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Design Studio as a Process of Inquiry: The case of Studio Sao Paulo.

Abstract:

The paper stresses the potential of a Design Studio as a critical part of the inquiry process in Urbanism Research, using the experience of Studio Sao Paulo as case study. It explores what is a process of inquiry in a context of research in urbanism, discoursing on the potential of the design process as a tool to reveal hidden questions and processes on a territorial scale. The research and its case study led to the establishment of Studio Sao Paulo, an undergraduate design studio in KULeuven, in which students develop their masters thesis in the context of Tietê's flood plain. The experience so far, more than defining conclusions, stress some challenges to overcome, regarding research by design as methodological tool in an Urbanism PHD context.

Keywords: Research by design research, urbanism, urban design studio.

Introduction

This paper wishes to address Research by Design in the context of Doctorate Research in Urbanism, by means of the case of research being undertaken at the University Mackenzie (São Paulo, Brazil) and the Universiteit Katholieke Leuven (Belgium). The research – still a work in progress – has the aim to discuss Latin American Urban Projects in areas of redevelopments, stressing the possible structural elements in which these projects should rely, elements that are possibly more suited to adapt to local preexistences in the territory.

The research and its case study led to the establishment of Studio Sao Paulo, an undergraduate Design Studio in which Masters Students. The objective of the present paper is to discuss the possible application of a design studio as a process of Inquiry in a Doctorate Research, arguing in favor of a Studio Based methodology and its implications.

First the notion of Research by Design will be framed. Second, the experience and results of “Studio São Paulo I” will be described. In the third part, the impacts of this experience in the PHD Research in question will be explored, leading to the final remarks, which highlights potentials and challenges of a studio-based methodology.

Research by design

Despite its appeal for the disciplines of architecture and urbanism and the current increase of its discussion and application, Research by Design is a notion still not well accepted in the Brazilian academic context. Despite being discussed for more than a decade (BÜCHLER Outubro 2006), and the effort of systematizing defended thesis involving Design by Research in the Brazilian context¹ (LIMA et al. 2011), there is not yet acceptance of Research By Design and its methods, from the funding agencies, situation confirmed in a recent lecture in august 2012 at Mackenzie University, the coordinator of the disciplines Architecture and Urbanism at CAPES (a Public Institution which evaluates Research and Post Graduate Programs at a National Level), Angela Maria Gordilho Souza (UFBA), when asked about design as a research methodology emphatically stated: “A project is a project. Research is research. In a Doctorate Thesis one should do research”.

¹ Thesis defended at the Architecture and Urbanism Faculty of the University of Sao Paulo (FAUUSP), the first post-graduate programe in Architecture and Urbanism of the country, dated from 1980.

Her posture exemplifies the mind-set of the academia – and the academic programs evaluators and funders – regarding this matter in the Brazilian context. Despite this attitude, in this part of the paper we will stress what is discussed currently as Design-Research, stressing some definitions which could fundament a Studio-Based methodology.

To present the notion of Research by Design, first we would like to discuss some common ground in the matter. Secondly some practical applications and examples are presented, announcing its potentials as a methodological tool. Afterwards, some critical aspects raised by the revised authors are presented, in order to introduce the Case Study and its reflections.

As common ground we have the definition of Research By Design or Practice Based research as the type of academic investigation through which design is explored as a method of inquiry, by the development of a project and also exploring the different materials by which a design is carried out – sketches, mapping, among others.

Haugberg (2011) and (Schreurs and Maartens)Schreurs &Maartens (2013) highlight three categories of research in the creative fields: (a) Research into art and design, in which the researchers explores the creative field as a theme, through historical and critical approach. (b) Research through art and design, in which the object of art and architecture is the methodology and the outcome of the research. (c) Research for art and design, as a type of research as a method through which the object of art or architecture is conceived.

Similar position can be found in other authors. Lima et al (2011), in their survey of thesis developed in the Brazilian context, suggests the existence of three distinct, but sometimes complementary, approaches on research in architecture and urbanism: (a) the research that produces knowledge by means of elements of design practice; (b) Research which combines elements of design practice and historic methods; (c) Research that uses exclusively other approaches – rather than elements of the design practice – in the development of knowledge.

Sequeira highlights the duality of the discipline of architecture “Architecture (...) has two points of view, the disciplinary (formalized in treatises and in the great foundational texts) and the professional (...) the practical nature of the discipline itself implies considering that both have no existence without an implicit and structural complementarity” (Sequeira, 2011). These positions, according to the author, stress an “implicit and structural complementarity”, taking the Research By Design an important method to assure this complementarity between theory and practice.

The most simple definition of Design By research can be exemplified by a statement

of Hauberg (2011): “[Research by Design] Produce new knowledge about the world through the act of designing.”

The author highlights some fundamental aspects of the notion as a process in which

“the architectural design process forms a pathway through which new insights, knowledge, practices and products come into being. (...)generates critical inquiry through design work that may include realized projects, proposals, possible realities and alternatives. (...) produces forms of output and discourse proper to disciplinary practice, verbal and non-verbal that make it discussable, accessible and useful to peers and others.(...)Research by design is validated through peer review by panels of experts who collectively cover the range of disciplinary competencies addressed by the work.”
(Hauberg 2011)

The process described could be achieved by a basic structure of the research elements: Basic perceptions, Programme, Subsequent rationalization, Communication. The first two relate to the design process and the last refers to adapting the outcomes to a non-creative audience, balancing the language (Hauberg 2011).

Topics by which one can identify research by design are also defined by other authors (LIMA et al. 2011, rOCCO et al. 2009, Büchler and Biggs 2010) , summarized as follows: Image an text, Form and context, Rhetoric, Experience. These topics or requirements should follow what the authors highlight as the traditional ones: Question and answer, Method, Knowledge and Audience.

The research coordinated by Lima (2011) highlights some parameters which would favor the recognition and legitimation of the project’s role in architecture and urbanism in constituting a Designerly Method in academic research, defined as research which utilizes graphic and non-textual elements, proposing solutions or not, representing entirely or partially a new design solution, followed by textual, historic and historiographical methods, justifying and situation the design concerns. According to these parameters, a proper Research By Design thesis should demonstrate in a clear and consistent way:

- That there is a question to be addressed, which is the question and how/why the author intends to address it.
- That the use of non-textual artifacts is fundamental to its characterization and to reach the adequate answer to the formulated question or case study.
- How the use of non-textual artifacts allows to reach the outcomes that would not be reached by other means of research.

- That the knowledge generated by the non-textual artifacts é reportable and transferable, thereby, can serve to inform other academic research.
- How the use on non-textual artifacts allows reaching the goals that are of interest of a wider scientific community or a community in general. (LIMA et al. 2011)

From these parameters one can stand out the use of the work notions of Artifact and Community. It is common ground to the authors, as mentioned previously, the materiality by which design research takes place. By community, or audience as other authors mention (rOCCO et al. 2009, BÜCHLER Outubro 2006), it is stressed the fact that the outcome of the research has to be understandable to a wider group than the specialists, yet it has to be approved as validated by them.

The importance of the process is unanimous and the different between Traditional Scientific Thought or Received Paradigm versus Alternative paradigms (rOCCO et al. 2009) is exemplified by the statement of Verbeke (2011):

“Building on design experience implies a shift in the type of knowledge and understanding which comes out of the research. Focus is not on finding universal laws (homothetic), but on studying the single experience and the specific (idiographic)” (Verbeke 2011)

Originality and transparency are highlighted as necessary, as guaranteed by the use of a textual common language. The revised authors also highlight the importance of framing the concepts of knowledge and language, stressing the importance of understanding the specificities of architecture and urbanism, in which the graphics are not merely illustrative, they constitute a language on its own and a form of knowledge understood by a community, by which one can transmit knowledge.

Still regarding design as a language, Lima et all (2011) states the necessity of design as “Non-textural language which transmits rationality, which could not be translated in textual language”(Lima et al. 2011). Hauberg (2011) stresses the material bound of the disciplines of architecture and urbanism which “gives research in architecture a specific material focus. Knowing the materiality and the context of the place is necessary to build. (...) The expressive element - the possibility of expressing the qualitative aspects of the world and adding something new to the existing through experiments and proposals - is characteristic for the field.” (Hauberg, 2011)

The author stress that is by design that designers achieve new cognition, therefore, achieves the goal of knowledge production:

“Design is the means by which the architect poses a question and develops complex

solutions. (...)The drawings or sketches are representations of cognitive processes and drawings can visualize things in another way than words – with the precision of words, or more precisely, but also open to interpretation. This process of sketching is not just a linear process in which ideas shaped by the designer’s mind find their representation in a drawing. The drawing is active: it ‘talks back’ and forms a ‘discussion between hand and brain’ in which the drawing becomes the dialectic tool and moderator for insight and knowledge. “ (Hauberg 2011)

Therefore, as common ground between the revised authors, the notion of Research By Design is dependent of a shared language by which a community can express itself, reach new cognition and produce knowledge, which needs to be explained and adapted and translated by means of a traditional - textual - language to reach a wider community.

Regarding the practical applications of Research by Design, the most highlighted is the establishment of a more suited research methodology to the creative disciplines in academia, nearing research and practice, by the use of their common language, explored above (Seggem , Schreurs and Maartens 2013, Verbeke 2011, Hauberg 2011, Lima et al. 2011).

Yet, an interesting and promising application of research by design can be seeing in Flanders, in which the methodology has been explored also as a methodology in the practical field, being promoted by the authorities as a methodology for developing, testing and reframing urban projects (Schreurs and Maartens 2013, Bie et al. 2012, (ed) 2009).

Rocco, Biggs and Buchler (2009) stress the potential in urban planning, in which Research by Design can be used as modes of representation of a single project, an interpretation similar to the participative approach described by other authors ((ed) 2009, Bie et al. 2012).

Schreurs and Maartens (2013) objectively define the practical applications of Research by Design on the context of Urban Projects. It can serve as the media by which the designer could mediate program and realization, structure plans and implementation plans, while improving design capacity and evolving the academia.

The authors describe some experiences in Flanders highlighting the different designerly ways of research as a mode of scanning a program or a brief, testing structured plans and preparing masterplans and implementation plans, emphasizing its explorative character.

The explorative character of such methodology is also noted by Segern (?) and Barnett (2000), when dealing with urban design in the context of a Design Studio.

Some critical aspects raised regarding the application of research by Design in the context of academic research relies on the challenge to find a common language, able to satisfy the needs of creative fields, such as architecture and urbanism, yet being also understood to a wider academic audience (rOCCO et al. 2009, Büchler and Biggs 2010, BÜCHLER Outubro 2006). Language and process here are associated with the necessity of academic – scientific – research to be cumulative and transparent, in the traditional research paradigm. There is no agreement between scholars on this matter.

The supervision of research by design is also a source of discussion. It is considered decisive and non-intrusive by the authors which highlight the its explorative character (Seggem , Rod Barnett 2000), yet it can be problematic since by itself can manipulate the outcome (Verbeke, 2011).

This discussion of supervision serves to Introduce “Studio Sao Paulo I” as a methodological aspects of the case study.

Sao Paulo studio Case Study

Studio São Paulo, now on its second edition, is an undergraduate design studio in the Master In Engineering Sciences: Architecture, at the Faculty of Engineering Science, Katholieke Universiteit Leuven, Belgium. In the final year before graduation, students are to deliver a master’s thesis that accounts for a substantial part of credits necessary to obtain the title of Master in Engineering Sciences: Architecture.

During that year, students are encouraged to undertake their master’s thesis in a foreign context; over the years, it has proved a quite successful recipe to challenge and provoke the students at the end of their studying career, beyond the limits of their personal and academic experiences and knowledge.

Within the course of a year, they are to immerse themselves in a foreign context that is entirely unfamiliar to anything they have experienced before. They are to understand the complexity of a site across different scalar registers and thematic layers, and explore the problems and potentials of the area within the wider context of the city. Furthermore, the aim is to come to rather specific propositions for strategically located places within the site, that have to potential to steer, direct or correct the ongoing transformation at multiple scales: catalyst projects.

The studio is an intensive journey with a high level of production, but where none of the design propositions are intended as an end-result, nor a conclusion, but rather a continuously evolving instrument to interrogate the issues and opportunities at stake.

Interpretation Above Observation

A two-month fieldwork, on site, forms the indispensable hinge-part of the process. During this period the students explore the area in order to get a thorough understanding of the spatial complexity of the site, and its significance for the city.

Studio Sao Paulo initially focused on the area of Lapa-Bras, earmarked as one of the most important urban operation sites for the city's government, and prone to investors, eager to step in and profit from the reconversion of one of the most lucrative, well located areas in the city centre.

Right before departure, students are briefed onto a variety of techniques that enable them to capture information on a systematic and selective basis. The ambition is to gather insights and ideas at the same time, through the act of 'interpretative mapping'. (include definition James Corner?) The studio deliberately refrains from the conventional set-up where idea follows observation, or design follows analysis. Instead, students are encouraged to analyze by the means of "interpretation", and "design", as the next step, very close...

It is a process in which the acts of analysis and design are turned around, mixed and blurred into a situation where in times it might even be hard to distinguish between the both. However unconventional it may appear, it is the experience that the more 'personalized', interpreted way of mapping does not only give clearer focus in research but also functions to bridge the gap between research and design as separate disciplines.

At the same time, this approach does require a close monitoring from the design tutor of the work to avoid loss in efficiency and a random, pointless sprouting of ideas.

Hence the fieldwork on site is closely guided by a local promotor, within the framework a few generic themes set up on beforehand: Mobility, Housing Typologies and Open Space.

The local promotor helps to direct the students in the complexity of issues, relationships and stakeholders on site, and frames the research in the actual, ongoing debates in/on the city. The fieldwork itself is a combination of direct observation and mapping, photographic surveys, interviews with locals, experts, associations and public authorities, in order to get a thorough understanding of the full scope of the spectrum: public realm, transport and mobility, typology and morphology of built form, et cetera. All strand are closely mapped, and if possible, immediately linked to a specific design question or hypothesis.

Although the focus clearly lies on the spatial component, it is crucial to directly relate

this information to the more elusive cultural and social dynamics of the city.

The students are encouraged to explore the area in all its aspects, scales, colours and scents; it is the personal engagement and 'participation' on site that is key to understanding and 'digesting' the often tremendous amounts of input at rapid pace and after all, the true purpose of 'being on site'.

It appears that the starting frame where the initial focus lies on generic spatial themes, has been merely an incentive for a more personalised, coloured and focused research and design, that is noticeable after a few weeks of field work. It is a path that is left early on in the process, in favour of a more customised, surprising but perhaps also peculiar and quirky diagnosis that provokes the premature statement of a design hypothesis. Such hypothesis in its turn provokes the study of very particular sites and issues that serve to confirm or disprove the idea. The process as such has a rather more iterative nature where design and analysis are constantly interrogated and reframed.

Keep The Pen Moving

The process itself continuous upon return from fieldwork, where the guidance of the local promotor on site is taken up by promotors at home, in close contact with the local promotor. The working approach remains the same, by continuing both analysis and design in parallel.

The dialectic process of going back and forth also means that a design research studio along these lines is organised in different manner, in which the imposed structure and production of/during the process ought to be open enough not to jeopardize the possibility for U-turns and even errors. The mere ability to 'drift' in a parcours of trial and error opens up the possibility for surprise, discovery and potentially innovative thought, but at the same time the uncertainty of production in terms of quality and quantity.

The studio aims to welcome, enable and enhance this process by constantly re-adjusting its course itself what, in continuation of the fieldwork on site, also requires a close monitoring of work off site. The exact structure of the studio, as well as the deliverables, are only roughly set out on beforehand, with enough flexibility to anticipate and accommodate new ideas.

It is logical that such approach does have a profound impact on the outcome of the work, and furthermore, the way this result has to be understood and interpreted. Being intrinsically non-linear, and not necessarily converging towards 'solution', the thesis is more a documentation of a process than a conclusive report. Its aim is primarily to feed and contribute to the debate than to offer a masterplan or blueprint.

It is an exploration and testing of ideas by means of design. Design is both method and outcome. It is the instrument to generate ideas, and to test and communicate them. Design might precede analysis. It may start as a gut-feeling and can be “post-rationalised” by research. Design is never silent. It provokes, takes position, and sharpens the discussion.

First results

The resulting analysis explored first the city as a site, compiling different information and impressions, and critically assessing São Paulo through explorative research, its different patterns of growth and urban form, rhythms, enabling the approach to the Tietê floodplain territory, as part of the metropolitan structure. Afterwards, different chapters explored the topics defined by the group as relevant for the territory. Each topic was analyzed by means of historic survey and extensive mapping, and for each a set of potentials was defined. The chapters were:

River/ Non River, which deals with Tietê River and its affluent and the way the city historically coped with its hydrology.

Space of flows, analyses mobility, infrastructure, equipment, planning and what is called “infrastructural symbolism”.

Public Ground Civic Value, relates to equipment and spaces, related to the public realm, both intended as a Public Space and spontaneously appropriated as such.

Scale of Mass Fragmentation, deals with urban form, urban landscape, contemporary typologies and currents urban policies and regulations.

As a result, the parallelisms – scale, significance and border character - between the river and the rail were explored, as backbones for the different strategic projects, which specific site, theme and program was defined by each student.

From the five resulting strategic projects two will be here highlighted, since they are the ones which explore more explicitly the relations with its wider structure proposed in the group work.

Designing amidst Vaguard Structures, by Pieter-Jan Peeters, highlights the floodplain’s landscape potential, programming a void which combines ecology and technology, offering space for the “river as a natural concept” with a water treatment plant.



FIG.1. Designing amidst Vaguard Structures. Pieter-Jan Peeters, 2013

River residues as watermarks, by Véronique Tavernier, explore the potential held in the contemporary traces of the old meanders, offering an alternative approach to the flood problems of the city, through the creation of hybrid platforms.

The experience of “Studio Sao Paulo I” and its results showed a very strong potential in making use of Design Studios as part of the process of enquiry, in a Doctoral Research context, since the Studio Process and its methodology enabled a refinement of the research questions, as we will explore in the next part.



FIG.2. River residues as watermarks. Véronique Tavernier, 2013.

Studio as a Process of Inquiry of Doctoral Research

The Doctoral Research in question have the area developed by the mentioned studio as a territory for investigation as a Case Study. The Studio itself – in its different versions – is being used as a test-ground of different interpretations and explorations of the same territory, to be opposed to the official planning visions elaborated by the municipality.

In this scheme, Research by Design – materialized by the design outcomes of the Studio – is seeing as critical part of the inquiry process, as a way of envisioning possible distinct urban project as outcomes, interpret the current urban landscape, critically access the current policies and urban landscape and reformulate subsequent research questions.

Many scholars highlight the studio as the central figure of education in architecture in urbanism (Verbeke 2011). Hauberg(2011) suggests that the one of main aspects by which Research by Design could improve the creation of knowledge in architecture and urbanism is its practice in “opposite direction” if compared to traditional research, in which the process itself – the own exploration by design – is the generative element of import contributions:

“research may arise from design - from the proposal, model or experiment to the generalisation and rationalisation by consciously extracting rules about the object of the research process - nomothetic research. (...) Research-based proposals or proposal-based research can add a creative, experimental and expressive element to research and contribute to theories, rationalisation and generalisation about the object.” (Hauberg 2011)

As a work in progress, it is still soon to establish all the effects of the Studio to the ongoing research. Yet one can highlight the so far identified potentials as reframing the research question, opening up problems and exploring the boundaries of the research’s case study, in a similar way as identified by Shreurs and Maartens (2013), when dealing with urban renewals in Flanders.

The present paper stressed the use of a Design Studio as a critical part of the Inquiry process of an ongoing Doctoral Investigation. The first Studio exercise and its outcomes proved to be very effective on reframing the research question and exploring the boundaries of the territory defined as it case study. New hidden aspects

of the research arose from the Studio outcomes – such as the concern with Urban Landscape as an outcome of Urban Projects, which will again be critically addressed, rationalized and generalized.

The experience so far, more than defining conclusions, stress some challenges to overcome, regarding research by design as methodological tool in an Urbanism PHD context, such as:

Transparency: Is the Design Studio brief and guidelines enough to assure transparency? How can the notion of transparency be developed in a Studio-Based Methodology?

Authorship: How can we recognize and use the research analysis outcome? Can it be considered exploratory enquiry via design? What are the consequences of doing so?

The role of design: Can design be considered both an inquiry methods and an outcome? In which stages of the research?

These three aspects are of fundamental importance to establish conclusions, assure knowledge accumulation and further develop a Studio-Based research methodology in a PHD research, approaching the different aspects of the urbanism: education/instruction, research and practice.

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