

Creative Improvement in Architectural Education through Inclusive Design Aspects and Methodical Concepts

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Abstract

The actual role of architecture in the new social framework, conditioned by the transition processes in Bosnia and Herzegovina, largely deviates from the enrooted aspirations of architecture as the human paradigm of the society and culture. This is considered to be the turning point where the educational system needs to find adequate answers to the whole range of problems of formal education system. Therefore, introducing interdisciplinary thinking for the purpose of offering concrete solutions to the demands of places, users, local community, as well as needs of architecture as a cultural product, appears a necessity. The fundamental problem for education in architecture begins with the question – how to connect the current educational process and architectural practice in order to improve the profession itself?

Forming a studio was one of first solutions we wanted to implement. But the formulations of studios shall focus on discussions of studio-based design learning systems and curriculum developments on integral design studios that aim significant and innovative frameworks. In this context, integrated design studios are the newest approaches to architectural education. In this education system, every studio has its own integral course. Integral courses give support to the design studios. This support can be either theoretical or practical. The support of the integral courses to studios must be evaluated deeply. This paper presents the positive and negative aspects of the new integral studio approach in this context. The specific studio, which tends to improve the former one, is based on an integrated approach to design process. It implies an active interaction between theory and practice through cooperation on multiple levels, such as – academic staff, students, experts from practice, experts from institutions responsible for the planning and city development and future inhabitants. The important segment of the newly-introduced methodological concept is insisting upon critical, objective evaluation on every stage of design.

Case Study: Issues of the family house modernity in Bosnia and Herzegovina

A family house is both the most represented typology of residential space and most referent area of dealing with (this) new social reality. Therefore, the Studio methodology is based on the basic tendency towards the integration of theory and practice through the work on specific locations in the city and in cooperation with relevant planning institutions.

Keywords: Interactive education; Inclusive design; New methodology; Modernity (as) process

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1. Introduction

Economic growth and social and cultural development are posed as imperatives today in overcoming problems caused by transitional processes in Bosnia and Herzegovina. That is why the thesis on education as an initiator of such development, simultaneously improving the discipline itself and vitalising itself, seems appropriate. With respect to specific characteristics of the entire context, and following the contemporary educational trends, it is clear that the aforementioned demands for recovery and development are not possible to realise without an adequately determined methodological approach to the change of today's education.

Of course, it should immediately be emphasised that the inherited educational process was fully adjusted to the needs of that time and, as such, it was successfully implemented within such framework. Though it originated on a fragmented historical background, it was consistently resisting changes.

The environment we speak of in today's architectural education has drastically changed, especially taking into consideration the internal turmoil dominated by the neo-liberal market demands that have enabled the process of co-modification to enter into all the spheres of society of which education is the most vulnerable (Figure 1).

In accordance with the change of the social organisation in the past two decades, but also the striving to gradually become a part of global trends, completely new demands are set with regards to this issue. These demands often involve tensions at several different levels, most of which are those that try to solve local problems within the context, where the global processes are involved. The apparent need to engage in modern education processes has almost changed over the course of the night. This resulted in the non-selective innovation of the entire process of architectural education, while neglecting the realistic frameworks in

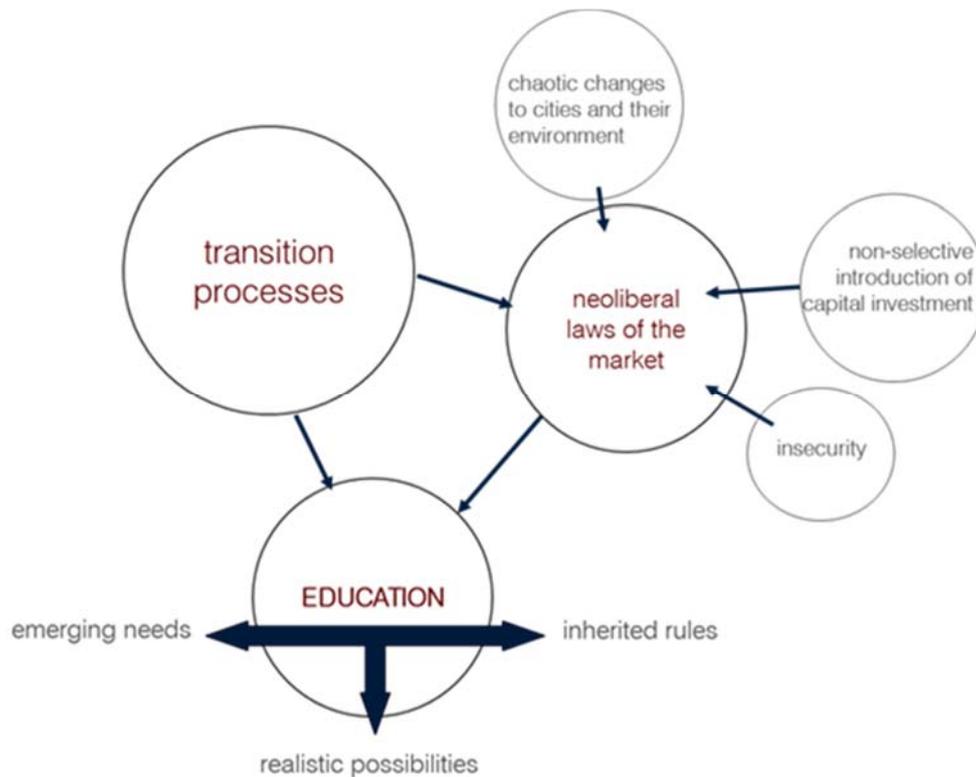


Figure 1. Actual relationship affecting education process

which it operates, the continuity of inherited values, and creating a gap between requirements and real possibilities.

At that point, there was a need to "liberate" the classical educational process and its active integration into the social environment, "listening to" the needs of the wider community.

The newly-envisaged education process revitalizes architectural education in a way that it ceases to be just a companion of the status quo and becomes the initiator and the holder of an integral approach to architectural design.

2. Interactive education methodology in the projecting process

In order to prevent the entire process from becoming haphazard, it is necessary to define adequate methodology, based on a synchronous activity of theory and practice in every segment of the work. Since architectural education is in question, a very specific scientific field, exact and abstract, artistic and applied, the entire issue is at the turning between the newly-created demands and real possibilities. In that, one should keep in mind that we speak primarily and above all about education of designers-project engineers, whose creative solutions shape the world and reflect the

time in which they create, thus educating the wider public at the same time.

In that way, education does not cease within the academic process, but goes beyond the institutional boundaries, entering the real framework and issues, adopting an interdisciplinary approach. "I suggest that architectural design pedagogy should be viewed as training toward the manifestation of the ability to conceptualize, coordinate, and execute the idea of building [5]."

Guided by the fact that family houses are still the most frequent typology within the defined, constructed space, the research will focus on the *problems of modernity of single/family houses* (Case Study), as a reference in conceptualisation of space as a whole, epistemological notion, consisting of concrete, material facts, social influences and personal thinking.

That enables mutual activity between humans and their environment, as well as the creation of *an existential space* as the foundation for understanding architecture and the proposed educational process.

"The correspondence between man and his environment is a two-way process, a true mutual relationship. 'Architectural space' is a concrete, physical manifestation and the result of such a relationship. One could say that existential space, as one of the psychological structural elements of the man's existence

in the world has a real reflection in the architectural space [2]."

2.1. Dialectical search for creative contradictions

In order to realistically comprehend the idea of existential space, in the context of the present social transformations, it is necessary to start from the fact that architectural design is, essentially, a dialectical quest for creative contradictions for the purpose of establishing new qualities of both an individual housing unit and space in a wider sense [6].

In that context, space appears as the most important resource directly influenced by man who also operates within it. The spatial complexity we speak of demanded an integral approach to the study of theory and practice, as well as a working methodology that would not only understand the issue in question, but also continuously develop awareness of the importance of the processes within which it acts, in the sense of reshaping the social values and their influence to every individual [3].

That is why the first step to the newly proposed methodology suggests education at two levels that constantly interact.

At the first, analytical level, the issue of modernity is explored through a phenomenological approach, while the issue of housing is researched through the process of transformations of needs of the society and an individual.

By emphasising theoretical discourse as the essential part of this section of research, the development of critical autonomy of architecture is also encouraged, for in it, architecture is seen as a reflection of real needs of man and the context, opposite the non-selective and uncontrolled architectural production. In that way, the creation of forms *per se* is avoided, while educational process is directed towards the applied knowledge or reconfiguration of the role of architecture as science within a reality. In the spirit of such an approach, it is necessary to correctly comprehend and semantically differentiate the terms – *modern*, *modernity* and *modernisation*, within which every design process is unfolded and realised. That is why it is important for the case study to emphasise the term *modern* as comprehensive and polysemantic, *modernity* as a concept and a "mediator" between the processes of socio-economic development (modernisation) and a subjective response to that development, and *modernisation* as a process, in order to be able to set grounds for valorisation of that which is current and parameters for designing that what is to come.

The second level entails inclusion of findings and their application in the recent, realistic framework on the way to achieving a concrete design. Development of such way of work enables students to go beyond the borders of solving the issues strictly within the academic community, and also encourages teamwork with inclusion of experts from practice and the future users. Consequently, students become "active learners" in the design process, which is an open process, and participate individually in setting the task, examining possibilities and proposing solutions (Figure 2).

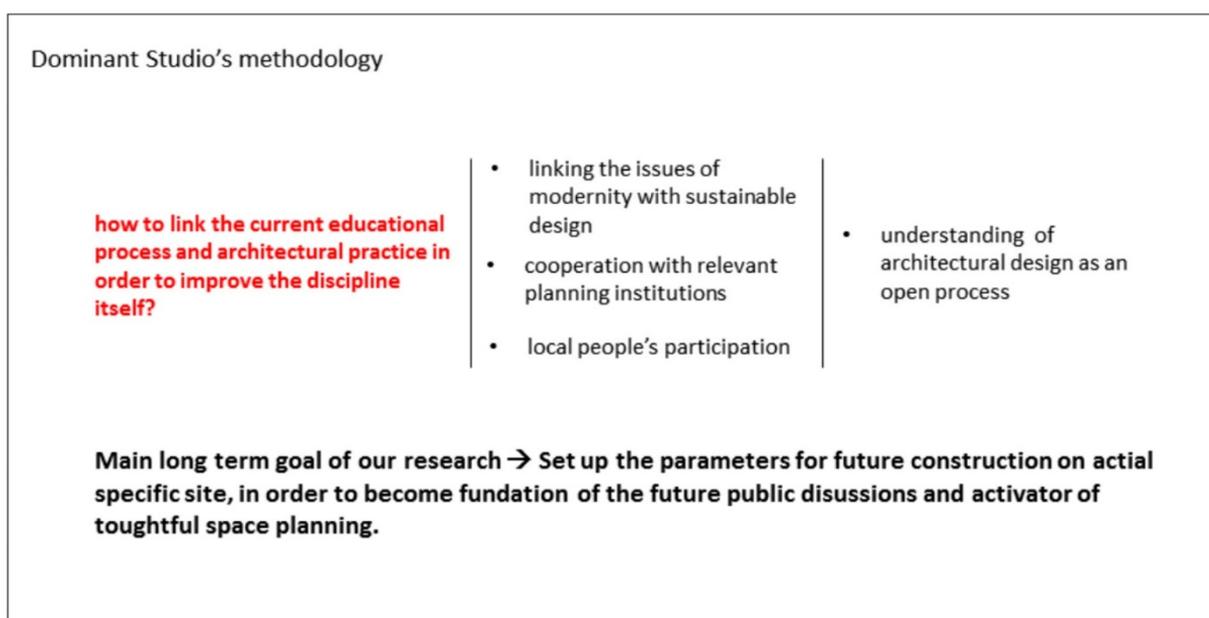


Figure 2. Dominant studio's methodology

2.2. Inclusive method in architectural education

Fully aware of the fact that schools of architecture change their curricula, adjusting them to the current issues of society and constructed surrounding at the global level, the matter is further complicated by arriving to the level of local specificities and needs.

That finding initiated the "rethinking" of the role of architecture in a broader sense, and the conclusion followed that the real role of architecture in the past thirty years has been at the border between two demands – to create architecture by focusing exclusively to the issue of form, or to create architecture that would rationalise the creative process. Paying full respect to both approaches, as well as the contemporary tendencies of finding a balance between the rational and the creative, we, however, opt for a solution that excludes neither attitude; a solution that will not try to bring those attitudes together, but rather juxtapose them through connections with the specificities of the material and non-material context, and that will propose solutions and their evaluation through an analytical process.

In that way, the relationship *the rational vs. the creative* will replace the relationship *the creative from the rational*, which means, in educational sense that the focus is on the process of finding a solution or the "design thinking process".

Such basic idea initiates the introduction of *inclusive methodical concept* that is unfolded in three segments.

The first segment entails inclusion of social competences for the purpose of achieving social sustainability, and, in accordance to that, social relationships within the specific locality are analysed, its

character is examined in the sense of determining the private, semi-private and public aspect. Local population is an important contributor – the future users of an object who express their needs in the back communication, but also accept suggestions. In that way, the basic principles upon which rest the process of redefining social sustainability of a space are achieved.

The second segment of the work entails inclusion of experts from practice, urban designers and planners into the design process. Students engage into a discussion with them and are thus enabled to analyse the existing regulatory and urban plans. They are also encouraged to equally and within realistic framework participate in the discussion, detect possible lacks, exchange attitudes and propose new solutions.

Within these two proposed segments, a kind of "**design dialogue**" is realised at two levels: On the first level, between real conditions and needs of users on the one hand, and designers on the other. At the second level, between the objectives circumstances from the practice and the educational process (Figure 3, 4, 5).

Finally, the third segment is the result of the first two and is manifested through a more homogenous relationship between the analysis and the project process. The way of work and the communication professor – student simulates **the work in a bureau**, where the professor is also the critic.

Supporting the opinion that the "set limitations" initiate creativity, work **on a model** is introduced into all stages of design, where "the main goal has not been to use the model exclusively as the final product of the design process, but rather as a means/tool that enables evaluation and the development of the very design process through an open discussion student-group, student-group-professor, and student-group-planner [1]."



Figure 3, 4, 5. Design dialogue through studio education process

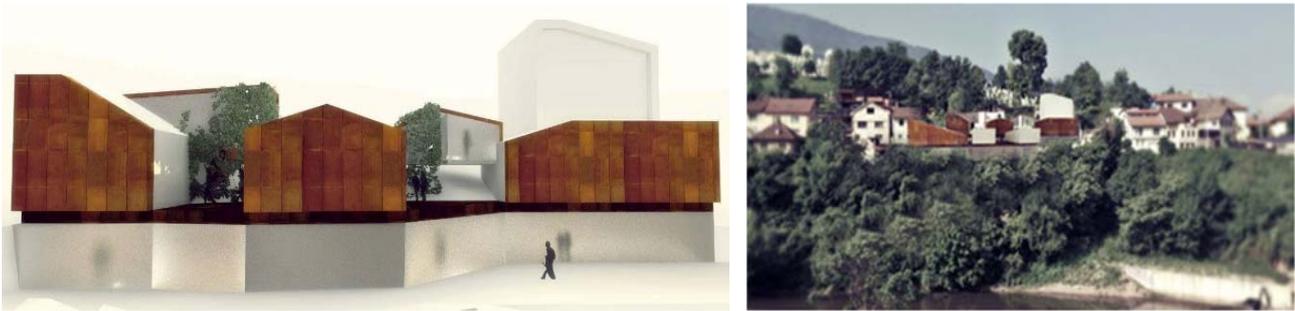


Figure 6, 7. Results of students of working in the studio on topic of "Issues of Family House Modernity" in Sarajevo

The proposed methodological concept was developed as an answer to the real needs of the material and non-material surrounding, and it implies introduction of a **studio** where formulations of studios will focus on discussions of studio-based design learning systems and curriculum developments on integral design studios that aims at significant and innovative frameworks. In this context, integrated design studios are the newest approach to architectural education.

3. Introducing studio-based design into learning process

Space, as Lefebvre reminds us, is a social product: What we call space is an always-already-full texture of trajectories and functions determined by natural conditions and subsequent historical development. The abstract spatial regime of modernity reifies space, detaching it from life. Space, Lefebvre explains, becomes a set of formal relationships among objects, erasing distinctions that derive from nature and historical time as well as this distinctions linked to our bodies, such as age, sex, and ethnicity [7].

If we live in the postmodern age of multiple truths, might it be possible to develop strategies for teaching this epistemological discovery to students in studios? Do we have to agree with Friedrich Nietzsche that historical knowledge is bad and stifling, or on the contrary, could the students' recognition be, that the system of instruction in the studios can be liberating? Just as space is not a blank sheet but is continually compromised by social interactions, the government agencies, and the levelling affects of late capitalism and transition, so too architectural education is a contested terrain. Might it be possible for instructions to foreground, rather than obscure, this contestation [9]? (One possible strategy for such an approach is outlined in Val K. Warke "Prolegomena to a Rethinking of Context in Architecture», Cornell Journal of Architecture 5 (1996) 8-15.)

4. Case study

As part of the cooperation with NTNU, we were able to propose at the Sarajevo Faculty of Architecture (AFS) this very work in the studio and thus introduce an innovation into the faculty's curriculum. For three academic years (2013 – 2016), we were able to monitor students in their studio work through integration of the aforementioned three segments of designing a family house, as part of the subject "Issues of Family House Modernity" at concrete locations in Sarajevo (Figure 6, 7).

4.1. The first segment: Social sustainability in design process

Providing guidance to students within rather 'confusing and chaotic' interventions of inhabitants, in which students were accorded considerable freedom and were encouraged to take initiative in communication with the inhabitants sometimes crossed the boundaries of the customary working methods. The social component of the settlement's sustainability was important to us in order to ensure their long-term functionality [8].

4.2. The second segment: Inclusion of experts from practice in the in design process

Research and analysis of proposed regulating and urban development plans, which were sometimes found to include shortcomings and inconsistencies, allowed the students to propose more optimal solutions and participate equally in discussions with authorized town planners and plan designers. Such discussions ranged from the analysis of the community level to the actual internal organisation of the structure in question. Students were permitted to challenge and test their visions of space and constructed spatial structures against realistic possibilities – economic, social and legal. But they also offered the planners a different way of thinking and treatment of the existing space, which could be incorporated into the existing town plans [1].

4.3. The third segment: Simulation of the work in a bureau; Designing with architectural models

The emphasis was placed on the exchange between the professor and the student, not *ex cathedra*, but through simulation of the work in a design studio, with the professor acted also as a critic and where the role of the architect is contemplated between the two poles: the creator vs. the critic. This manner of teaching was possible through application of structural models in all stages of work. It is well-known that a structural model clarifies architectural concepts for the general public, thereby serving as a presentation and representation of the entire project. Still, the main goal was not to use the structural models exclusively as the final result of the design process, but as the means / tools to allow

evaluation and development of the designing process through an open discussion between the student and the group, between the student, the group and the professor, and the student, the group and the planner (Figure 8, 9, 10).

Through construction of several model variants, each student and the group were confronted with the spatial, substantive and formal repercussions of their ideas/concepts. This permitted them, as future designers, to comprehend the design process as a source of inspiration and ideas that are necessarily challenged for the purpose of deepening and improving one's own practice. Therefore we completely agree that 'making models and learning to master their possibilities, goes hand in hand with the development of a personal design signature' (Figure 11, 12).

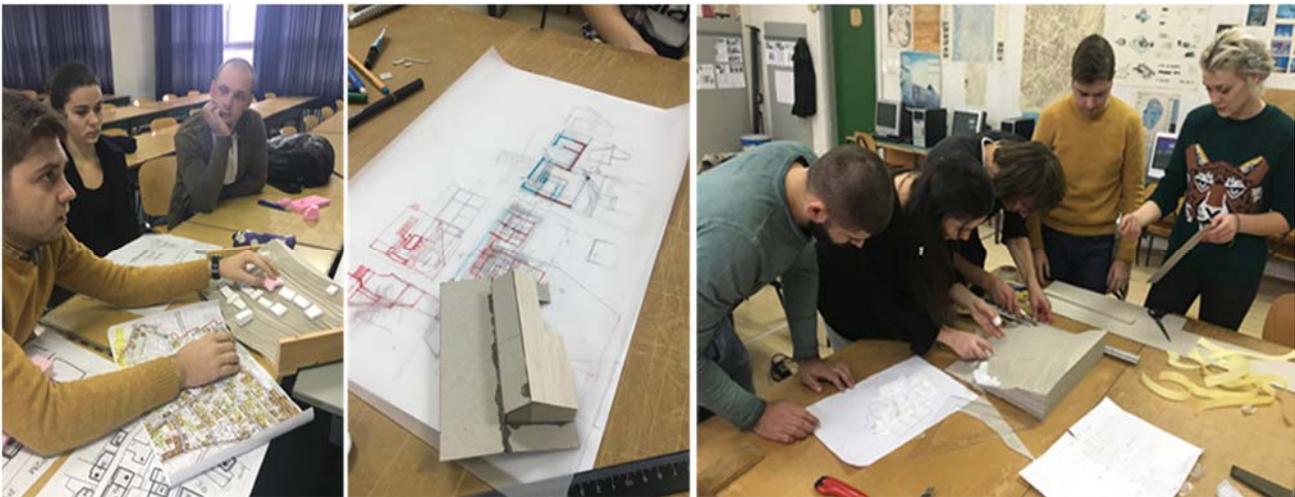


Figure 8, 9, 10. Presenting, making model and designing space in studio



Figure 11, 12. Results of students of working in the studio on topic of "Issues of Family House Modernity" in Sarajevo

5. Conclusion

The nature and the character of the assignment during the Studio required an examination of the ambiguity of sustainable architecture, so the students were guided to understand this concept in its integrity. The prevailing views of sustainability through environmental parameters, and their technological options were studied and adopted equally with non-material social and cultural needs of local communities, as it was believed that all these elements only through synergy may provide a complete answer to the contemporary need for sustainable architecture [4].

The academic structure of the Studio has improved learning methods of students on multiple levels: an internal network was established between the two departments at the Faculty of Architecture, while the external network was represented by an interaction between the Faculty and experts from the Sarajevo Canton Institute of urban planning. In this manner, the resulting academic curriculum became interactive through **inclusion of experts from practice** and the methodological approach of "learning through working on site" has changed the strict academic approach through **a kind of "design dialogue"**.

This is the turning point where the educational system needs to find adequate answers to the range of problems at the local level through interaction and integration of theory and practice. Interaction in education is also applied with more active roles of academic staff, who became more active participants in the research and design process in order to reach more innovative methodological frameworks which can respond more to the real project demand on-site. By including the Department for sustainable design and material, we achieved a transformation in the process of working outside the strict academic scopes and added value to the student's individual design. The Studio work has transformed the perception of designing individual housing by turning it into one of the important method forms in architectural education.

It is important to emphasise that such educational improvement gives exact results that can be used in architectural practice and can be implemented in the change of regulation plans in the future city urban planning and architectural practice. Enhancement of cooperation with relevant planning institutions and local people participation helps also provide and implement new concepts and project suggestions through organising public discussions. Such a synergy shows that *architecture is thus revived* and is elevated beyond strictly academic boundaries. Everything becomes realistic – forms, materials, details; and they all have their phases of development, their genesis from scientific and technical support to lay attempts at

making a living space better, more contemporary and adjusted to the demands of the new age. In that context, a dialogical character of sustainability in architecture holds an important place and has no alternative.

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