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SODOBNO ARHITEKTURNO IZOBRAŽEVANJE – IZBRANI PRIMERI

CONTEMPORARY DEBATES ON THE EDUCATION OF ARCHITECTS – SELECTED EXAMPLES

izvleček

Analitična raziskava o spremembah v arhitekturnem izobraževanju na svetovni in lokalni ravni si prizadeva, da predlaga prilagoditve v skladu z novimi družbenimi razmerami. Da bi ustvarili osnovo za razumevanje in uporabo najnovejših standardov v arhitekturnem izobraževanju, so bili izbrani in analizirani različni primeri objavljenih kritik dosedanjega izobraževalnega procesa

Najbolj temeljito analizirane teme so povezane s predmetom Projektiranje (projektni studio, seminar), ki je videti kot temelj arhitekturne izobrazbe. Prispevek podaja pregled naslednjih tem: Kritični pregled reform izobraževanja v poznih šestdesetih in zgodnjih sedemdesetih letih XX stoletja; Medsebojna povezanost teorije, prakse in izobraževanja ter pomen arhitekturne raziskave kot nove oblike arhitekturne prakse; Povečanje števila raziskovalnih studiev, seminarjev in projektno izvedbenih delavnic z empiričnim pristopom k izobraževanju arhitektov; Sodelovanje zelenih arhitekturnih tem v kurikulumu; Landscape urbanizem kot sinteza disciplin, ki se pojavljajo na višji stopnji študija.

Ta pregled bi moral odpreti dialog, ki prispeva k reševanju problema obstoječe izobraževalne reforme na regionalni in lokalni ravni. Raziskava ne narekuje končne rešitve, ampak odpira možnost izbire.

abstract

Analytic research on changes in architectural education at global and local level aims to propose adaptation in accordance with new social conditions. In order to create a basis for understanding and applying the latest standards in the architectural education, various examples of published criticism were selected and analyzed.

The most analyzed topics are related to the design studios which are seen as the backbone of architectural education. The paper gives an overview of the following topics: Critical review of the educational reforms in the late sixties and early seventies of XX century; Interrelations of theory, practice and education, and importance of architectural research as a new form of practice; Increase in the number of research studios and design-build workshops with an empirical approach to education of architects; Participation of green architecture themes in the curriculum; Landscape urbanism as a synthesis of disciplines that are used in the higher level of study.

This review should open a dialogue that contributes to solving the dilemma of existing educational reform at regional and local levels. The research does not lead to a final solution, but it opens the possibility of choice.

Introduction

Reviewing of the architectural profession is constantly ongoing, especially today in the age of global economic and socio - political crisis. Reduction in the number of investments and projects poses a threat to the profession and necessitates the change of its position within different disciplines. Education of architects has a significant responsibility in repositioning of the profession in the multidisciplinary world of architecture.

Dealing with the issue of architectural education, authors generally reflect on the revolutionary reforms from the past or on individual learning methods in studio and they place architectural studio - the backbone of architectural education in the center of the debate. Back in 1995, in his book New Trends in Architectural Education - Designing the Design Studio, Ashraf Salama critically analyzed a traditional studio in which the individuality is dramatized and the importance of socio-political factors is underestimated [Sanoff, 2012]. The struggle with traditional methods of study, which began in the sixties, is again in the focus at the beginning of XXI century. And today, like at Beaux-Arts in the sixties, students are required to prepare a concept at an early stage of design, rather than to have a concept as a result of research and design process [Buchanan, 2012]. Peter Buchanan [2012] considers this approach egoistic,

because it is based on its own values, with minimum regard for the values of others. Even before its defining, Stefani Ledewitz provided the answer to the dominant egoistic approach by identifying recommendations - the aims that have to be pursued in the studio. According to Ledewitz, a student should recognize the key values of designing and realize that his own values may differ from the value system of the contracting authority of the project as well as differentiate the design activities arising from their own value system from the ones that come from the other people [Salama, 1995].

Analyzing the previous period, Kevin Rhowbotham [2012] states that a narrow private world of architecture, typical for the nineteenth century separated from science and practical life, is present even today to a great extent in the practice of architectural education. There is little empirical assessment of problems in architecture present in the new millennium. Rhowbotham [2012] also believes that during their studies, students of architecture are nowadays exposed to a system that is not different from Beaux-Arts from the late nineteenth century. Therefore, it is necessary to reflect again on the reforms of the late sixties and early seventies and on the review of education and profession with regard to politics, society and the environment, and the introduction of various disciplines in

the curriculum. Education of the architects in the given period largely resulted from the formalist mould approach to design, which led to an explosion of radical pedagogies that had until then used the unexplored new teaching methods. By analyzing these events, the parallel can be drawn with what is happening today in architectural education. The answer to the crisis of the profession is given through the shift towards the research, practice and sustainability and the result of their merging can be viewed through a new form of practice of landscape urbanism. As in the sixties of the last century, various approaches and methods in architectural education, especially in the study framework, now create an atmosphere of global laboratory for pedagogicalexperiments.
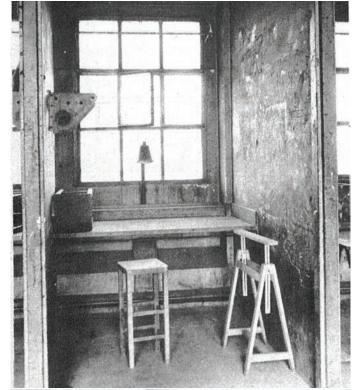
Review of educational reforms at the end of the sixties and beginning of the seventies of XX century
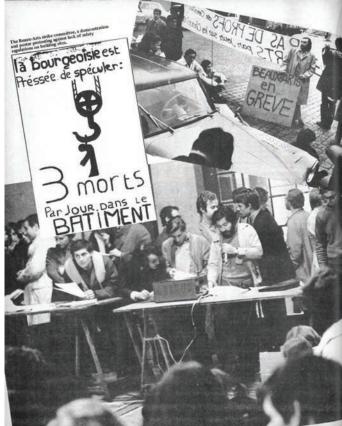
Criticism of traditional studio, most clearly visible through criticism of Beaux-Arts school system, in which the historicism and intuitive method are the backbone, contributed to the identification of negative teaching features and the proposal of new models which would include elements of science and practice as the part of architectural education. In the atmosphere of general changes in the late sixties and early seventies, scientific and research elements were introduced in the curricula of architecture. Architecture began to be interpreted as a sociological discipline. The social and ethical approach in architecture was emphasized. The following are among the schools that implemented radical reforms and introduced new methods of teaching: Unite Pedagogique, which was formed after the decomposition of Beaux-Arts (the most important is UP6), the AA Unit System, characterized by the open market of knowledge, the University of Cape Town, with unusual methods introduced in architectural studio, and the New School of Architecture in Belgrade, with the radical reform that has significantly influenced humanistic approach to architectural education.

Beaux-Art reform – creation of Unite Pedagogique

At the beginning of the 1960s, Richard Llewellyn Davies described Beaux-Arts as a surreal, closed, shortsighted and self-referential educational institution which was contrary to empirically-based architecture. According to him, even in the nineteenth century, Violet-le-Duc considered that Beaux-Art had created architects whose objective was to design buildings that would primarily make them famous, without complying with all the conditions stipulated by the everyday needs or habits [Rhowbotham, 2012].

Yet in 1965, the reform of Paris Beaux-Arts became certain when the groups A, B and C were formed at the faculty under the influence of the atelier Candilis, Josić, Woods. Due to the increasing number of students and the growing need for space, group C moved from the Beaux-art building to the Grand Palais, where it became a center for the progressive thinking within the school, slowly abandoning traditional studio system of education. New subjects, such as residential architecture, were introduced, while the design topics for the privileged,

Slika 1: Študentski delovni prostor na akademiji Beaux-Arts v Parizu. [Pawley in Tchumi, 1971: 538]
Slika 2: Stavkovna oglasna deska na akademiji Beaux-Arts v Parizu. [Pawley in Tchumi,1971 : 556]
Figure 1: A student's working place at Beaux-Arts. [Pawley and Tchumi, 1971: 538]
Figure 2: Beaux-Arts strike board .[Source: Pawley and Tchumi,1971: 556]

like music lounge and swimming pool in the private club, lost their dominance [Pawley and Tchumi, 1971]. Contemporary architectural and spatial thinking was gaining importance, but not all teachers were ready to replace their old practices with new trends. Differences among teachers, further complicated by severe financial and ethical problems in school and profession, led to controversy at school [Weismehl, 1967]. In April 1966, at one of the Beaux-Arts departments, professors began a strike, demanding "a profound reform of the teaching of architecture and the means necessary for its application" [Weismehl, 1967: 1]. Beaux-Arts students opposed "the emptiness of the educational content and the pedagogical manner where professors are supposed to ensure the production of human beings without critical awareness or knowledge of social and economic realities"[Pawley and Tchumi, 1971: 543]. The following could be found among the numerous slogans and declarations through which the students expressed their dissatisfaction:"...We are against the established order of today, which represents bourgeois culture. It is the means by which the forces of oppression of the ruling class isolate and set apart the artists from the workers by giving them a privileged status. Privilege locks the artist in an invisible prison."; "...creative freedom is real freedom"; "...We want to fight against the domination of education by profession, by means of Ordre des Architectes or other corporate bodies. The teaching of architecture should not merely consist of the repetition of 'good practice' until the pupil becomes a carbon copy of the master", etc. [Pawley and Tchumi, 1971: 544-546]. The student revolution did not last long, and its objectives were not fully achieved. The changes were, however, made and the Beaux-Arts as it had existed prior to revolution was brought to an end. The tradition that had lasted since Napoleon the First was interrupted. With the disappearance of school, one of its legacies, the famous Grand Prix de Rome was abolished. At the request of students and professors, the school was reopened, but under the new conditions. In late 1968 Unite Pedagogique was established. Beaux-Arts was thus divided into independent schools of architecture that were deployed on several locations in Paris and in the provinces. Each new school got its own number, usually by the order of creation. The most famous of the schools was the UP6, where all the professors who supported the reforms, including Josić and Candilis, the pioneers of these reforms, moved. For a short time the number of the students of UP6 increased significantly [Folic, 2011].

The AA reform
In 1971, Alvin Boyarsky, acting in his capacity as the president of the Architectural Association, established an open market of knowledge within the architectural school and institutionalized his metaphor of the educational model on the model of "Well-Laid Table", where students are offered a wide range of theoretical positions and methodologies of different directions. That is how the AA stopped supplying society with forms and became a field test of alternative forms of architectural production, and its new task became a critical attitude towards society, believes Boyarsky. Regardless of whether ecology or conceptual art, politics or phenomenology are explored, "pedagogy both

transgressed the limits of professional practice and proclaimed a critical distance from architectural modernism" [Sunwoo, 2012: 24]. Sunwoo further argues that in this way "the AA offers a historical lens that brings into focus a broader shift in architectural education: from a modernist system of professional training that codified the architect's responsibility to design and build for the needs of the society to postmodernist pedagogy that positioned architecture as an intellectual and critical practice" [Sunwoo, 2012: 24].

In the reformed AA school there were no regular tutors, while instead of the traditional curriculum, the school offered a variety of interactive learning models that were shifting to the extent that the differences were the ones to form the core of the curriculum. Boyarsky did not believe in the curriculum or the classic educational content; "tutors were given freedom to set their own agendas and to follow their own interests and manifestoes" [Bottoms, 2010]. Students and teachers mostly used their apartments and houses or nearby offices as workspace. The school became a sort of a meeting point for people and space for discussion, whereas the faculty hall got a special significance. Boyarsky named it "space beneath the chandeliers with a fireplace and a bar, where whiskey and wine are served" [Sunwoo, 2012: 33]. Short-term recruitment of teachers (sometimes for a year), individual differences in the organization of teachers' work and the economic factor, within the perfect functioning of the school, created an atmosphere of "maximum circulation, the search for ideas and their consumption" [Sunwoo, 2012: 33].

One of the main features of the reformed AA school is the Unit system. Boyarsky demanded that the tutors should continuously update their teaching repertoires by architectural provocations, so that students would assume the role of "predatory creatures" and that the educational model would work on the principle of production and consumption. The system is cyclical, self-organized, in addition to being modest and designed to counter any potential obsolescence. The mentors of the AA units were, among others, Elia Zenghelis, Bernard Tschumi, Peter Cook, Dalibor Vesely, Joseph Rykwert and Daniel Libeskind [Bottoms, 2010].

In the first year of study, the school year 1972/1973, students were divided into units of twenty students; each unit was designed and managed by different tutors. Thus, for example, students in the Stefan Szczelkun unit had a task to investigate the relationship between mobility, technology and education. For this purpose, they renewed the London city bus that the school had previously bought and equipped it with audio-visual equipment and furniture. Students tested their project during the two-week tour of the UK architectural schools. [Sunwoo, 2012]

In the second example of the AA Unit system, the approach to architecture through the platform of social action is recognized. In the unit which was led by the planner Brian Anson, students had a task to design and lead the campaign for the Scottish education community about the effects of oil rigs in the North Sea [Sunwoo, 2012]; obtained results started an avalanche of reactions, and the entire project was assessed as very successful. Interesting is the work of the Unit from the year 1973, whose

tutors were Gerry Foley and George Kasabov. Their Unit responded to the energy crisis through seminars and research on energy resources, population growth and conservation of materials and energy, on the one hand, and the architectural expression of the above conditions, on the other hand. It can be said that this Unit is one of the forerunners of today's courses in green architecture.

At the end of the first year from the start of the full implementation of the Unit system, in 1974, student work, as a product of a new pedagogical model, was presented at the exhibition for the first time. The school was transformed "from the well defined department store into a supermarket with something of everything" [Sunwoo, 2012: 37]. This opened the AA market as a selling point for architectural public. The institutionalization of the AA Unit system actually defined "fragmentation, specialization and consumerism", which resembles the characterization of postmodernism by Frederic Jameson as "consumption of sheer commodification as a process" [Sunwoo, 2012: 38].

From the early 1970s, Boyarsky used methods that set the school's cultural production to the outskirts of the discipline, and a decade later, the school positioned its coordinates in the center of the field of architectural education. The visionary approach that Boyarsky has made can inspire many and today, when discipline is in crisis, it can serve as a guide to architectural schools in the achievement of their own, at first glance, unrealistic ideas.

Cape Town: new pedagogical paradigm

In the mid-sixties, Roelof Uytenbogaardt, acting in his capacity as head of the first year of studio, introduced a new educational method at the University of Cape Town, and thus made a precedent among known pedagogical manners. Uytenbogaardt based the basic idea of methodological and pedagogical reform on the thesis that lectures should commence only when the need for theoretical knowledge is discovered in the studio, that is, when the student, with the resulting motivation to learn, asks for it [Buchanan, 2012]. A practical assessment of the concept was done during the three-week work on a camp design on an impersonal location, where students observed their social interactions and learnt about the influence of their physical environment on the insight and importance of those interactions [Buchanan, 2012].

While working and gathering, students themselves sensed various spatial conditions and noticed that the organization and character of physical environment affected the dynamics and quality of discussion and the creation of pleasant or unpleasant feelings. However, leaders of the discussions also noticed differences in the interpretation of interactions, which were the sign that some theoretical material - lectures on mechanics and psychology of observation, which had been prepared in advance, should be introduced. During the continuation of the project, which reflected in the search for the position for the functions of the camp, a debate on architectural parallels, free plan, organization of tribal settlements and the role of religion was spurred, led by the project manager. That was the moment when the need for lectures on history of architecture emerged. The

tent construction having been explained, there was the need for lecture on materials, principles of constructing and constructions, as well as more detailed methods of joining elements for the tent structure. As the project progressed, the need for the lectures on specified fields increased. [Buchanan, 2012]

Uytenbogaardt introduced the theoretical curriculum supporting studio work at the time of the reform concerning methodology and pedagogy, which was perceived as unconventional at that moment. However, today the principle is present in a more focused form, which is achieved by detailed structuring of studio projects and provision of links with the theoretical part of the architectural curriculum as well as by introducing thematic seminars.

The New School of Architecture in Belgrade

Triggered by the events in the USA and the European countries, especially in France, the reform at the Faculty of Architecture in Belgrade had been prepared for some time until its culmination led by professor Bogdan Bogdanović in 1971. At the meetings at the Faculty of Architecture, the creation of the New School was proclaimed and its task was to replace the "traditional" one. Students demanded that "they should participate in the life and decisions of the school in practice and not just on paper" [Bogdanović, 1971: 9]. "The New School must always be open to the public and exposed to possible public criticism, and it should be free from all the subjective and imposed criteria and prejudice against ideas and individuals" [Odbor za Novu Školu, 1970: 2]. Reformist ideas, among all, concerned the study of environment and architectural disciplines which had not been involved to that extent or had not even existed in the curriculum. Overall social climate and intensive urban development influenced introduction of the study of urban morphology and theory of the city in the New School curriculum. Space observation through different socio-economic factors became the basis for design of the environment. The New School became a part of social reality; it started dialogue with it and did not represent a reality on its own [Folić, 2012].

Many experts from former Yugoslavia participated in the establishing of the New School. One of them was also Braco Mušič, the architect who, in his text published in Saopštenje (Announcement) no. 9 in January 1971, pointed out that the architect of general practice was losing his position in the process of overall formation of the environment and left room for other disciplines that had nothing in common with space organization and creation of form. Mušič considered that "we should not and do not want to perceive an architect and architecture exclusively, and we have to have in mind the whole content of planning, decoration and shaping of the space" [Mušič, 1971: 53].

The beginning of the work of the New School was officially marked in school year 1971/1972. Classical subjects in the curriculum were replaced by themes, courses and extensive courses. The curriculum was "diversified" in a way that students, having completed a certain number of elementary subjects, should choose special courses, design programs and professors to work with. Students decided on their own the direction of their studies and their technical erudition [Bogdanović, 1970].

Slika 3: Primerjava med predavalnico s študentskimi delovnimi mesti v "box-ih / škatlah" in predavalnico pred postavitvijo "box-ov / škatel" (fotografski arhiv časopisa Politika)
Figure 3: Comparison between the students' "box" with working places and the classroom before the "boxes" were set up (Photo archive of the daily newspaper Politika)

Contrary to "the old school", which promoted traditional studio system, at the New School of Architecture in Belgrade each student, regardless of the year of study, had their working place within the "boxes" set up in the Faculty building. There were 15 working places in one "box" (group). These boxes were planned in all bigger classrooms and they were partitioned off with improvised panels (Figure 3a and 3b). Students had the possibility of sharing their experience and gathering information. Each of them had a certain amount of freedom in creating and contemplating within their working place, and the lecturers took turns [Folić, 2012]. Each group had a mentor who "performed teaching within his or her groups and, at the same time, acted as a consultant to other groups in his or her area of expertise." [Paritetna radna grupa za nastavu, 1971]. Professors' engagement was planned as full-time and therefore some professors' work within their specialty, but outside the faculty, was put in jeopardy.

Unexpectedly, the work of the school came to an end in 1974 after the adoption of a compromise curriculum. Besides its short

life, the New School of Architecture in Belgrade represents one of the major aspects which can help in understanding the nature of social and cultural transition in the mentioned period. Within its characteristic approach, the New School was the impetus for change and understanding the relationship of architecture and society through the lens of multidisciplinarity. As Boyarsky did it in the AA, Bogdanović also stimulated critical relation of architecture towards the society, and therefore architecture became intellectual and critical practice.

A shift towards the architectural research

Describing the incompatibility between academic research and real practice during his lecture at Harvard in 1985, Henry Cobb explained that the academic environment separates architecture from vital sources of income, that is, professional work. On the other hand, a practically oriented architect functioning more as an entrepreneur potentially degrades architecture as a discipline and decreases its capacity for establishing successful discourse with other disciplines [Allen, 2012]. The ideal is in the middle. In the complex definition of architectural design, research gains increasing importance. In recent years, many architectural schools around the world have replaced individual theses with the research studio. For example, theses are present in only one third of graduate and master programs of American schools of architecture [Solomon, 2011]. Instead of them, the research studio, research laboratories, the design - built project or the final "advanced" studio have found their place in the curriculum. Solomon indicates that the introduction of research into the design is a transition from the architecture of problem solving to the architecture of intelligent discussion. Mark Wigley points out, "I insist on the fact that architects are primarily intellectuals. Architects are not builders. They are narrators. They don't build solid objects. They make a discourse about objects." [Wigley, 2002: 122]. The definition which determines design as a method of solving problems with various positive answers differs from the general understanding that describes architectural design as a creative act that creates schemes of figures leading to a built form. Architectural design can be described through synthesis of both definitions mentioned: it is a rational technique of problem solving and an intuitive aesthetic act [Salomon, 2011]. The research has its importance in both definitions.

Salomon has identified three various approaches to understanding of projecting and research that have been present since the 90s of the past century. These are: design of research, research as design and research for design.

The Design of Research

A good example of the approach based on the Design of Research is Project of the City implemented by Rem Koolhaas in Harvard. The project was made of a series of one-year research studios replaced by the individual design theses. The research focused on economics, politics, social conditions as well as problems concerning architectural and urban design, but there was no actual project done. Koolhaas thus showed commitment to research preceding design, because he considered those two components almost adjoined. The results of the research were

neither connected to a specific situation nor to architectural and urban problems. After being published, those results were available to the public and therefore subject to public criticism and open for free use [Salomon, 2011].

This approach is similar to the one from the late 60s of the past century, when curriculum with the emphasis on "design of environment" developed. That was the time when students commenced using social and anthropology studies on users' environment when working on design. The methods of building and design were changing, and the domain of influence of the architectural profession was expanding rapidly. At that period of time, planners, geographers, sociologists and historians commenced dealing with urban morphology with "extensive social research" [Đokić, 2007: 66]. That was the moment when typomorphology emerged under the influence of different theoretical postulates [Đokić, 2007].

Research as Design

Auburn's Rural studio opened by Samuel Mockbee united the tendency to make an integrated project through a thesis and with the goal set by Koolhaas- creation of research-informational project. Through a series of pedagogic experiments at the studio, students of the third year first do the field research individually, afterwards they define the physical and social factors and cause of poverty at the location (the rural district of Hail in Mississippi), and finally they start working on the design and building of a relatively small installation for a family residence or for some other purpose of a certain institution. Selected students gather once again at the fifth year of their studies to finish the group thesis- the project. Working in small teams made of 3-5 members, students directly collaborate with the members of the society, they make suggestions, design and build the designed.

Salomon [2011] believes that, based on the example of the Rural Studio, it is impossible to perceive whether the thesis represents the mirror of the curriculum or the cause of its innovation. Nonetheless, the mentioned studio has initiated significant debates on the education of architects, especially in the sphere of the manner of treating the connections between the project, place and function. The Rural Studio affirms an educational experiment which leads to creating better connections between social themes and architectural ideas.

Research for Design

The concept of Research for Design is visible in the programmes of various architectural schools. For example, the program of the AA school of 1997 contained Design Research Laboratory. A year later Sci-Arc started the Design and Research of Metropolis program. The Research Studio was introduced into the UCLA curriculum to replace theses.

At the research studio, the phase of designing is developed after the research of a group of questions and problems that are not architectural in its nature. This means that the information outside the discipline has been included in the process. At the research studio, the research does not precede design and it is not project illustration of the research, but the integral part of the project. Besides, the research in the studio is not exclusively connected to a specific location, place or socioeconomic group [Salomon, 2011].

Compared to the independent individual designing theses, the research studio is less unique, but its pluralism makes it more realistic, and at the same time this studio is risky, less expressionistic, but experimental at the same time. The concept relies on specific skills, insights and intuition of the individuals that organize and manage tasks. The model of the research studio as the replacement of the individual designing thesis represents a stepping stone from the independent research to the collective knowledge production in the discipline [Salomon, 2011].

Practice, Field Work and School

The meaning of the practice in the past few years has significantly changed. Experimental design studios of the nineties, such as Steven Holl, Morphosis and Diller + Scofidio have become a major design organization with the projects implemented around the world. Changes in their practice are a symbol of major shifts in the field of positioning academic and professional work of architects [Allen, 2012]. "The habits of mind and ways of working previously associated with experimental practice or the academy have been recontextualized in this new climate of practice... A new model of alternative practice has also emerged and is being reinforced in schools. Based not so much on the critical commentary as on activism, it involves highly pragmatic, hands-on architectural and product designs that can be quickly implemented in places like developing countries and disaster areas" [Allen, 2012: 226].

At the time of pluralism and often difficult identification of the local, practice plays a significant role, since it participates in maintaining the specificity of the different design cultures. Rapidly evolving contemporary technologies have enabled architects to work from distant locations and students to become very mobile. The same books and magazines are used around the world as well as the same software and presentations of the same architects who travel all over the world [Allen, 2012]. "Political philosopher Kwame Anthony Appiah has written about the need to cultivate a cosmopolitan attitude in the face of the global culture today, neither artificially preserving "authentic" local traditions nor mindlessly giving forces of globalism. It takes a closer consideration of the hybridity of contemporary culture that survives the elements of history and tradition and at the same time fully utilizes new technologies and opportunities of the global exchange " [Allen, 2012: 229]. This approach should also be applied in the formulation of architectural practice in education.

In this context, the need to work on the field is recognized and promoted again. "A common complaint of architects hiring graduates, as well as of their teachers, is that too many students today think that having seen a building on the internet means knowing it. Thus, students should visit, explore and write about buildings, urban areas and landscapes, imagine themselves as a plant in a landscape or urban area, thereby strengthening peripheral vision and sense of place or conducting a fast, non-stop verbal description of what is seen" [Buchanan, 2012].

Modern trends in architectural education workshops provide significant space in which students learn and demonstrate new skills to build the elementary objects of different functions. They range in broad terms, from street furniture to simple residential units, especially for vulnerable residents. Comparing the activities of the UP6 students and rural studio with the activities of the students of Faculty of Architecture, the University of Ljubljana can conjure up a connection between socially responsible actions of the students at the end of the sixties of the twentieth century and contemporary tendencies in the education of architects.

In 1969 the students of UP6 were active in the action of building a social center in a commune of Portuguese immigrants (Villeneuve de Garenne). The students built the social center by themselves with the material that had been ordered through the school to be used for exercise. Hubert Tonka, professor of Urban Planning at the time, had some doubts about "the credibility of the great revolutionary struggle that students waged." He describes "the students' action as socially futile as it was performed for the inhabitants of the commune, and not with them. It was politically successful, and it showed pressure on the oppressed, while the immigrants had become aware of the class reality and their position in relation to the capitalist system" [Pawley and Tchumi, 1971: 566]. It can be concluded that the students made

an endeavour to take on the active role of building in overcoming urban problems the city was faced with. Without participation of the very citizens, in collaboration with other city structures and architects, in creating a better urban milieu, no success can be made as far as set goals are concerned. [Folic, 2011]

Nowadays the local community is in most cases involved in similar projects, and the activities associated with them have not only stopped being considered politically incorrect, but are considered as welcome. Directing the efforts towards the design realization and active participation of the community rather than to the architecture alone represents yet another realignment of the architectural profession. Thus, the Rural Studio of Mockbee and Ruth had two goals, to improve the living conditions of the rural population in West Alabama and to provide practical experience to students of architecture. [Allen, 2012]

Although it is not a common occurrence that some of the schools in the region organize activities that are aimed at improving the living environment of communities in other countries, the students of the Faculty of Architecture in Ljubljana participated in the design and construction of school classrooms for Ithuba Skill College in South Africa (Figures 4 and 5). Project development and construction planning were done in Ljubljana throughout the entire 2009/2010 school year. In the winter semester students studied the characteristics of the land, its

Slika 4: Študenti in lokalni delavci pred zaključeno nalogo, 2010. (Andraž Intihar, zasebni arhiv)
Figure 4: Students and local workers in front of the completed assignment, 2010. (Andraž Intihar, private archive)

history, culture, art and geography, economic and social aspects, and in the summer semester they prepared the project, practical workshops and formed the travel fund. The building process in South Africa itself lasted eight weeks. Twenty students took part in the project, led by four tutors (Vodopivec, Glažar, Planišček and Konstatinović). The building is of a simple design, built out of locally available materials. Practical work in a research studio or a workshop is a form of empirical learning. [Projekt SAIP 2010] Practical work in a research studio or a workshop is a form of empirical learning. The changes that are reflected through the potentiation of research-based practices are particularly evident in the last two decades.

Sustainability

Starting from the thesis that sustainable development should become the backbone of architectural education, Peter Buchanan suggests introduction of basic courses on evolution and ecology in the curriculum, in addition to the basic study of existing subjects, which would lead to a deeper study of ecology and the history of settlement and further towards providing the minimum content for understanding all forms of environmental design. Students should find a link between climate and diverse cultural adaptation, such as the type of shelter and settlements, and define the effects of climate change on these factors. The key factor is the free flow of materials, resources, energy, food and other goods in a globalized world, from extraction to the consumption of nature [Buchanan, 2012]. The same author further states the need for the introduction of several courses, ranging from psychology and mechanics of perception that would be an information base for theory of aesthetics and reasoning through the introduction to phenomenology, all the way to the psychology of the environment and the psychological urge to bring the order in that environment. Architecture can shape fully human physical settings, relying on the knowledge of the range of depth psychology to the ancient spiritual traditions [Buchanan, 2012].

Some authors involved in architectural education, realizing the irresponsible attitude towards the environment, refer once

Slika 5: Notranjost razreda opremljenega s pohištvom, ki so ga prav tako oblikovali in izdelale študentke in študentje, 2010. (Andraž Intihar, zasebni arhiv)
Figure 5: The interior of the classroom with furniture that was also designed and built by students, 2010. (Andraž Intihar, private archive)

again to the significance of the experimental schools of the late sixties and early seventies. Calls for new reforms in education in line with this involve the introduction of the green topics in the curriculum. Kosanović and Folić propose systematic and chronological introduction of green topics in the architecture school curriculum and precisely define what the topics are. Analyzing more current international programmes, the two authors have recognized the presence of the green aspects of the educational programme, but they also realized significant differences in scope, content and distribution of topics through which this aspect is processed [Kosanović and Folić, 2013]. One thing is certain: the presence of environmental issues in the curriculum of the study of architecture is most evident in the example of the design studio.

Landscape urbanism

A relatively new concept - landscape urbanism emerged as a response to the marginalization of landscape architecture and today it plays an important role in the understanding and methodology of the design studio. The term was created in 1996, when Charles Waldheim, professor at Harvard and one of the leaders of the movement, wrote that he had coined the term "landscape urbanism" when James Corner had made the phrase "Landscape as Urbanism" [Allen, 2012: 223] in conversation with him.

Landscape Urbanism includes a number of tools that are used in the treatment of empty space between the buildings, roads and infrastructural systems and therefore focus on the public realm, while promoting ecological principles. Through this view, the notion of the landscape has been expanded and it no longer refers just to gardens and parks. The movement was initially based on the theory, but it quickly grew into practice. Conferences and debates are, therefore, in the case of landscape urbanism preceding the examples created; the mutually productive effect represents a compromise between taking care of the real world and academic debate.

The concept of landscape urbanism combines urban planning, infrastructure, architecture, ecology and landscape architecture. The form of landscape urbanism is provisional, subject to constant change, and also contextual, because it relies on the ecology, climate and culture of the local places. The term landscape is offered as a way of looking at the modern city [Corner, 2006: 29]. The dominant use of the landscape as the process of reconstruction, while taking into account the environment and infrastructure, with sensitivity towards the river bank, is noticeable in the improvement within the area of the complex in which the 2012 Olympic Games in London took place. The project on a much smaller scale, which may be discussed under the term of urban landscape, is the regeneration of physical sites around the building complex "Beton hala" in Belgrade. The international competition called Beton Hala Waterfront Center in Belgrade, organized by the city government, attracted many architectural teams. In their solutions, they unified urbanism, infrastructure, riverbanks, reconstruction, rehabilitation, protection of surrounding environment and ecology and landscape architecture.

Schools of architecture accepted the concept of landscape urbanism. Among them are Harvard University and institutions that developed landscape urbanism into special graduate programmes: the University of Illinois at Chicago, the University of Toronto and the AA in London. These are mainly architectural schools that are located near large urban centers where the actions of students in accordance with project tasks are possible and desirable.

Conclusion

General discussion of what architecture is has led to many different conclusions. From the social point of view, architecture is an integral part of Man's activities. Cities, towns and buildings have always been the result of cultural, social, economic and environmental factors, which require a complex responsibility from architects. In accordance with the changes in the profession during the seventies and eighties of the last century, according to Salama, three concepts arose: the first identifies the human and social needs in the context of the environment, which is affected by social, geo-cultural, climatic, political and economic aspects; the second evaluates the built environment and deals with the adaptations and adjustments; the third involves people that have become an interest group in a particular built environment in the decision-making process [Salama, 1995: 31].

Numerous academic debates have brought to light a deeper interest in the changed role of the architect in the society. "Architects are no longer dominant in areas where they have traditionally been so, but are potentially powerful in other, perhaps unexpected areas. One of the tasks of architectural education is to identify those areas and capacities" [Allen, 2012: 228]. The growing pluralism complicates this task; there is no independent design direction that still dominates schools of architecture, but various directions overlap, offering several possible solutions and multiple points of view, which may create confusion among students. Additional problems are the effects of new technologies and the tensions between the local and the global. The choice is getting wider, while there are fewer differences in the offered. Field work through the student placements contradicts the global generalization by incorporating elements, such as history and tradition, in the design [Allen, 2012].

On the basis of the present debates in the field of architectural education, it can be concluded that there are several different approaches that the authors have used: comparing the current situation to the period of the sixties of the past century, the critique of contemporary studies and comparisons with Beaux Arts, identifying new ways of education, recognition and comparison of new methods to the old ones used in the design studio. There are no specific recommendations for the further development of architectural education, but there are guidelines that open a dialogue on a number of possible approaches. The need for the development of the research studio and for integrating green themes in the design studio is emphasized. Topics dealing with the problem of the environment are once again in focus [Kosanović and Folić, 2013]. In this case, sustainable development should become the backbone of the curriculum.

It is important to note that the new methods used in architectural education should be adapted to local needs and conditions by using a specific research and design task. Therefore, the phrase 'think globally, act locally' could be applied to the architectural education methods. On a higher level of study, the school should offer a variety of topics and methodological approaches from which students may choose a direction according to their own affinities. Although Allen [2012] believes that the overlapping of different directions and a number of possible solutions are confusing to the student, the student becomes aware of the wide range of architectural activity. This creates conditions for the identification of new areas in which architectural profession spans and thus so does education or vice versa. Changes in education are never final and there is no single, in all aspects, right method used in architectural schools.

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