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A PARALLEL BETWEEN TRADITIONAL TEACHING AND TEACHING THROUGH THE PROJECT

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ABSTRACT

Far from the intention of exhausting the subject on teaching design, even because that would be impossible, this article aims at discussing some proposals for teaching architecture. Based on twenty years of personal teaching experience, and on the exposed bibliography, a parallel is drawn between the teaching traditionally adopted and what we call teaching by project. Where design is understood as research, that is to say, knowledge production within the design laboratory, as opposed to the design studio.

INTRODUCTION

You cannot teach architecture, nobody can teach architecture. You can educate with the mentality that could be that of an architect. You cannot teach how to do architecture. You can teach how to build. You can teach how to think. (ROCHA, 2002, our translation)¹. The objective of my "lessons" has always been to stimulate students, to awaken in them an architectural mentality that could enable them to do their own work (Hertzberger, 1999).

Both Paulo Mendes da Rocha's and Hertzberger's statements demonstrate that there is no easy formula for teaching architecture. The first one talks about educating with an architect's mentality, and the second one about awakening an architectural mentality. But how to teach and awaken such mentality? Would it be responsible for design skill and, as such, teachable? The project discipline, or the project studio, receives considerable attention and weight, both by the teaching staff and the students (Comas, 1986)¹. The first one, for didactic reasons, and the second one because of their proximity to the professional field of activity most widespread in the media (Foqué, 2010; Martinez, 1986). The tradition of teaching architecture, according to Martinez (1986), consists of

[...] acceptance, as an evident truth of the implicit postulate, that "you learn architecture by designing buildings". The conditions under which this principle is exercised may vary [...]. But the priority of the project is at the very root of our

profession, as it has been transmitted for two centuries (Our translation)².

According to Oliveira (1986), the crisis in the discipline of architecture would not be about the procedures but, integrated into the contents. The teaching of architectural design seeks to transmit architectural knowledge through continuous and systematic investigation. In general, in the design studio, for Oliveira (1986, p. 76), "the professor prepares and implements the didactic project, and the student implements it in architectural projects". It is suggested to work with *complete design problems*³ according to real assumptions. The contextualization of the process, in terms of physical, legal, environmental, economic, social and cultural conditions, within the contemporary dimension of architecture, becomes fundamental for the student to develop their process of analysis and reading of the environment in which they will carry out the design intervention. However, such parameters must be contextualized; when working with fictitious parameters, consequently, the developed process will also be fictitious (Kowaltowski, 2011; Mahfuz, 2009; Zein, 2003). The project, as a public gesture, requires a perspective that involves all the actors who star in the same story, staged in the city, the place of the action.

MODELS AND PROCESSES

In the project discipline, both the student and the professor must understand that their process, and consequently, their teaching, do not

¹In the original: *Não se pode ensinar arquitetura, ninguém consegue ensinar arquitetura. Você consegue educar com a mentalidade que poderia ser a do arquiteto. Não se pode ensinar como fazer arquitetura. Pode-se ensinar a construir. Pode-se ensinar a pensar.*

²In the original: *[...] aceitação, como uma verdade evidente do postulado implícito, de que "se aprende arquitetura fazendo projetos de edifícios". Podem variar as condições em que esse princípio se exercita [...]. Mas a prioridade do projeto está na própria raiz da nossa profissão, tal como tem sido transmitida há dois séculos.*

³Term used by Martinez (1986, p.94) in opposition to complete, *decontextualized architectural problems*.

constitute a linear system of determining sequential *tasks*: based on the survey of the program or briefing, they study possible solutions are created and, subsequently, one of the solutions is developed, without comparative analyzes being carried out (Foqué, 2010; Kowaltowski, 2017), see Figure 1.

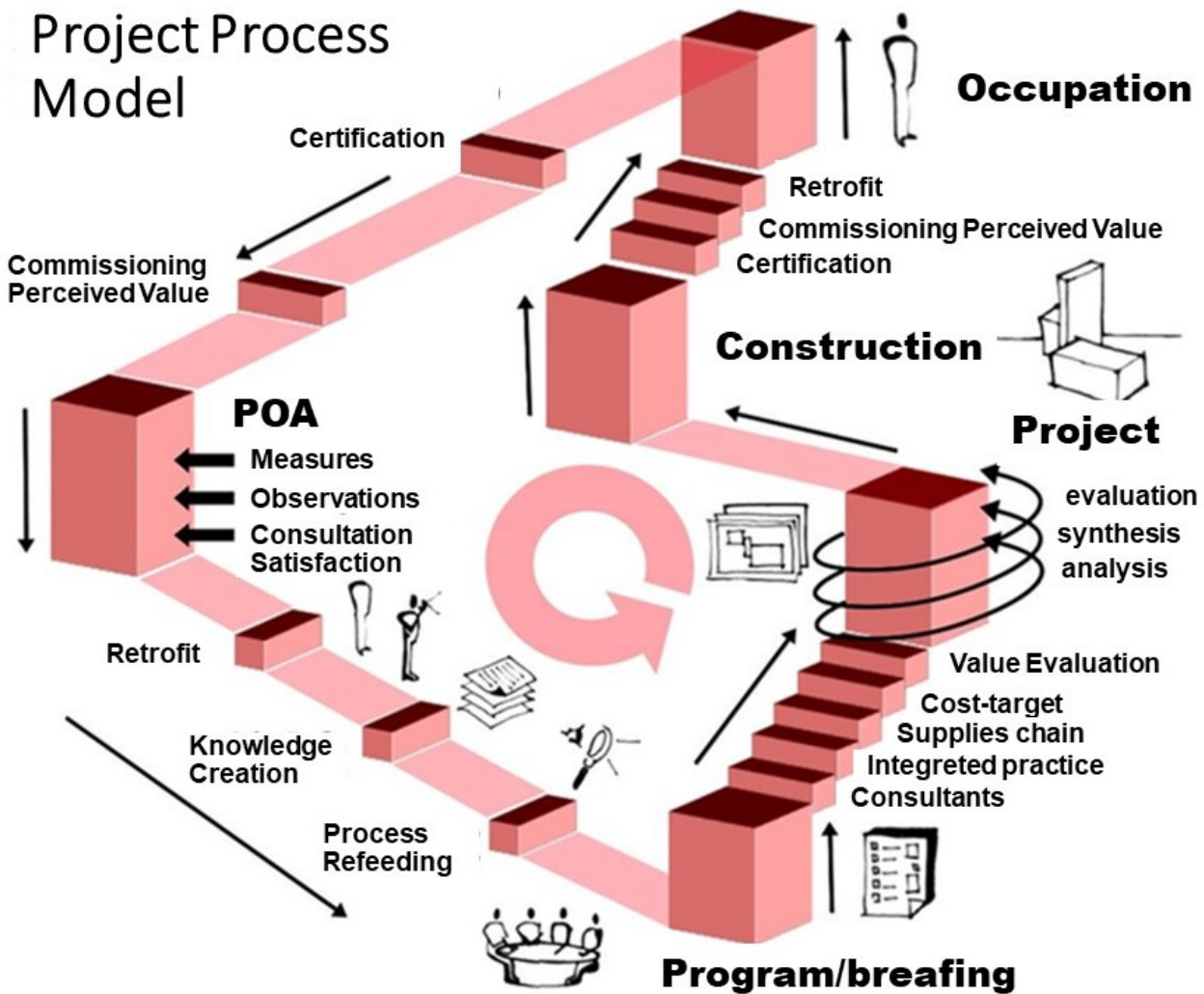


Source: Produced by the author

Figure 1. Generical process for the design of projects

In most cases, the process ends after the partial development of the possible, less labor-intensive solution and a preliminary study or, in the best case, the preliminary project is reached. The relationship between design and construction is absent from the process, or relegated to technical disciplines in a disconnected manner. For Doris Kowaltowski (2017), the project process goes beyond the given design solution; it encompasses the phases of construction, certification and the entire database collected in the post-occupancy assessment – POA that feeds back into the process. It is noted in the model proposed by her, figure 2, thatthe design phase has back and forth between evaluation, synthesis and analysis, and the same occurs throughout the process.

interdependence between phases, similar to a gear system, where the partnership with other professionals involved in the process, such as calculators, electrical and hydraulic designers, etc., participate in the preliminary study. A process continually fed back by the premises, mastery of the construction system, and the generation of the knowledge base from the APO and the experience generated throughout the process. A model similar to that presented by Professor Doris, but with emphasis on the design phases determined by the Brazilian Association of Architecture Offices – ASBEA. It is noted that, as the project is a public gesture, its process has the contemporary city as its backdrop, where adversities and differences must be recognized, thought about and considered, throughout the decision-making process. Furthermore, the process must be collaborative, where different agents, not just technicians, participate in the entire process, and consequently, in decisions, with the objective of building a common space and in continuous movement. The project professor, in addition to the necessary teaching qualities, must have a broad and clear vision of project. Their experience and level of involvement with the object, the raw material of the discipline, is paramount. Just as the student needs sufficient time to mature their process, the professor must have sufficient experience and maturity in the exercise of their profession. The practice of the process and its production are important, not only for the knowledge acquired, but for the student to realize that their difficulties are similar to those of the professor (MAHFUZ, 2009). Everyone must be open to the innovations and demands of the contemporary world, but



Source: Model edited. Base model available at: https://www.researchgate.net/figure/figura-1-Modelo-de-processo-de-projeto-em-arquitetura-com-demonstracao-dos-varios-tipos_fig1_307479098 (uploaded by Doris Kowaltowski).

Figure 2. Project process model presented by Professor Doris Kowaltowski (2017)

Based on my thirty-five years of professional experience in project development and construction management, I would dare to propose a model (Figure 3) of cyclical visual conformation, with

without losing sight of the social, economic, environmental, ethnic, cultural dimensions and rights of populations excluded from the mode of production and collective benefits. The workload allocated to the

project discipline must be considered relevant (Mahfuz, 2009). The completion of the process occurs through observation and practice, not copying. Experiencing the entire process is essential to teaching. As it is not a linear process, the student needs sufficient time for the *comings and goings*, inherent and intrinsic to learning, to assimilate and mature their reflections and evaluate the results. It is not about passing or failing the subject, but about increasing the student's autonomy in developing the process itself. Autonomy in the sense of generating practical-critical knowledge (FREIRE, 1996) caused by reflection-in-action (SCHÖN, 2000), which does not exempt the presence of the professor in the process, as a catalyst for it.

also be considered. Each designer takes with them their experience, their baggage formed by previous experiences and their motivations and values, that is to say, their poetics, as demonstrated by Frampton (1996). Such poetics can develop systematically or intuitively. According to Pallasmaa (2018, p.102), the design process is characterized as an “interactive and embodied action that merges rationality and emotion, knowledge and intuition”. Silva (1986, p.25) identifies two design teaching practices: the first one is characterized as a synthesis of knowledge generated in other disciplines, and the second one as the reflection of a relatively autonomous *design doctrine*, enriched by the contribution of knowledge from other areas.



Figure 3: Proposed project's process model

THE CHALLENGES OF PROJECT TEACHING

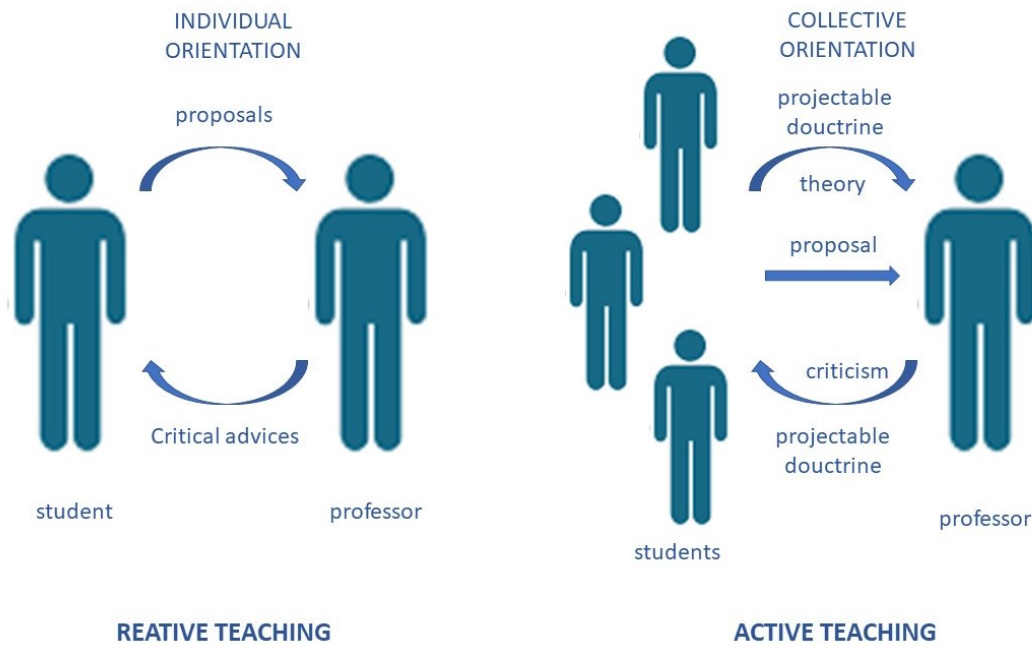
Just as Mahfuz (2003) states that *nothing comes from nothing*, Lawson (2011, p.153) argues that the designer does not approach each design problem from nothing, with an empty mind. The myth of blank paper panic does not exist, *the architect works on a reality*⁴. As the contemporary world is mostly urban, this reality is based on the city⁵, in constant movement, where the agents of transformation must

Comas (1986, p.43) suggests a *theoretical-practical studio*: “a space and occasion for the study of paradigmatic⁶ architectural problems and their solutions”. In the proposal, the studio is characterized as a *research group*, where professors are responsible for developing the scope and determining the theoretical framework of the project. The objective is to promote the systematization of knowledge through the use of the project as a didactic research tool (OLIVEIRA, 1986). Both Martinez (1986) and Silva (1986) draw attention to the need to transform reactive teaching into active teaching. In the first, the

⁴KALASH, Alberto. ARQUIS. HBO Mundiseries. T1, E3

⁵SeeBUCCI, Ângelo. São Paulo, razões de arquitetura: da dissolução dos edifícios e de como atravessar paredes. São Paulo: Romano Guerra, 2010, where the author works with the hypothesis that the city contains all the necessary *elements* for the elaboration of the architectural project.

⁶“understanding as such exemplary problems due to the typicality of their pragmatic and situational data combined with the typicality and generality of their formal geometric, technical-constructive and figurative implications” (COMAS, 1986, p.43).



Source: SILVA, 1986, p. 27. Adapted by the author.

Figure 4: Two types of project teaching based on Elvan Silva's proposal.

Table 1: Comparative table between types of teaching in schools

Traditional Teaching	Teaching through the project
Learning to project	Learning to be able to project
Discover creativity limits	Optimization of creativity and architecture concepts
Gradual formation of personal, individual vision of architecture	Within the limits of the real situation, develop the best architectural solution. Generally accepted theoretical frameworks, collective vision sensitive to contemporary problems (social, environmental, economic, etc.)
Raw Material = "a little of everything", experimenting	Raw Material = architecture itself (buildings and projects))
Final product = preliminary project with emphasis on ideas	Final product = executive project Ideas + concrete design solutions + process feedback (APO))
Break between theory and practice Compartmentalized knowledge ("little boxes"), misalignment between courses in the curriculum	Theory applied to design practice Horizontal and vertical integration between subjects in the curriculum
Lack of systematization, the discipline closes in on itself	Gradual and cumulative knowledge
Architectural project as an end	Architectural design as knowledge production
Simulated context empirical constraints	Real context and constraints Involvement of the various agents involved in the process
Investigation on how things are	Proposition how things can be
Practical process Knowledge-in-action (SHÖN, 2000, p.32)	Practical-critical process Reflection-in-action (SHÖN, 2000, p.32)
Focus on genius Demiurge and autocrat architect	Neutral training Development of participatory and collective design and construction processes
Conceptualism – production of ideas	How ideas can become true
Use of references <i>s model</i>	Case studies as examples
Reactive Teaching	Active teaching

Source: Elaborated by the author

teacher, faced with the proposal presented by the student, criticizes and *gives advice*, leaving the student's exclusive responsibility to carry out the long-awaited synthesis. In the second, the studio can and should be a source of acquisition of a peculiar repertoire, generated by the scientific approach to the design process (Silva, 1986). Martinez (1986) considers project teaching to be active, and, as such, conducive to the collective construction of knowledge, when the learner does so based on the knowledge that he himself contributes to construct. This proposal is corroborated by that of Maria Lúcia Malard, who replaces the individual guidance system she calls a *guidance office*, and works with collective guidance.

The development of the student's critical analysis capacity is observed⁷, as well as the reduction of reactivity when receiving criticism, as long as the criteria are clearly specified. The proposal for collective guidance has drawing as an instrument of communication, which acquires an objectivity that allows for criticism. In collective discussions, the optimization of creativity and architectural concepts should be valued and the focus should be shifted away from genius and pure conceptualism (as opposed to formal integrity). This system

⁷Empirical and circumstantial observation by the author, during the teaching experience, of 20 years of collective project guidance, which would require verification.

favors the exercise of critical analysis and the shared results reinforce each other, leading to the evolution and improvement of collective practice and the exchange of knowledge.

Piñón (2006) considers architecture an activity related to materiality. For the author *construction is the condition of architecture*, and the project, as a constructive process, is linked to the materiality of its products. The current use of computer systems provides a simultaneous design and construction model. According to Foqué (2010), BIM – Building Information Modeling, or Construction Information Model, allows integration between the different levels of the project. BIM technology integrates all the information inherent to the project and builds the model, virtually. This technology demands interdisciplinary information and its programming involves research into the design process. Contemporary architecture, based on building information modeling, needs verifiable data and knowledge on which these models can be based. More than ever, architectural teaching must be based on research (FOQUÉ, 2010, p.129). When considering a project as research, that is to say, as the production of knowledge, the design studio becomes a *design laboratory*, with transdisciplinary and interdisciplinary characteristics intrinsic to the research object. In this way, the possibilities of the project and practices, as a teaching tool, are expanded (Gordilho-Souza *et al.*, 2020, p.10). Over the last twenty years, we have observed the emergence of new ways of designing, with the inclusion of participatory design and construction processes. In them, one can see the architect's role aligned with the other actors involved in the production process. An example is Pritzker Prize winners Alejandro Aravena, in 2016, and Francis Kéré, in 2022. As a Brazilian example, we have ColetivoLevante⁸, whose work is based on the recognition of the values lived and achieved by the local population: landscape, buildings, identities and relationships. In the Casa do Pomar do Cafezal project, winner of ArchDaily's Building of the Year 2023 Award, they use the common construction repertoire of the site, with the aim of becoming accessible and multipliable. In teaching, we have some examples of positive advisory and technical assistance practices, generally linked to extension groups or professional entities. The CAU Architecture and Urban Planning Council offers a course on Technical Assistance for Social Housing (ATHIS): ATHIS in Practice. Below is a summary table, see table1, with a parallel between traditional teaching and teaching through project, based on the considerations above.

By comparing the table above, it is clear that there are several points to be reviewed, or rather, developed in relation to project teaching. The studies presented show that the debate on the topic has been going on for some time: the field has been moving. According to Paulo Freire (2005, p. 50) we cannot accommodate ourselves, we must integrate. Such integration “results from the ability to adjust to reality plus the ability to transform it, which is added to the ability to choose, whose fundamental note is criticality”. Just as there is no single methodology for the design process, it is clear that there is not one for teaching design, which does not imply *accommodation*.

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⁸See "Um passinho de cada vez": interview with Coletivo Levante by Susanna Moreira. Archdaily: july 2023, available in: <https://www.archdaily.com.br/1000731/um-passinho-de-cada-vez-entrevista-com-o-coletivo-levante>.