

## **Interdisciplinarity - Urban Design practice, a research and teaching matrix\***

*Pedro Brandão*

CESUR - IST, Lisboa pbrandao@civil.ist.utl.pt

*Antoni Remesar*

CRPOLIS - UB, Barcelona aremesar@ub.edu

### *RESUMEN*

*Debido a que el diseño urbano es un territorio de síntesis integradora, la "visión global" que requiere debería proceder de la colaboración de diversas fuentes de conocimiento, de diversos profesionales y del conocimiento aportado por los usuarios no profesionales.*

*La representación de los actores involucrados en el diseño (que entre otros son profesionales, decisores urbanos o usuarios) es una parte de la investigación y la enseñanza de la cultura del diseño urbano. La motivación de esta línea de trabajo en la enseñanza del diseño es comprender la incertidumbre como un elemento de transformación urbana, la contribución de los procesos de colaboración y reflexión, y también para estimular la comprensión de los roles de los actores en las prácticas de diseño urbano.*

---

\* This article was selected to be lectured at the International Conference **Public space and the challenges of urban transformation in Europe: Politics and culture** Vienna, November 10th–11th, 2010.

*"(...) La interdisciplinariedad es una forma de resolver problemas y responder a las preguntas que no pueden ser abordadas y respondidas por el uso de un único método o enfoque."(Klein)*

*Se puede decir que el proceso de integración del diseño urbano orientado por la interacción con los usuarios en la solución de problemas, representa un intento importante para establecer una base común, haciendo uso de las aportaciones de diferentes disciplinas. La interdisciplinariedad orientada a la práctica del diseño urbano no es en sí misma un productor de conocimiento. Pero se requiere reflexión y por lo tanto puede utilizar metodologías de investigación. Algunas de las preguntas siguen siendo:*

- *¿Cómo representar el trabajo interdisciplinario y que actores admitimos?*
- *¿Cómo se representan los contextos y las funciones que intervienen en las decisiones del proyecto?*
- *¿Cómo se define el método y su pedagogía, su formación y su evaluación?*
- *¿Cómo funciona la diversidad de interacción de conocimiento para operar en las estrategias urbanas?*
- *¿Cómo están representados los actores urbanos en la praxis de la enseñanza del diseño urbano?*

## *RESUM*

*Com que el disseny urbà és un territori de síntesi integradora, la "visió global" que requereix hauria de procedir de la col.laboració de diverses fonts de coneixement, de diversos professionals i del coneixement aportat pels usuaris no professionals.*

*La representació dels actors involucrats en el disseny (que entre altres són professionals, decisors urbans o usuaris) és una part de la investigació i l'ensenyament de la cultura del disseny urbà. La*

*motivació d'aquesta línia de treball en l'ensenyament del disseny és comprendre la incertesa com un element de transformació urbana, la contribució dels processos de col.laboració i reflexió, i també per a estimular la comprensió dels rols dels actors en les pràctiques de disseny urbà.*

*"(...) La interdisciplinarietat és una forma de resoldre problemes i respondre a les preguntes que no poden ser abordades i respostes per l'ús d'un únic mètode o enfocament (Klein). " Es pot dir que el procés d'integració del disseny urbà orientat per la interacció amb els usuaris en la solució de problemes, representa un intent important per establir una base comuna, fent ús de les aportacions de diferents disciplines. La interdisciplinarietat orientada a la pràctica del disseny urbà no és en si mateixa un productor de coneixement. Però es requereix reflexió i per tant pot utilitzar metodologies d'investigació. Algunes de les preguntes segueixen sent:*

- *Com representar el treball interdisciplinari i quins actors admetem?*
- *Com es representen els contextos i les funcions que intervenen en les decisions del projecte?*
- *Com es defineix el mètode i la seva pedagogia, la seva formació i la seva avaluació?*
- *Com funciona la diversitat d'interacció de coneixement per a operar en les estratègies urbanes?*
- *Com estan representats els actors urbans en la praxi de l'ensenyament del disseny urbà?*

## RESUMO

*Como o desenho urbano é uma síntese integradora do território, a "visão" viria de exigir a colaboração de várias fontes de conhecimento, o conhecimento de diversos profissionais e a contribuição dos usuários, e não profissionais.*

*A representação dos atores envolvidos no projeto (que são entre outros profissionais, decisores e usuários urbanos) é uma parte da cultura de pesquisa e ensino do design urbano. A motivação para esta linha de trabalho na concepção da educação é compreender a incerteza como um elemento de transformação urbana, a contribuição dos processos de colaboração e reflexão, e para incentivar a compreensão dos papéis dos atores, na prática, desenho urbano.*

*"(...) A interdisciplinaridade é uma forma de resolver problemas e responder as perguntas e as respostas não podem ser abordadas por um único método ou abordagem (Klein). "*

*Poderíamos dizer que o processo de integração do desenho urbano direcionado a interação com usuários na resolução de problemas, representa uma importante tentativa de estabelecer uma base comum, utilizando-se as contribuições de diferentes disciplinas. A prática de projeto interdisciplinar orientado ao urbano não é em si um produtor de conhecimento. Mas isso requer pensamento e, portanto, podem usar as metodologias de investigação. Algumas questões permanecem:*

- *Como tornar o trabalho interdisciplinar e quais os parceiros são contemplados?*
- *Como fazemos para representar os contextos e funções envolvidas nas decisões do projeto?*
- *Como definimos o método e o seu ensino, formação e avaliação?*

- *Como funciona a interação de diversos conhecimentos para operar nas estratégias urbanas?*
- *Quais são os atores urbanos que estão representados na prática do ensino de design urbano?*

## ABSTRACT

*Because Urban Design is a territory of integrative synthesis, the “overall view” that it requires comes through the collaboration of various sources of knowledge, some through professional and others through non professional knowledge of users.*

*The representation of actors involved in design (be them other professionals, urban deciders or users) is a part of research and teaching culture. The motivation of this line of work in design studio teaching is to understand uncertainty as an element of urban transformation, the contribution of collaborative and reflexive processes and also to stimulate the understanding of actors roles in urban design practices.*

*“(...) Interdisciplinarity is a way to solve problems and answer questions that can not be addressed and answered by using a single method or approach (Klein).”*

*It can be said that the integration process of urban design geared by interaction with users in problem solving, represents a major attempt to establish a common ground, making use of inputs from different disciplinary backgrounds. Interdisciplinary oriented Urban Design practice is not in itself a producer of knowledge. But it requires reflexivity and therefore can use research methodologies. Some questions remain:*

- *How do we represent interdisciplinary work and what partners do we admit?*

- *How do we represent the contexts and roles involved in project decisions?*
- *How do we define the method and its pedagogy, its training and its evaluation?*
- *How is the diversity of knowledge interaction to operate in urban strategies?*
- *How are urban actors represented in the praxis of urban design teaching?*

We can not speak about interdiscilinariry without speaking about disciplinarity. Professions appear as beneficiaries of the division of knowledge and as "administrators" of an operational discipline. But this process is an evolution, in which knowledge and practice interact, by operating in a changing environment. This is what is happening in the field of Urban Design.

We shall see in this paper how interdisciplinarity approaches corresponds to a need determined by the complexity of urban transformations and the limitations of disciplinary knowledge:

1. What is the role of interdisciplinarity in the design process of the city in transformation.
2. How is the need for knowledge interaction manifested in design studio teaching.

3. What's our experience in the construction of interdisciplinary research and teaching.

**1. The Role of Interdisciplinarity in urban design process**

Urban Design is a name first used in 1953 by Jose Luis Sert, meaning (Krieger and Sunders) that portion of operational Urbanism which object is the physical form of the city. Knowledge in Urban Design is on one hand, between the analytical field of sciences that underpin urban planning, and on the other hand, professional knowledge concerning "shape" of a constructed place. That means, Urban Design is relative to what is in urban form that must be drawn. So *"to be a discipline, design needs not to be a science"*.

In the evolution of knowledge from "positivities" as Foucault calls it, "operational disciplines" use pre-scientific knowledge together with some elements of scientific disciplines, in a way similar to what happened with medicine from the 19th century on. This base ensures reasonable consistency with a speech about what is or is not, right, at the same time as we acknowledge uncertainty.

Knowledge of public space and Urban Design exists in practices based on the experience of observing its subject,

the City, in a way that we can summarize with the idea that we are dealing with a body of knowledge that admits uncertainty about cities in transformation, with an interactive vocation:

- "Knowledge borrowing" allows design professions to fill a shortage of content, and depletions of theoretical foundation, supporting creativity, with rationality.
- "Grouping beliefs" allows design professions to create a system of values, asserting themselves as interpreters of "visions", announcers "of future".

When we say that urban design has a mission, a "public" end is manifested as the final entity of a project. "Public" can be seen as the subject of a "performance" that we set to show, or as the "user" that lives public space, or as a "citizen" part in its government. To explain the moral specific sense of what's meant by "public" (Habermas) when we refer "public good", "public interest", "public sphere" we widen the concept of public space not only including public spaces (streets, squares, gardens ...) but all spaces of social interaction. If "meaning is in the use" (Wittgenstein), public space design takes place only when the "Other" is central to the design process. Interdisciplinary, is a form of "otherness" in urban matters.



## **Knowledge, Borders and Cultures**

Urban transformation as a matter of knowledge, has a single object, the City, but its multifaceted approaches allow multiple approaches from scientific fields and design cultures:

- The theoretical formulations about the city coming from the social sciences - economics, sociology, history, geography - structure themselves retrospectively from the "city that exists," or "has existed";
- The city's design culture, based on constructs of ideas and paradigms on the city of tomorrow, educated in the various subcultures, each with its own technical sophistication and sense of mission:

**Architectural culture** in the European intellectual tradition: the classicism, the canonical field translated into a public building, and Idealism, the references of the new modern world.

**Landscape Architecture**, from Gardening to Urbanism, based on intellectual naturalism - the desire to be close to nature, and ecology - how it works and what is its meaning.

**Industrial Design**, a practice with several convictions: From empirical Arts and Crafts know-how, to Functionalisms' utopia of a world of new products to improve daily life.

**Visual Arts**, vanguards seeking to interpret the "spirit of time": Romanticism, emphasizing on imagination and free individual vision, and realism, seeking the direction from day to day life.

**Engineering**, infra-structuring primacy, supported by technical ideology - a rational determination of development problems, isolated from "expressive" or "social" side of cities.

How can we harmonize all these convictions, seeking to serve a common good?

## **Interdisciplinary concepts, values and methods an hypothesis**

In theoretical approaches to interdisciplinarity in urban design, not just we reclaim classic cooperation between arts, nor just coordination of technical specialties (such as in a building). Teamwork, by adding-up contributions of different disciplines, implies the need for compatibility, but does not summarize the sense of interdisciplinarity. We

recognize that interdisciplinary activities pursue the "overview", an "holistic" synthesis, by putting a critical pressure on traditional disciplines (even those that see themselves as synthesizers), with new goals that urban transformations always require (Klein):

- To answer to complex questions, with many factors and constraints
- Addressing conceptual issues whose vastness is beyond classic divisions
- To explore extra-disciplinary or non-professional views and visions
- Solving problems that are beyond the scope of a single approach
- Achieving unity of knowledge in a different scale of starting point

The differences in the degree of integration (multidisciplinary, interdisciplinary, transdisciplinary), do not deny that the process begins with a problem that requires for its solution working together, overcoming discipline boundaries "(...) *Interdisciplinarity is a way of solving problems and answer questions that can not be addressed and answered using a single method or approach*". The modern concept of Interdisciplinary meets the need for

knowledge restructuring so as to understand mutations of complex problems and corresponds to a growing in interaction - from bridgebuilding to restructuring.

On another level, the criticism of everyday life, for authors such as Barthes (Fashion), McLuhan (Media), Lefebvre (City), Braudel (Material Life), interdisciplinarity arises from frustration with traditional disciplines in their refusal to embrace a territory allegedly trivial, or not covered: *“Taken in their technicality and specialization, knowledge activities have a greater gap between them that is filled by everyday life. Everyday life is profoundly related to all activities, with all their differences and conflicts and it’s their meeting point, their unity, their common ground”*(Lefebvre).

## **Limitations and difficulties in urban design interdisciplinary relationship**

Difficulties in interdisciplinary practices of urban design are unavoidable and cannot be eliminated, since its method is made of awareness and efforts to overcome problems, such as:

- Distortion of the "borrowed material"
- The use of data, methods, concepts out of context

- The illusion of "certainty" or over-confidence in a new perspective
- Trend for non-adversarial questioning and group dynamics on team work

We find urban knowledge as insufficient for today's urban needs because disciplinary compartments are not generating enough reflectivity, when one has to consider both program and process (Spector), and manage both communication and negotiation techniques in a new trading system of roles in design process. Thus, the matrix in the interdisciplinary process of urban design is essential and not merely instrumental, because qualitative problems of urban territories, and in particular of public space, have the characteristics of an increasing complexity, interconnectivity, uncertainty, ambiguity and conflict.

So, interdisciplinary collaborative and reflexive process, rather than an "established" formula, gives new answers to new problems and new urban contexts, based on actors agreements (Remesar).

## **2. The need for knowledge interaction in design studio teaching**

*"The problems of design are not only a matter of a sole discipline, a craft or an art, its close relationship with nature or the human forces us to a vision that integrates and understands the specific (a community of users, a technical local problem) and what transcends that specificity, a society, a technology, the global".*

"Professional loneliness" comes from self-centred professional perspectives, and from the fact we have not yet put in charge of our social statement a proactive perspective, the collaboration required between various professionals and non-professionals. Still, if we define design in a broad manner such as "shape giving", urban design is a subject that previews, defines, or provides the shape of the city through Public Space, and we have to admit a professional and a non-professional practice (Juez):

- The non-professional are able to reproduce already known solutions, which respond with some efficiency and practical meaning to common problems, allowing to judge the result.
- The professional are characterized by the ability to identify a problem somehow "undetermined" with

several variables and choose one from among an infinite number of possible hypotheses.

Diagnosis, strategy, program, concept, simulation, representation, production, are moments that we always identify in simplifying attempts to normalize a creative process. In fact, in a changing urban process, if there is an urban design method, it is of a special and fallible nature, based on two paradigms:

- The technical paradigm of design often corresponds to isolate the moment of production and to consider its relation to the needs as direct and decisive.
- The artistic paradigm, in turn, often corresponds to isolate the moment of representation and to consider its relation to desire, as independent from any other. And desire, indeed the initial design fact (the designer occupying its centre), is accepted as a mandate.

The question, "how to teach urban design" is just as complex as the question "how to teach drawing". It must be stressed that cities themselves correspond to an interdisciplinary theme. Urban design and many concepts that are essential to it, such as public space, are of interdisciplinary nature -

many disciplines acknowledge them, and use them as a tool. Urban design teaching can not ignore that.

The artistic training foundations of design professional, often leads to a claim of a preliminary status of authorship, with unchecked powers over the result and even over the use of the “Work of Art” in urban fabric. It is symptomatic of artists’ social image as paternal creators. But in the second half of the twentieth century the valued role is of a new actor, hitherto absent, the user / consumer / citizen, even if he is represented by state, municipalities or other public interest protection institutions. The City finally "socialized" itself with a *"consciousness of an irreducible difference in nature between aesthetic perception and city perception"* (Choay).

The different notions and themes about the City and its construction (its design), in many cases seek explanations through transversal approaches such as mobility, landscape, urban form... but each of those contains in itself little disciplinary matter to root autonomous city shape explanations. The City is a matter for more than one discipline but none of them is diminished in collaboration (Brandão).

Interdisciplinary inputs can only be assessed through the ongoing exercise of reflection and experience feedback.



The proposal of a teaching context in which design is central to the knowledge of city construction, appeals to integrative synthesis in action, through collaboration of several sources of knowledge: some of them analytical/theoretical, others projective/technical, and others practical knowledge of "City life", which can only relate with each other in an interactive and interdisciplinary matrix. Not to progress in this direction means to insist on arrogant scientific isolation, and to ignore what is said at all times to be the most important - the overall view.

## **The Integrative Process**

Studies in UK show that teaching of design tends to reproduce an isolated culture of professional practice and a model based on compliance with a self-centred standard image (J.Till).

Teaching methodologies in urban design include a great variety of "attitudes" that must be identified in the discussion about the kind of knowledge we need today, when urban design, involves a growing part of complexity and uncertainty. Social consensus is an advantage of replacing a single, self-sufficient vision by strategies capable of accommodate discrepancies between different views. Can

we do it without the inputs of a real presence in the teaching process, of representatives from other discipline backgrounds and other non professional urban actors? In what moments must we promote it?

Even if we only accept Interdisciplinarity in urban design as an operational mode of know-how compatibility, it will be an opening for a process of synthesis. In design work there are various steps that include one or more of these interdisciplinary moments (adapt. Klein):

1<sup>st</sup>

- a. To define the problem (issue, topic, subject);
- b. Need for models, traditions, relevant disciplines literature;
- c. To develop a framework for integrative work and issues to be investigated.

2<sup>nd</sup>

- a. Specify special studies to be developed;
- b. "Negotiation of roles" in teamwork;
- c. Add all knowledge gathered and seek new information;
- d. Resolving conflicts between disciplines with a common vocabulary;
- e. Build and sustain communication through integrative techniques (reciprocal learning).

3<sup>rd</sup>

- a. Collect contributions for cross-evaluation of appropriateness, relevance and adaptability;
- b. Integrating individual parts in one piece and determine the standard of mutual relations
- c. Confirm or deny the proposed solution (response of each player);
- d. Decide on the future management of the task / project / situation.

We propose two levels of systematization of interdisciplinary in urban design practice:

- First level is formulation and clarification of issues, extending their reading. This level of work should be focused on understanding concepts and skills to be used in evaluation. For example, the concept of "space" is relevant to all knowledge's of the City. Contrasting the different meanings in specific situations, students exercise a clarification in the passage from "program" to design.
- Second level is resolution of those problems, focusing on deeper integration of all perspectives. By articulating actors expectations and alternative "futuring scenarios" or by experiencing "tools" and

"current modes of action", students can be challenged on their conclusions by "cross-juries" combining inputs from more than one discipline, so as to inform/support design options.

Interaction can allow actors in the process of learning from experimentation and reflection, to become readers and critics of his and others' work in Urban Design studio and achieve interdisciplinary views.

### 3.

#### **CRPOLIS and Urban Design practice, a teaching and research matrix**

CR-Polis research group is an established and acknowledged interdisciplinary research centre within the Department of Sculpture of Barcelona University (UB), since July 1999. It has been made up with a clear will for Interdisciplinarity and Interuniversitariness: UB researchers from Arts and Social Psychology Departments, associate researchers affiliated to other Spanish Universities (Zaragoza, Politècnica de Catalunya, Complutense de Madrid, Girona), several research groups in Portugal (IST-CESUR, IHA-UNL, LUOTA-UTL) and other European partners.

CR-Polis is a leading international research centre in Urban studies, especially with reference to topics such as urban design, public space, public art, urban sustainability and participation. It includes an heterogeneous group of social scientists, art critics, urban design specialists and social psychologists whose studies and research contribute to the debate concerning the problems of contemporary cities.

CR-Polis researchers aim at promoting innovative analytical approaches and methods in research with particular reference to urban studies. More specifically they aim at providing information tools for better understanding the social processes that undergo the construction of public space; at analysing the opportunities linked to the development of active processes of citizen participation with special reference to the issue of urban governance; and, finally at generating, especially through international cooperation, a confrontation between ideal models, and real practices.

CR-Polis operates through personal collaborations, common participation in research projects, organization of scientific events and publications, as well as training and education initiatives for Ph.D. and Master students, collaborating with leading researchers working in and outside Europe.

This structure is reflected in academic curricula. Master's core academic activity is focused on urban project design studio, by bringing together different theoretical and methodological perspectives.

Design studio Curriculum:

1 <sup>st</sup> SEMESTRE	2 <sup>nd</sup> SEMESTRE <b>PUBLIC SPACE DESIGN STUDIO</b>	3 <sup>rd</sup> SEMESTRE
Optional	Compulsory	Compulsory
<p>Students chose <b>complementary subjects</b> to those of their own curriculum</p>	<pre> graph TD     PST[Public Space Theory] --&gt; PD[PROJECT DESIGN]     U[Urbanism] --&gt; PD     SI[Social issues participation] --&gt; PD     PA[Public Art] --&gt; PD     H[History] --&gt; PD     UL[Urban Landscape] --&gt; PD         </pre>	<p>Interdisciplinary research methodology <b>Final work:</b> Barcelona Public Space and Urban Design Model</p>

An important aspect of Project Design is that it works in "real project proposals" derived from research work done in collaboration with public institutions (see attached tables). Thus, the Master becomes a "think tank" for proposed solutions in participatory public space programs and urban design projects.

It can be said that the integration process of urban design geared by interaction with users in urban problems' solving, represents a major attempt to establish a common ground, making use of inputs from different disciplinary backgrounds. Interdisciplinary oriented Urban Design practice is not in itself a producer of knowledge. But it requires reflexivity and therefore can use research methodologies.

### **A research initiative regarding urban design studio teaching**

As part of a research project on Urban Design teaching, the University of Barcelona CRPolis and CESUR IST (Lisbon), conducted a study regarding the courses that they develop on Public Space and Urban Design (Ma and PhD). We tried to understand and evaluate how interdisciplinarity can contribute to improving education and training of professionals capable to integrate interdisciplinary teams so as to develop urban projects and understand processes and relevant actors. Objectives were defined as:

## **General Objectives**

- Studying the meaning of interdisciplinarity concepts, how it is present in day-to-day development of urban interventions, education and professional actions.
- Studying teaching methods in Urban Design and if they aim to understand the importance of different levels of approach to urban issues, corresponding to different interlocutors. Top of Form

## **Specific objectives**

a) Under "Interdisciplinarity Study" surveys were developed on the perceptions of interdisciplinarity concept in education and profession action, aiming at:

- Reflecting and assess the meaning that different professionals groups attached to the concept of interdisciplinarity, and if it is or not active in practice.
- Analyze the limits of interdisciplinarity concept, regardless of importance given to it, the rhetoric, or distortion evidenced by current notions.
- Reflecting about the concept of interdisciplinary introduction in education, so as to stimulate its understanding and managing in the practice of professional teams.



- Assess how the differences in culture, namely of academic background, experience and nationality may influence the understanding and practice of interdisciplinarity.

b) Under the "Study on urban design teaching and actors" we studied the methods of teaching Urban Design, focused on the actors involved in the project, seeking answers to specific questions:

- How users-recipients are present or represented in the rolling of design exercises? Customers and potential users are somehow taken into account?
- How is the study of social context and urban development structured and what is the relevance given to participatory process of various project stakeholders?
- How are the needs of theory-practice sources of information experienced and how is communicative process dominated.

Different surveys were directed for students, teachers and professionals active in urban design.

For students and teachers we analyzed two sub-groups, in Lisbon and Barcelona. The universe of respondents in

Lisbon are integrated into courses leading to a integrated Master's with professional pre-established discipline, in architecture or engineering, while Barcelona respondents take part in post-graduation level with an assuredly interdisciplinary nature, with diferent international backgrounds and professional experience. In the case of Lisbon's survey, theirs a distinction between two schools, so as to analyze the association of these courses to a more "artistic" or more "technical" orientation and whether or not it is relevant to the type of answers.

For the second study, "Study on urban design teaching and actors", it is important to note that the curriculum of Integrated Masters in Architecture fit the European standard that considers the teaching of Design as the focus of training, to which must converge all other training and knowledge. This concept may represent an obstacle to integrative interdisciplinary perspectives, when the role of other disciplines is equated to support and assist and not to an interactive process. So the question may arise about how far the integration process is realized in this way.

Results analysis allow us to outline some trends:

## **Interdisciplinary Study:**

- a. There is a positive sensitivity of students, teachers and professionals, regarding interdisciplinary.
- b. Interdisciplinarity is looked at from a previous experience and background, that is, going from one's receptivity to real interdisciplinary practice, some previous culture is decisive.
- c. The chief pointed aspect of an improvement of the interdisciplinarity in education is the matching / linking between different disciplines, and between theory and practice.
- d. The depth of interdisciplinarity concept is higher among teachers however they consider enough relevance is given to the issue today, and don't see it as part of students preparation.
- e. Among professionals there is a pragmatic view of interdisciplinarity as an option facilitating operational (technical) aspects. Communication difficulties between disciplines are pointed out.
- f. Students (Lisbon, or Barcelona) are the most sensitive group regarding the need to involve citizens in urban intervention process (growing as long as they are advanced in their training).

## **Study on urban design teaching and actors:**

- a. Generally students show a need to establish dialogue with other professionals (engineers, landscape architects and sociologists) to clarify technical aspects; but the majority sees no need in the unngoing project exercise to establish dialogue with the inhabitants of that urban area.
- b. Students do not show reflections about the social and cultural context of the given urban area. Put before the option, of interviewing an architect with knowledge of the urban area, or the inhabitants, most choose the architect.
- c. The reflective elements are almost exclusively related to topographic features or site's landscape. Most students do not question the exercise program. No evidence of data research beyond iconographic elements of the site.
- d. Given an exercise in urban design, the evolution process does not reflect degrees of uncertainty relating to programmatic options taken above, or outside it (for instance on economic factors or urban infrastructure design). Students take the exercise program as the basis for work.

e. Although sometimes they are referred to as evaluation criteria for teachers, in presentation and evaluation some aspects are kept out :

- Interdisciplinary work;
- Assessments of direct or indirect interest or opinion of users;
- References to post-use feed-back from comparable projects.

## **Concluding**

It can be said that the integration process of urban design geared by interaction with users in problem solving, represents a major attempt to establish a common ground, making use of inputs from different disciplinary backgrounds. Interdisciplinary oriented Urban Design practice requires reflexive work. It is necessary to observe and evaluate the kind of "design culture" that students receive in urban design studio teaching (in Architecture, Landscape, Art, Engineering...) in order to analyze key issues and to answer some questions, which remain:

- How do we represent interdisciplinary work and what partners do we admit?

- We must stimulate openness to non-prejudiced notions about legitimacy of different disciplines in urban design. Like Socratics mustn't we accept that we only have half the truth, for others have the other half?
- How do we represent the contexts and roles involved in project judgements and decisions?  
The notion that project decisions affect all urban actors should be taken as raw material of urban design. Different social, economic and environmental contexts, and urban roles, mean different design options?
- How do we define the collaborative method and pedagogy, its training and its evaluation?
- Interdisciplinarity and users participation correspond to values of "otherness" that cannot be entirely defined. Because evaluation of intangibles is variable, mustn't we exercise methods with all participants?
- How is the diversity of knowledge interaction to operate in urban diagnosis and strategies?
- We must stimulate understanding that knowledge is one, and it's knowledge separation that is artificial. Isn't it a task of collaborative know-how, to learn to discuss the "problem" and so redesign "programs"?
- How are urban actors represented in the praxis of urban design teaching?

- Although teaching is not to be confused with practice, skills in urban design negotiation and evaluation, have to be cultivated. We can do it by experiencing actors options, conflicts and agreements?

## References

- Brandão, P. *A Cidade Entre Desenhos – Profissões do Desenho, Ética e Interdisciplinaridade*, Livros Horizonte, Lisboa 2006
- Choay, F. *L'Urbanisme, utopies et réalités – une anthologie*, Seuil, Paris 1965
- Habermas, J. *L'Espace Publique - Archeologie de la Publicité comme dimension constitutive de la société bourgeoise*. Payot, Paris 1997
- Juez, F.M. *Contribuciones para una Antropología del Diseño*, Editorial Gedisa, Barcelona 2002
- Klein, J.T. *Interdisciplinarity – History, Theory and Practice*. Wayne State University Press, Detroit 1990
- Krieger, A. and Sunders W.S. (eds) *Urban Design*. University of Minesota Press, Minneapolis, London 2009
- Lefebvre, H. *La Production de l'Espace*. Anthropos, Paris 1974
- Remesar, A. *A Arte contra el pueblo. Tensiones entre la Democracia, el diseño urbano y el arte publico*. Monografias, Barcelona 1990
- Spector, T. *The Ethical Architect – the Dilemma of Contemporary Practice*. Princeton Architectural Press, New York 2001
- Till, J. *The Lost Judgement*. EAAE <http://www.openhouse-int.com/competi/JEREMY%20TILL%20PAPER.pdf>