REVALUATION OF THE CITY AND ITS RESOURCES: AN ACADEMIC METHODOLOGY FOR ADAPTATION TO CHANGES IN URBAN LAND

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The architectural project is at the center of the design studios at Pontifical Catholic University of Ecuador's School of Architecture. This teaching methodology integrates transversal tools that strengthen the concepts of social and technical sustainability. Therefore, the architectural project can be a way to learn, investigate and analyze potential solutions to problems found at various scales of the territory, from the neighborhood to the city. The current development of cities is focused on finding, through the architectural project, tools that can adapt to changes on urban land due to present and future development. This article presents a teaching methodology based on Project-Based Learning, which reflects on Quito’s public space, seeks to contribute to the knowledge of the city, to explore leading ways to good practices for teachers and future professionals and to contribute to that city’s urban renewal. The methodology presented here is divided into four moments (conceptual, analytical, strategic, and proactive) and three territorial scales (large, which entails a zonal analysis; medium, that leads to the analysis of the neighborhood; and small, which includes the analysis of the project’s site). This methodology allows for flexibility during the design process and triggers conversations around a more prosperous city which revalues its resources.

Keywords: Integrating academic tools, Project-based learning Urban renewal, Design studio methodology.

1 INTRODUCTION

We need to teach architecture students about the built environment: how it is structured (which can be learned by gathering historical and contemporary evidence, by comparing different urban examples, etc.), and how it behaves over time and responds to changes in use or other circumstances. As Habraken (1962) put it, teaching architectural design without teaching how the environment works is like teaching medical students the art of healing without telling them how the human body works. Under this premise, the integral knowledge of architecture as knowing and doing must be coherent and integral to propose strategies for urban architectural projects.

The development of academic proposals with the goal of reevaluating urban land encourages project innovation whilst respecting the context in which the project is proposed. A revaluation process cannot be considered without considering the social, tectonic, and urban resources that are
necessary in order to manage it once built. The guiding thread for a coherent academic project is to have a relationship between the scale, the assessment on the environment and the complexity of integrating systems such as: form, function, material, resources.

Thus, this way of teaching architecture makes visible and provides the necessary tools to face the challenges that architecture students usually experience during design studios: the misconception of architectural objects as isolated entities in relation to the urban environment, the uncertainty regarding the application of floor plans as a means to reflect on the city, and the disintegration of technical and sustainable knowledge as part of the architectural project. This article, therefore, has the purpose of providing useful instruments to train good professional and thus contribute to the revaluation of the city and its resources.

2 METHODOLOGY

Etymologically, method, comes from "meta-hodos”, which means path to a certain purpose. In this case, since we are dealing with architecture students, the path followed is to DO and the pursued purpose is to THINK architecture. As Álvarez et al. (2017) put it, doing and thinking architecture leads us to understand the elements that make it up.

In order to follow this path toward knowledge, a workshop based on research on the revaluation of urban areas through architectonic interventions is proposed, where students can go through a Project-Based Learning (PBL) experience. The methodology makes it possible for students to identify the conceptual and territorial problems that could later be explored on their end-of-career project. The PBL methodology and the concept of Learning - Doing allow students, through the rational identification of a problem, to raise hypotheses on ways to solve it, by using the knowledge acquired during their academic training.

Additionally, this methodology was phased in four moments: conceptualization, analysis, strategy, and development of the project. These moments allow students to work on objectives and challenges for the resolution of the urban-architectural proposal as the final project. Finally, students had to analyze Quito’s 2021 Comprehensive Plan and to find in it opportunities where urban revaluation could take place (Secretaría de Territorio 2021).

This methodology allows for enough flexibility so that each student can develop a unique, innovative, and replicable design.

3 CONCEPTUAL FRAMEWORK

3.1 Revaluation

Value is used in the design research realm as a conceptual category that is created collaboratively and that incorporate personal and cultural perceptions of a good quality of life. Revaluing, thus, is a conceptual tool used in this study to analyze processes and outcomes of value transformation entities that are transitioning from unwanted positions where they are at risk of devaluation, to renewed positions that stretch their value and durability (Hurtado 2018).

Many cities, especially those with rapidly developing in urban areas levy betterment taxes or use land value capture instruments which are event-based. For this reason, it is relevant to generate methodologies for the development of architectural urban projects, where the instruments of value increase are analyzed as attributable to actions of, or investment by, the state, such as grant of consent for development or the provision of infrastructure.
3.2 Revaluation with Urban Land and Architecture

In the theoretical framework of revaluation, it must be understood that any process that involves designing and planning allows for a practical analysis of how people can create individually and collectively, seeking to improve something that has lost its value and has deteriorated and to turn it in something that can be revalued with the contextualization and the practical form of integration with its new role and/or value of its habitat. It is usually assessed with reference to value (market capital value, market rental value or cadastral value based on parameters such as land use, location or size) of either unimproved or improved land (e.g., including buildings on the land) (Hughes et al. 2020).

The conceptualization of revaluation through architecture is worked on not only from the economic concept but from the broad field of application as social value, cultural value, urban value and architectural value; applied to the use of land, goods and objects that have lost their value over time and are part of a daily problem that affects the quality of the city's daily habitat.

4 APPLIED METHODOLOGY: LAND REVALUATION BY RECLAIMING URBAN RESIDUALS

4.1 Moment 1: Conceptualization of Revaluation

In Moment 1 “Conceptualization of Revaluation” the student is encouraged to carry out comprehensive research on the action of revaluing linked to conceptual lines such as: urban value, architectural value, obsolescence, expiration, abandonment, underutilization, temporality, etc. In addition, Moment 1 allows the student to reflect on local and international case studies, and on the positions on revaluation in other contexts (Figure 1). During conceptualization, the analysis of the problem with social, economic, and physical variables in relation to urban growth is proposed. At this stage, Quito’s 2021 Comprehensive Plan is also introduced to students (Secretaria de Territorio 2021).

![Figure 1. M1: Conceptualization of revaluing / Student: Leonardo Santillan; Mentor: Gabriela Mejia, 2022.](image)

4.2 Moment 2: Analysis of the Territory in Scales

Landing on the site and reading the site experience in time and space, helps the allows the experience to be perceptive and interpretive (Álvarez et al. 2017). Thus, in Moment 2, once the
Comprehensive Plan has been analyzed and areas where revaluation could take place have been identified, the scales of the areas to be analyzed are selected and visited.

Since Quito’s 2021 Comprehensive Plan classifies the city’s urban land into four categories according to the treatment that it should receive (Renovation, Consolidation, Conservation, Potentiation and Gradual Improvement), students are encouraged to focus on areas under the Renovation treatment (Secretaria de Territorio 2021). The methodology proposes to work on 3 scales: large, which entails a zonal analysis; medium, that leads to the analysis of the neighborhood; and small, which includes the analysis of the project’s site. The selection of the areas of intervention with the criteria of analysis of the scales, allows students to identify how variables, indicators, and social actors change from scale to scale.

Some of the data usually collected by students at the medium scale includes social, economic, environmental, and urban indicators. On the other hand, the small-scale analysis is focused on specific blocks and lots. The final products of these analyses usually included charts, maps, and tables.

4.3 Moment 3: Strategic Integration of Knowledge

Learning to have control of the environment and the creation of adequate conditions for their needs and the development of their activities are issues that man has raised since its origins. Doing from knowing how to inhabit is how architects respond to reality (Álvarez et al. 2017). This is why, during moment 3, students must reflect on their concept in the lights of the context where their proposal will be located.

This moment allows to discover the strategic solutions in relation to the SOCIAL ACTOR - SPACE - FORM - CONSTRUCTION continuum, proposing different strategic positions for their projects (Figure 2).

Figure 2. M3: Strategic integration of knowledge / Student: Leonardo Santillan; Mentor: Gabriela Mejia, 2022.

Additionally, at this time, students have the opportunity to receive lectures and critiques from experts in the areas of structures, sustainability, tectonics, and urban landscape, who also advise
them on how to synthesize M1, M2, and M3 and to find strategies to revalue land through renovation.

4.4 Moment 4: Integrated Urban Architectural Proposal

In the M1+M2+M3 process, the learning results allow the students to have the complete tools for the development of their proposal. In Moment 4, on the other hand, students go through the actual design process. At this stage, students use BIM platforms to develop their proposals (Figure 3).

M4 reflects on qualitative and quantitative variables and to respond to them through design. The BIM tool provides complete information on plans, volumes, quantifications and the first stage management models for the implementation of the project.

As part of this moment, students also propose a management plan anticipating how land will revalue with their proposals. This is a methodological contribution, which incorporates all the scales previously analyzed and works as a useful tool that students could also use on their end-of-career projects.

Figure 3. Urban residual / Student: Santillan; Mentor: Gabriela Mejia, 2022.
5 RESULTS

At the end of this process, students end up with various products: 1) conceptual schemes and other hand-drawn explorations, as well as notes on the readings on revaluation, on M1; 2) quantitative and georeferenced data, as well as other notes taken during field visits and notes on Quito’s Comprehensive Plan, on M2; 3) study models and volumetric explorations, on M3; and 4) finalized drawings and, in some instances, quantifications and management models, using BIM platforms.

The closing of the 4 moments takes place at a final review where external critics are invited and provide feedback to students on their proposals. At these reviews, critics start conversations with students about the ways in which their projects help to revalue urban land. This provides students an opportunity to be critical of their projects and to argument how well their projects performed in the lights of the readings they had on urban revaluation.

6 CONCLUSIONS

In general, PBL learning methodologies have proved to be versatile and to allow for reflection and development of incisive proposals, and this case is no different. The role of the tutor in this process is to facilitate learning the process, since the methodology of four clear moments allows students to work in a reflexive, analytical and innovative way. Understanding different scales of analysis in the territory makes the contextualization of the projects real and feasible. All the approximation processes from the 4 moments allow a comprehensive and professional approach to a complex subject such as land revaluation through architecture. At the end of this process, students develop an adequate toolkit that helps them to use architecture as a means to improve a given context, but that also helps them to incorporate the realities of their contexts into their design process.

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