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# DE PERTO E DE DENTRO: APROXIMANDO DESENHO E HISTÓRIA(S) UP CLOSE AND FROM INSIDE: CONNECTING DRAWINGS TO HISTORY(IES)

ETHEL PINHEIRO, GUSTAVO BADOLATI RACCA, NIUXA DIAS DRAGO,  
SERGIO REGO FAGERLANDE

PT | EN

**Ethel Pinheiro** is an architect and urbanist and Doctor in Architecture. She is a Professor at the Faculty of Architecture and Urbanism at the Federal University of Rio de Janeiro, Brazil, where she coordinates the Postgraduate Program in Architecture and Urbanism, and is the Editor-in-Chief of its scientific journal *Cadernos PROARQ*. She conducts research on architectural representation with an emphasis on urban space planning and design, technical and observation drawing, and urban anthropology. [ethel@fau.ufrj.br](mailto:ethel@fau.ufrj.br)

**Gustavo Badolati Racca** is an architect and urbanist, Master and Doctor in Urbanism. He is a professor at the Faculty of Architecture and Urbanism at the Federal University of Rio de Janeiro, Brazil, where he develops research on urban space representations in various media. He has professional and academic experience in architectural design and urban planning, as well as in graphic representation and expression in architecture and urbanism. [gustavoracca@fau.ufrj.br](mailto:gustavoracca@fau.ufrj.br)

**Niuxa Dias Drago** is an architect and urbanist, an actress, and a Master and Ph.D. in Performing Arts. She is a professor at the Faculty of Architecture and Urbanism at the Federal University of Rio de Janeiro, Brazil. She studies the history of Architecture, of Theater Space and Rio de Janeiro's. [niuxadrigo@gmail.com](mailto:niuxadrigo@gmail.com)

**Sergio Rego Fagerlande** is an architect and urbanist, Master and Doctor in Urbanism. He is a professor at the Faculty of Architecture and Urbanism at the Federal University of Rio de Janeiro, and researcher in the Graduate Program in Urbanism at the same institution, since 2014. He studies tourism and cities, focusing on tourism in favelas and tourism and historical heritage in the city's suburbs. [sfagerlande@gmail.com](mailto:sfagerlande@gmail.com)

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**Abstract**

The strategy developed for intertwining three disciplines from the first-semester of the Architecture and Urbanism course at the Faculty of Architecture and Urbanism (FAU-UFRJ) during 2018 and 2019 (Observational Drawing I, Art and Architecture History I, and Theories and Histories of Urbanism I) expands the creative and mediating role of observational/exploration drawing in architecture. The strategy also highlights the need to experience the city through a non-linear discourse in the history of architecture and urbanism, consistent with our contemporary aesthetic situation. Through the development of an appropriate program for each discipline, with intersections at crucial learning moments (assessments and joint external classes), the process of drifting through the city was the starting point. By recognizing the narrable components of the city, recorded through drawings and texts in crafted sketchbooks, the students were able to build an architectural repertoire and explore their drawing language. Students took a deeper look at historical issues organized in axes of thought that permeate the whole process and which aligns with the current teaching methods practiced in many architecture and urbanism courses around the world. The result, recorded on ethnographic sketch boards and essays on the explored axes, demonstrates the richness of the strategy and validity of the method as a medium and facilitator of solutions.

**Keywords:** Drawing, Architecture, Urbanism, History, Urban experience

## **1 Introduction: between drawing and the city**

Edward Robbins (1994) wondered why architects devote most of their thinking time to the conceptual drawing and its actual role. To answer this question, Robbins searched for architectural design drawings in more than five countries around the world and showed that, even in their spare time or apart from the design process, architects were drawing on their clipboards, notebooks, papers, or any surface that could guarantee some kind of record, in any space in the city.

The drawings analyzed, in this sense, are not those that guarantee a global and objective understanding of the project but sketches, characteristics, and strokes that take on a poetic (and creative) dimension of a future floor plan, perspective, facade, or construction detail. These are notations that permeate the culture, framework, and cognitive power of their producers, freehand drawings with intuitive and continuous strokes, without an obligatory scalar commitment – but always proportional – made with graphite, pens, and markers, sometimes colored, shaded, watercolored, or defined by simple lines. They are committed to an intention and have a much more complex value: a mediation between individuals and the world, which means, in the architect's universe, to critically observe, question, and propose.

Architecture and urbanism drawings must, therefore, merge the creative dimension into the architect and urban planner, enabling new solutions, producing 'utopias', expressing identities, inventing or reinterpreting scenarios, always from 'within' the phenomenon. The title of this article refers directly to Magnani's (2002) paradigmatic publication "From Near and Inside: notes for an urban ethnography". The principle of learning observational, explorational, or conceptual drawing through a multidimensional approach (cultural, social, and historical), in an Architecture and Urbanism course must follow this path. José Barki considers, corroborating with this certainty, that the drawing:

Develops visual memory, imagination, and expands possibilities for experimentation and innovation. Robbins (1994) considers that even with the risk of constructions not receiving as much priority as graphic images, drawings embody the division between architecture as a subjective, conceptual, and cultural process and architecture as an objective, material, and social process. At the same time, it combines the cultural act of creating and the social act of producing. (Barki, 2008, p. 52, our translation).

The drawing, in its manipulative phase (that still operates with the 'elastic' dimension of propositions), is currently and completely associated with architecture. However, if we refer to the centuries before the Renaissance, the relationship between drawing and architecture was not so clear. The connection with building records (the 'clairvoyance' of its result), the graphic notation of the construction process, as well as its understanding in the context of the city's evolution, was not part of the craftsman's scope at the construction site, where building and rebuilding took place. After the 16th century, the separation between the 'drawing board' architect and master-builder characters brought a new status to architecture in the Western world,

demanding a wanderer, an user and a collector of ideas, but also someone extremely connected to graphical notation and the desk as a record base.

The cognitive process can be understood as receiving environmental and sensitive external data. Its confrontation with each individual's internal representations demands a recognition of the reality that is only explained at the present. Thus, the movement of individuals that think graphically (Laseau, 2000) become represented by the places and times they visit and knowledge enables these representations (through the mind and body) of the world.

Representing architecture through graphic schemes, through the spatio-temporal experience of the body in motion also proposes a new drawing code that is connected to historical language. As in a filmic space approach, it includes concepts such as "sequence", "framing", and "path". "Today" or what "is seen" have a fundamental role in this approach and connects with what Rocha-Peixoto (2013) called a **culturalist mode**, that is, the construction of a narrative that seeks to establish a connection between history and the present moment: "The assumption in studying the past is that it is demanded by the present and helps it be understood. There is something in the past that still matters. [...] And if so, reflections must start from the present and address the understanding of the present" (Rocha-Peixoto, 2013, p. 86, our translation).

Edwards (2005) added that drawing skills can be developed, with some ease, by stimulating the right side of the brain through focal incursions. Sennett (2009), on the other hand, agrees that manual skills (including drawing) can be acquired over time and that this is a manifestation of human intelligence. The author adds that humans "[...] are capable of thinking and that the discussions held by the producer can occur mentally with the materials" and "[...] thinking and feeling are contained in the creation process" (Sennett, 2009, p. 17, our translation), through what he calls "material awareness". Then, "the craftsman represents a special human condition: that of engagement" (SENNETT, 2009, p. 30, our translation).

Therefore, it is possible to say that every cognitive process attentive to the development of this graphic and contextual intelligence takes place actively and requires bodies to be in action. Reflecting on methods that can facilitate such registration, approach, and foundation of critical thinking, aligned with the architecture and urbanism teaching, was a driving force on a change of the 21st-century strategic planning. Despite the invention and popularization of photography in the 19th century and all technological advances in graphic and digital representation in the late 20th century, the habit of drawing in architecture has regained strength as a questioning attitude and a means of registering and questioning the increasing complexity of the contemporary city.

The pedagogical experience of combining three disciplines present of the FAU/UFRJ curriculum in 2018 and 2019 took place in the following context: Observational Drawing 1 (DO1), Architecture and Art History 1 (HAA1), and History of Urbanism Theories 1 (HTU1). Joining teaching, extension (through 'immersive drawing' trips), and research (with teachers and monitors involved) through a cultural approach, it is possible to demonstrate that the construction of knowledge is only effective through experience.

The method, developed as an 'integrating strategy' for the history and drawing disciplines, includes joint field classes for moments dedicated to the observation of fundamental principles of urban life such as architectural language, social memory, mobility, public-private relations, and environmental impacts. The transdisciplinary method focuses on experiencing the city and the drawing technique as an instrument for analyzing and questioning the socio-cultural reality. The approach carried out during the student's initial contact with the university intends to demystify expectations of immediate responses, presenting the university as a place where perceptions and experiences intertwine. It follows the questioning and construction of possible and never absolute answers that everyone, both students and teachers, must contribute.

## **2 Pedagogical strategies – Observational Drawing 1 (DO1)**

The Observational Drawing 1 discipline is part of the graphic representation axis, which is part of the Foundation cycle of the current curriculum at FAU/UFRJ. It aims to develop visual perception, reasoning, and graphic expression skills through practical exercises of observation, analysis, experimentation, and representation of objects, human figures, landscapes, and architectures. Through these exercises, it aims to develop the fundamentals of visual language by exercising perception and representation skills; stimulate the capacity for individual expression adding value to the student's repertoire of technical solutions; and raising awareness towards the potential for communication, analysis, and development of creativity in the architectural and urban drawing.

After a structural review, in 2014, that provided new understandings about the role of freehand drawing in architecture and urbanism and indicated the necessity for reviewing the type and scope of the proposed exercises, the content of the discipline was structured in two major modules: **Fundamentals** and

**Experimentation.** These modules gather several daily exercises – focused on architectural drawing rather than artistic drawing – and try to provide the fundamental basis of drawing to students and improve the techniques through experimentation, as shown in Figure 1.



**Fig. 1:** Representation of Ayrton Senna Avenue, Barra da Tijuca – RJ, from an elevated point of view (by the Cidade das Artes building), developed by first-semester students. Source: Ethel Pinheiro, 2018.

In 2016, the professors reviewed the two modules of the discipline according to Vygotsky's (2007) premises regarding the historical-social approach to education and intellectual development. The modules were renamed **Experimentation** and **Deepening**. This change relies on the certainty that students cannot substantiate something they still need to discover and that the 'experimentation' module must consider the previous experiences of the newcomers, as well as the experiences that emerge from classes.

Within the DO1 Lesson Plan, each module takes up half of the semester and discusses – through new exercises in each class - different approaches to the drawing. We understood, at this point, that it should not be simply called 'observational drawing' but 'explorational' or 'conceptual' drawing. During the first 2 weeks of class, the basic drawing language is explored through the perception of edges and spaces, perception of relationships (between humans and objects), perception of light and shadows as well as tonal degrees, and, mostly, the holistic perception or Gestalt approach, as shown in Figure 2.



**Fig. 2:** Three moments of the first exercise of 'manipulating edges, proportions, and space' by Gestalttheorie (Theory of Form) in the classroom. Source: Ethel Pinheiro, 2019.

Throughout the rest of the classes, during the "Experimentation" module, memory activation and analysis drawing are developed. It uses tools that are present in the student's fundamental repertoire, such as graffiti, watercolors, ink, and watercolor strokes. In the second module, "Deepening", the drawing is developed through imagination and application of perspectives, proportions, visual logic, paradoxes, focus, color theory, atmospheric perspectives, urban and ethnographic perspectives. Multiple techniques are put into practice, making the student an explorer of possibilities with the use of water-based pencils, marker pens, watercolors, pastel chalk, and whatever else they want to use.

During the course, students are assessed for their participation, contribution, and attendance, as well as for the development and presentation of work requested at each class. Therefore, the main production and expression support for the students is their sketchbook. It concentrates all discipline's exercises as well as

other kinds of graphic expression they collect throughout the semester – inside and outside the observational drawing discipline. The sketchbook is produced by the students themselves at the beginning of the semester and represents a personal means for experimentation that condenses the entire process of graphic development throughout the course. The students are expected to lose their “fear of a blank paper” and allow themselves to experiment more and more. The sketchbook makes them gradually assume their “errors”, which is very important for the graphic thought process that guides the learning in the discipline. Gradually, drawing becomes a tool of expression and intermediation instead of a mere way of presenting the architectural object mistakenly linked to 'beautiful or ugly' notions.

A crucial moment for DO1 has been the between-modules. It happens when students are invited to participate in an Immersive Drawing excursion to a city outside Rio de Janeiro. This occurs every six months since 2015. The main objective of this event is to encourage students to use the drawing as an instrument for rationalizing and interpreting space, substantiating a very important process of spatiality construction and architectural trace in motion. Some professors from the Department of History and Theory at FAU/UFRJ and other public HEIs join the DO1 groups during these trips, representing an important moment for drawing introspection and experiencing the city, such as the visits to Inhotim and Ouro Preto, presented in Figures 3 and 4.



**Fig. 3:** Students 'in action' during an Immersive Drawing trip to Inhotim, MG, in 2018. Drawing and History teachers gather to promote a three-day immersion trip for interpretive drawing. Source: Gustavo Racca, 2018.



**Fig. 4:** Students and teachers during an Immersive Drawing trip to Ouro Preto, 2019. Source: Gustavo Racca and Ethel Pinheiro, 2018.

At the end of each module, an assessment is carried out using the Synthesis Board. In the first module, a single A3-size board gathers the student's discoveries through a directed narrative, that is, the board shows the path taken to represent the location and social dimension of the chosen physical space, as well as the technique employed. In the second module, they present two A3-size boards assembled and diagrammed to demonstrate a graphic narrative through ethnographic sketches – a topic addressed in the discipline through the researches of Pinheiro and Duarte (2006) and Fonseca (2015), teachers of the discipline, connecting research and teaching at the university<sup>1</sup>. On the boards, students register places considered essential for drawing practice and/or relevant to the history of the city.

Precisely with the development of the final double board, in 2017, we realized to the possibility of integrating DO1 with the HAA1 and HTU1 disciplines, which already operated together, demanding the students to

perform the graphic registration of themes such as the appropriation of public spaces and living conditions in Rio de Janeiro. Half of the classes dedicate to the drawing practice in the classroom and the other half involves exploring and observing life in the city through external classes on Wednesdays. In this context, we associated the DO1 curriculum with HAA1 and HTU disciplines since visiting the city and recognizing various points of urban development has become a purpose for all disciplines involved (from the center to the outskirts, from the colonial city to the city of speed). Besides, we started to approach the 5 axes of thought that structure the History classes.

### 3 Pedagogical strategies: Arts and Architecture History 1 + History of Urbanism Theories 1 (HAA1 + HTU1)

In 2006, teachers of History disciplines from the first semester at FAU/UFRJ became part of a single discipline, integrating two of the departments of the faculty: the Architecture History and Theory Department (DHT) and the Urban planning and Environment Department (DPUR). The methodology and program were designed by Rocha-Peixoto, a professor at FAU/UFRJ, within the scope of his historiographical research compiled in "A Estratégia da Aranha" (The Spider Strategy) (2013) book<sup>2</sup>, which also includes the transcription of the thesis he presented to obtain the Full Professor title at UFRJ.

In this book, Rocha-Peixoto explains the importance of this teaching experience for the creation of a "culturalist" approach to history, based on present experiences and in a non-linear way, where the observation of the city can lead us to meet countless themes and examples of architecture in Rio and other cities or civilizations, corresponding to the students' demands of sensitivity and curiosity. Such an approach also allows the immediate integration of the dynamics of the city, something especially productive for Rio de Janeiro in recent years since it has undergone violent urban transformations.

The HAA1 and HTU1 integrated discipline considers Rio de Janeiro and its urban evolution as a motto to approach the history of urban planning, arts, and architecture. History is understood as something that is, and not only present in texts and images. Thus, the classes follow the city expansion process as presented by Maurício de Abreu in "The Urban Evolution of Rio de Janeiro" (2008): from its initial conception, in the center, to the expansion through the implementation of public transportation lines towards the Southern part of the City and the suburbs. Recently, a new module of the discipline included environmental issues and macro-planning related to the expansion of the Western part of the city. It is worth mentioning that this expansion began with the Barra da Tijuca Plan by Lúcio Costa and was boosted in recent years due to major sporting events and the creation of BRT lines that cross the Jacarepaguá lowlands as well as the Barra da Tijuca subway station.

This discipline proposes the close observation of the surrounding space by the students, leading them to ask questions and analyze the construction and perception of environments and landscapes without concern with "styles" or dates. The discipline emphasizes the characteristics that should interest an architect and urban planner, such as the meaning of architectural elements and spaces they help to write; its qualities, functions, and possible meanings<sup>3</sup>. The classes are organized to have an external visit followed by a meeting in the classroom. The external class is an opportunity for free observation and analysis, even though teachers guide it through a predetermined path and propose themes for observation and discussion. Each meeting has a 'theme', which represents a 'bait' or starting point for discussion and observation. Each theme guides a module, consisting of an external visit and an internal class, and the classes use the history of Rio de Janeiro and its spaces to demonstrate these themes while the city itself is experienced (and often discovered) by the students, as shown in Figure 5.



**Fig. 5:** External class held at Morro da Conceição and records of the external Central-Madureira class by the student Renan Santos in the HAA1 + HTU1 sketchbook, 2018. Source: Niuxa Drago, 2018.

The classes are divided into practical and theoretical. The practical class (external visits) occurs before along with discussions about the visit and is followed by a class about the theoretical approaches, which is the moment when the content about the visit is presented.

During visits, teachers must resist the impulse of inducing the student's interpretation. This is the reason why the visit takes place before the lecture and debates. What should lead the learning process is the feeling the spaces and social relationships held. Graphic records on sketchbooks are encouraged as a way to "save" these impressions and discoveries for future debates and reflections. This is based on the principle that, while coexisting with the architecture and urban space since birth, every student has a prior knowledge about the themes, which must emerge and instigate the entire group of students, teachers, and monitors to rethink their interpretations and concepts based on new perspectives.

The discipline has no tests and the grades are given through the assessment of each sketchbook, where students should register the dynamics, exercises, and classes. During the notebook creation workshop, historical images of study notebooks from builders and architects, such as Villard de Honnecourt, Leonardo Da Vinci, Le Corbusier, and Lúcio Costa are presented. Students are stimulated to realize the purpose of taking notes in the History notebook is analytical. There is no need for great skills or the use of colors and there is no intention of developing realistic drawings. Each student must develop their way of densifying their records to capture the observations and sensations observed during visits.

Students are encouraged to have a "physically" intense relationship with their notebook. It should be used on the floor, walls, grass, in the rain, always and under any circumstances, without constraints. These records have a complementary objective regarding their experience in the other part of the class, which is when they meet with DO1 teachers in the same spaces of the city. While both disciplines focus on experiencing the space and recording their perception, the instruments for recording the experiences and the approach to the "axes of knowledge" are different for each discipline.

At the end of 2017, we observed that these objectives were very close when, during the last module, the DO1 discipline deepened the experimentation on the dynamics of populations in city spaces, through the "ethnographic sketches" exercise. In addition to the notebook, the assessment also included a greater moment for integration between all three disciplines, materialized through the final production: the double ethnographic board, which the student develops based on various on-site records associated with theoretical reflections and interpretations that help him to understand the appropriation of space in the city of Rio de Janeiro.

#### **4 Integrating method: DO1 + HAA1 + HTU1**

When analyzing the progress of the program for each discipline involved in this 'intertwining' (DO1, HAA1, and HTU) process, we identified that the interconnectivity and junction concepts would be more effective than merging all of the disciplines. Then, the intersections were defined in external classes proposed on specific Wednesdays during the semester. Between the 30 classes of DO1 and 15 classes of HAA1 and HTU in the semester, 6 modules/classes were integrated. They always take place in free urban spaces and have axes of knowledge, or themes, developed by the History team, namely:

+ Module 1: A visit to FAU and Fundão

AXIS 1 - ELEMENTS AND LANGUAGE

+ Module 2: A visit to the S. Bento Monastery, Praça Mauá, and Morro da Conceição

AXIS 2 - ORIGINS OF THE CITY AND SOCIAL MEMORY

+ Module 3: A visit to Campo de Santana, Central do Brasil and Madureira

AXIS 3 - PERSPECTIVE AND URBAN MOBILITY

+ Module 4: A visit to Copacabana, Bairro Peixoto

AXIS 4 - LIVING WAYS AND THE RELATIONSHIP BETWEEN PUBLIC AND PRIVATE REALMS

+ Module 5: A visit to Gigóia, Jardim Oceânico, Barra da Tijuca, Cidade das Artes

AXIS 5 - URBANIZATION AND THE ENVIRONMENT

+ Module 6: A visit to Cinelândia or CADEG-Benfica

## AXIS 6 - ETHNOGRAPHIC SKETCHES

The DO1 team (teachers, students, and monitors) continue to operate some of the external classes, such as classes at Parque Lage or Parque Guinle, due to the potential for representation and creative interpretation of architectural structures instead of a historical repertoire. Likewise, the “Human Figure Masterclass”, or “Pose Battle” class, continues to be offered on a specific Wednesday of the DO1 program as part of the “Deepening” module, as Figure 6 illustrates.

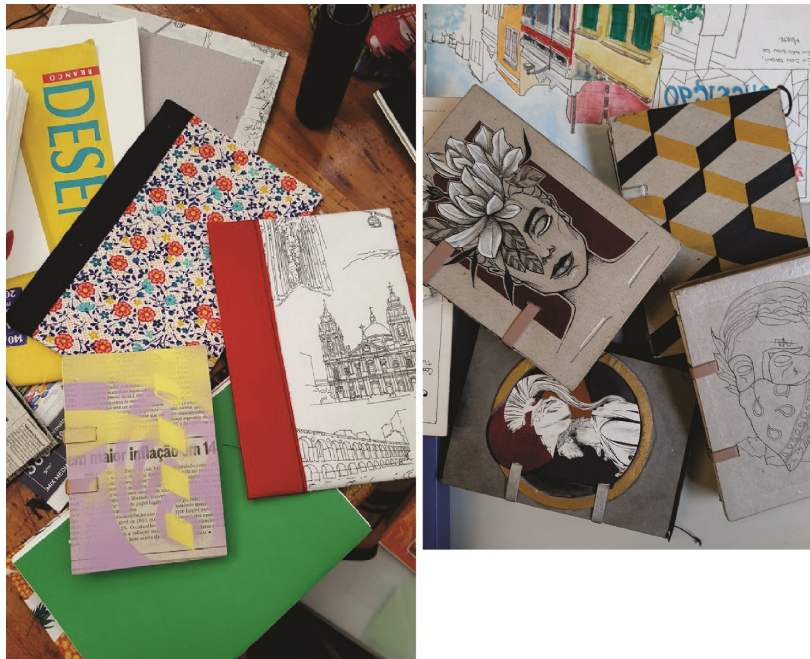


**Fig. 06:** “Human Figure Masterclass” held at the entrance gardens of FAU / UFRJ, in which acrobats are invited to pose for the time of a playlist developed by DO1 professors, offering 1-10 minute poses during two hours. This class model was developed by Prof. Rafael Fonseca in 2015. Source: Ethel Pinheiro, 2019.

The joint external classes take place with four groups with approximately 20 students in the morning and another four in the afternoon, with a total of approximately 160 students. The lecture part of the class, based on the History axes, is given by the teachers of this discipline through a constant dialectical construction process, as students perform the analyses while walking through the physical spaces with teachers. The method follows an alternating process: the HAA1 and HTU1 team gives the morning classes while DO1 teachers guide the same students during the afternoon and vice versa. Each shift offers 2.5 hours of classes and, despite the alternating, the congregation of all teachers, students, and monitors involved occurs in the defined spaces. DO1 teachers monitor and map the points for greatest attention in the graphic record having in mind that they will be sitting with students (in the opposite period), at some necessary attention point that requires careful recording.

The records made by students emerge as a peripatetic moment, recorded through texts and quick drawings during the moment dedicated to History, to change to a deliberate and attentive practice when dedicated to DO1. The sketchbook plays a fundamental role in these cycles, as it provides a means for keeping records and also for the laboratory and future verification of the progress in disciplines. Figure 7 shows some notebooks produced in 2018/9.





**Fig. 7:** Assembly of sketchbooks. The assembly takes place in the second week of classes, resulting in the construction of the support that will accompany individuals during the entire period. Source: Ethel Pinheiro, 2018.

After the entire cycle of classes, for the last axis exercise (ethnographic sketch), the students select a review of the observations in axes 2, 3, or 4 to address them in the final production (Final Synthesis Board + Essay). During follow-up classes, all the professors guide the students through routes for the assembling of the graphic and text proposals having in mind that the thought process is a design process.

Through the temporal layers and space appropriation, perspectives generated by mobility and the ways of overlapping public and private spaces, these axes are intended to contribute to ethnographic drawing in a final product where the student reflects on the entire experience of the period and how to register it through a graphic project, as in Figures 8 and 9. This final stage in the disciplines deeply marks the joint articulation experiences between the graphic aspects and the structuring thought process, which will be used throughout the subsequent semesters in the students' academic journey.



**Fig. 8:** Boards created by the students at the end of the disciplines. This is the moment with the greatest intertwining between Teaching and Research, among the three disciplines involved. Source: Gustavo Racca, 2018.



**Fig. 9:** Boards made by the students at the end of the course cycle, presenting the results of the 'integrating method' developed. Source: Ethel Pinheiro, 2019.

In this final exercise (double A3 board), students are not only expected to present the technical and conceptual domains about the drawing but also its application to express sensory, social, cultural, and historical characteristics of the spaces visited together with DO1, HAA1, and HTU1. This exercise is developed and assessed jointly **by all teachers** of the disciplines involved, activating the body (and time) of all students and teachers through oral, graphic and textual presentations (an essay, which can be attached or integrated to the board ). Therefore, the grade for the final exercises in the disciplines is defined at a convening event, which is unique and complex, making the pillars defended by each discipline, in the review previously mentioned, become possible.

## 5 Conclusions: without a full stop

The method resulting from rational and geometric thinking came up, in the 1970s, with the necessity of avoiding artistic principles, which are generally not very systematic and still present in conceptual and observational drawing in architecture. Through this escape, in the transversal relationship between architecture and urban planning with other sciences, the return to the cultural and local dimensions of the human being expanded as a strategy for project development, establishing a basis for interpretive drawing in architecture. By including other phenomenological and ethnographic methods at the end of the 20th century and ratifying the need to build other teaching methods in the 21st century, architecture and urban planning became closer to the human cultural dimension.

For teachers and monitors involved in the experience presented here, the developed 'integrating method' provided the improvement of the analytical structure and students' repertoire through simple indicators such as experience, self-criticism, and searching for solutions. Objectively, the 'experience' indicator integrates the synchronous **phase**, which is the moment when students demonstrate what they can and know how to do, from experimental exercises and external classes in Rio de Janeiro during the first month of class. The 'self-criticism' indicator is present in the **analysis** phase, which is when DO1 incorporates new techniques and the Stories require detailed responses. The analysis phase is explained by the first Synthesis Board and by the abstracts and discussions held in the second and third months of class. The 'solutions' indicator concludes the method in its **synthesis** phase, which is when the mistakes and successes, the conjectures and criticisms, come together to provide an adequate answer, by the student, through the Final Synthesis Board and the Essay, completing the semester.

The existence of architecture requires a three-dimensional interpretation and a synthesis process. Thus, the concept of disciplines that 'intertwine' to produce three important stages in the learning process (synchrony, analysis, and synthesis), through biases that include the operating individual in the creative and creating dimensions, makes perfect sense in the 21st-century educational process and ever-changing cities and ever-complex conditions.

In this context, creation can be seen in a global sense, where living and creating are interconnected. The creative act must be understood through elements that contribute to the intellectual operations of fluency,

flexibility, originality, as well as those involved in the preparation and sensitivity to solve problems – elements that the proposed method explored until the last moments in class, as shown in the exercise in Figure 10.



**Fig. 10:** One of the last exercises carried out in DO1 with first-semester students is the 'design-in-action'. From a simple paper folding model, students make a study about colored shadows and an allegorical sketch. Source: Ethel Pinheiro, 2018.

The results have shown that the students' maturity process and the expansion of their graphic, theoretical, and contextual repertoire within architecture and urban planning field is broadened by the "urban experience". This integrating method ensures that the first semesters of experience are an essential basis for their evolution during the entire FAU/UFRJ course.

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**1** DO1 discipline was structured, in the last five years, with the teachers from the permanent staff: Ethel Pinheiro, Rafael Fonseca, and Gustavo Racca but, undoubtedly, with the priceless help of the temporary and (other) permanent professors who brought their contributions for the foundations of the exercises and final board models – currently developed along with HAA1 + HTU. These are their names: Thiago Leitão (DARF), Camilla Santino, Keiko Ito Rovo, Tiago Tardin, Fernanda Marx, Rômulo Guina, Francisco Leocádio, Cândido Campos, André Ripoll and Rodrigo Kamimura (DARF), who joined in recently.

**2** Gustavo Rocha-Peixoto explains in “A Estratégia da Aranha” that the discipline began with Professors Lilian Fessler Vaz and Sonia LeCoq, who substituted Professors Cláudia Nóbrega and Julio Rodrigues. Later, he carried out this discipline together with Sergio Fagerlande and Maria Cristina Cabral.

**3** The integrated discipline HAA1 + HTU1 has had through long fourteen years of existence the contribution of many permanent professors of FAU/UFRJ. In these two specific years, through the integration with DO1, we have to mention the essential contribution of professors Priscilla Peixoto, Alex Lamounier, and Fernando Delgado.