-based and community-based learning approaches, but also have important implications for further development of theory and practice of urban design education for placemaking. To start with, these learning

approaches should not be considered as an alternative, but as an addition to conventional education, since they contribute to the development of different kind of awareness, knowledge, and skills.

Also, traditional forms of urban design education can be used for applying these approaches in various educational formats. Studio work is important because it provides more time, and repetition and duration of time spent, as our research has shown, contribute to developing a sense of place. On the other hand, elective courses and workshops provide opportunities to experiment and to gain a variety of experiences from diverse places and communities.

Finally, since all places are unique, making general, standardised curriculum cannot be recommended. This is also supported by what we identified in this research, that cognition and emotions in developing a sense of place and a sense of sharing can be linked in various forms in the urban design process. In that sense, urban design education for placemaking should encompass various approaches to urban design that, throughout academic curriculum, enable students to acquire plenty of site-specific and community-based learning experiences, develop their artistic, technical, and communication skills, as well as sensitivity towards real-life situations, thus helping them to become informed, creative, collaborative, and pro-active partners in placemaking processes.

All of this asks for an approach to urban design education that is less dogmatic and more experimental, continuous, and life-long learning endeavour.

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### **References**

- Altomonte, Sergio, ed. 2012. *EDUCATE: Framework for Curriculum Development*, Nottingham: EDUCATE Press/University of Nottingham, [www.educate-sustainability.eu](http://www.educate-sustainability.eu)
- Ardoin, Nicole M. 2006. "Toward an interdisciplinary understanding of place: Lessons for environmental education". *Canadian Journal of Environmental Education*, 11: 112–126.

## Chapter Ten

- Bloom, B. et al. 1956. "Taxonomy of Educational Objectives: The Classification of Educational Goals"; *Handbook I: Cognitive Domain*. New York: Longmans, Green.
- Carmona, Matthew, Tim Heath, Taner Oc and Steven Tiesdell, eds. 2003. *Public Places Urban Spaces: The Dimensions of Urban Design*. London: Architectural press.
- Colman, James. 1987. "Opportunities for Innovation in Urban Design Education", *Journal Australian Planner*, Volume 25, 1987 - Issue 4: 28–31.
- Damasio, Antonio. R. 1999. *The Feeling of What Happens*. New York: Harcourt Brace & Company.
- Đukanović, Zoran and Jelena Živković, eds. 2015. *Vino-Grad: The Art of Wine*, Beograd: Univerzitet u Beogradu Arhitektonski fakultet.
- Đukanovic, Zoran and Jelena Živković. 2015. "Public Art & Public Space Program: Learning, But Doing!". *ANNALES-Anali za istrske in mediteranske studije-Series historia et sociologia*. Vol. 25/1: 49–65.
- Gruenewald, David A. 2003. "Foundations of place: a multidisciplinary framework for place-conscious education". *American Educational Research Journal*, 40(3), 619–654.
- Gruenewald, David A. 2003. "The Best of Both Worlds: A Critical Pedagogy of Place". *Educational Researcher*, Vol. 32, No. 4. pp. 3–12.
- Güven, Arif Sargin and Aysen Savaş. 2012. "Dialectical urbanism: Tactical instruments in urban design education". *Cities*, Vol. 29, Issue 6: 358–368.
- Hardin, Mary C., ed. 2006. *From the Studio to the Streets: Service Learning in Planning and Architecture*, Stylus Publishing.
- Healey, Patsy. 1997. *Collaborative Planning: Shaping Places in Fragmented Societies*, Vancouver: UBC Press.
- Abbott, Stephen E., ed. 2014. "Hidden curriculum". *The glossary of education reform*. Retrieved (2014, August 26) from <http://edglossary.org/hidden-curriculum>
- Judson, Gillian. 2010. *A New Approach to Ecological Education: Engaging Students' Imaginations in Their World*. New York: Peter Lang Publishing.
- Karmanov, Dmitri 2009. *Feeling the Landscape: Six Psychological Studies into Landscape Experience*. Ph.D. thesis Wageningen University, edepot.wur.nl/5524
- Kesner, Brian, Lise Burcher, Maurice Nelischer and Vicente del Rio. 2002. "A Model for Undergraduate Study in Urban Design", in *Association of Collegiate Schools of Planning Conference Proceedings*. Baltimore, MD. Available at: <http://works.bepress.com/vdelrion/3/>
- Kyle, Gerrard and Garry Chick. 2007. "The Social Construction of a Sense of Place". *Leisure Sciences*, 29: 209–225.
- Madanipour, Ali. 1996. *Design of Urban Space: An Inquiry into a Socio-Spatial Process*, Chichester: John Wiley & Sons.
- Melaville, Atelia, Amy C. Berg and Martin J. Blank. 2006. *Community-Based Learning: Engaging Students for Success and Citizenship*. Coalition for Community Schools. [http://www.communityschools.org/assets/1/AssetManager/CBL\\_Book\\_1\\_27\\_06.pdf](http://www.communityschools.org/assets/1/AssetManager/CBL_Book_1_27_06.pdf)
- Milovanović-Rodić, Danijela, Jelena Živković and Ksenija Lalović. 2013. "Changing Architectural Education for Reaching Sustainable Future: A Contribution to the Discussion". *Spatium*. (29): 75–80.

- Mostashari, Ali., Fredrich Arnold, Maik Maurer and Jon Wade. 2011. "Citizens as Sensors: The Cognitive City Paradigm". In *8th International Conference & Expo on Emerging Technologies for a Smarter World*, IEEE November 2–3.
- Nikezić, Ana and Dragan Marković. 2015. Place-Based Education in the Architectural Design Studio: Agrarian Landscape as a Resource for Sustainable Urban Lifestyle. *Sustainability*. Vol. 7 Issue 7: 9711–9733.
- Panksepp, Jaak. 2000. "Affective consciousness and the instinctual motor system: The neural sources of sadness and joy". In *The Caldron of consciousness: Motivation, affect and self-organization* edited by Ellis R. & N. Newton, 27–54. Amsterdam: John Benjamins Publishing Company.
- Project for Public Spaces (PPS) + Metropolitan Planning Council. 2008. "A Guide to Neighbourhood Placemaking in Chicago", Accessed October 10. 2013. [http://www.placemakingchicago.com/cmsfiles/placemaking\\_guide.pdf](http://www.placemakingchicago.com/cmsfiles/placemaking_guide.pdf)
- Project for Public Spaces (PPS). 2012. "Creativity and Placemaking", Accessed October 10. 2013. <http://www.pps.org/reference/creativity-placemaking-building-inspiring-centers-of-culture>
- Radosavljević, Uroš, Ksenija Lalović and Danijela Milovanović-Rodić. 2013. "Key Agencies Networking for Sustainable Urban Projects in Golubac & Negotin". In *Climate Change and the Built Environment: Policies and Practice in Scotland and Serbia*, edited by Mila Pucar, Branka Dimitrijević, and Igor Marić, 472–490. Belgrade: Institute of Architecture and Urban & Spatial Planning of Serbia (IAUS) & Glasgow Caledonian University.
- Radosavljević, Uroš. 2008. "Conditions Influencing Waterfront Development and Urban Actors Capacity as a Strategic Response". *Spatium*. (17–18): 78–83.
- Scot Brown, Denise. 1990. "Between Three Stools: A Personal View of Urban Design Pedagogy", *Architectural Design: Urban Concepts*, Academy Groups LTD.
- Seamon, David. 1993. *Dwelling, Seeing, and Designing: Toward a Phenomenological Ecology*, NY: State University of New York Press.
- Semken, Steven. 2012. "Place-Based Teaching and Learning", In *Encyclopedia of the Sciences of Learning*, edited by Norbert M. Seel. Accessed 12.8.2014. [semken.asu.edu/pubs/semken12\\_pbt1.pdf](http://semken.asu.edu/pubs/semken12_pbt1.pdf)
- Silberberg, Susan, Katie Lorah, Rebecca Disbrow and Anna Muessig. 2013. Places in the Making: How placemaking builds places and communities. Massachusetts Institute of Technology, <https://dusp.mit.edu/sites/dusp.mit.edu/files/attachments/project/mit-dusp-places-in-the-making.pdf>
- Sobel, David 1996. *Beyond ecophobia: Reclaiming the heart in nature education*. Great Barrington, MA: The Orion Society and The Myrin Institute.
- The Center for Design Excellence. 2013. "The Art of Creating and Shaping Cities and Towns" Accessed April 11. <http://www.urbandesign.org/>
- Villani, Christine J., and Douglas Atkins. 2000. "Community-Based Education". *School Community Journal*, Vol. 10, No. 1.
- Živkovic, Jelena and Zoran Đukanovic. 2010. "Small Steps towards Big Vision: Taking People To The River (Again) in Belgrade", *Portus* 20: 36–41.

# Keeping Up with Technologies to Create the Cognitive City

Edited by

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