



Teaching the Dialectics of Design to Problem Solving Practitioners

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This paper illustrates the process of teaching a course on qualitative methods of spatial research in the planning program at the California State Polytechnic University in Pomona. The presentation of this experience addresses the planning education and practice track's main concern about the relationship between theory and practice in future planning and design education. The current pressure in Europe to focus planning education on practice brings about tensions between technical rationality and reflection-in-action (Schoen, 1983), between tasks of problem solving and inherent wicked problems (Rittel & Webber, 1973). Within a global context, the theory-practice relationship becomes even more relevant in fast changing environments that lead to unprecedented professional circumstances.

In this research methods course "Qualitative Methods in Spatial Research" students learned and used both theory and application. The objectives of this course are twofold. First, the course investigations immersed students in a variety of qualitative methods that apply to planning and design research. Second, participants examined qualitative methods in action. Research methods are part of the knowledge-construction process, and observation and experience of space trigger this process. A dialectical Hegelian approach structures the course based on thesis, antithesis and synthesis. These three ideas speak to a life cycle of urban space: the conception of a place, a sense of a place and the enduring civic presence of a place. Henri Lefebvre's understanding of space as a social product, which is produced by the conflicts and contradictions within the social order, guide the teaching process (1991). The teachers established a reflective contract with the students through regular inquiry on the results of the teaching process. By understanding student expectations, they create "natural critical environments" (Bain, 2004) that contain real-time feedback in a reflective process. The course structure establishes a framework for action in which future practitioners would be able to choose between "different paradigms of practice" (Schoen, 1983). Our findings are that this teaching structure balances the dichotomy between "soft" and "hard" knowledge. In other words the structure can negotiate the tensions between poetic imagination, intuition, technical rationality and the difficulty of moving from analysis or planning into design. A dialectic structure in teaching spatial research methods can incorporate reflection-in-action within the evolving design and planning practice.

Introduction

We structured the paper around three main questions with respect to training future practitioners on spatial research. Is it important to address the relation between theory and practice in teaching spatial research? If diversity of planning cultures matters within a global context (Sanyal, 2005), what is the potential contribution of the European traditions to the Anglo-American model of planning education? And if a European contribution to

the American model of planning education were the focus on the connection between culture and place, what type of training would lead to appropriate understanding of places within spatial research?

Fluency with the ideas and methods of theory-practice relationships in planning is imperative within the context of economic globalization. Fast changing environments and cultural intermixing in the speed of the market economy lead to unprecedented professional circumstances. Because new planning and design circumstances do not obey to the norm of predictability and control, we are convinced that an alternative practice to the abstract and rationalist positions is necessary, therefore making appropriate planning pedagogy necessary. On one hand, our conviction is due to the nature of the planning process that requires making decisions regarding unique situations. On the other hand, the relationship between place and culture matters within a global context. With respect to the professional field, this statement translates into planning culture matters. We adopt Sanyal's definition of planning culture as "the collective ethos and dominant attitudes of planners regarding the appropriate role of the state, market forces, and civil society in influencing outcomes" (2005; p.xxi). As educators we are interested to find appropriate ways that create opportunities for future planning and design practitioners to gain in-depth understanding of places from multiple perspectives including the relationship place-culture.

We advocate planning education and practice in a reflective manner similar to Donald Schoen's proposals more than two decades ago (1983, 1987). Schoen made the distinction between the ubiquitous "school knowledge" tradition, which considers knowledge as a finite product, and "reflection-in-action", which adjusts the process to engage and react to particular circumstances. We feel the latter is an appropriate method in planning and design education. As a result, in addition to structuring a suitable teaching process that accommodates both theory and practice, in conceiving this course on spatial research methods we have been constantly inquisitive about how to prepare students to act as reflective problem-solving practitioners.

Moreover, our concerns with respect to the relationship between theory and practice in planning education originate in our personal experiences as practitioners and educators. From our standpoints this teaching proposal comes in response to our experiences in the academia witnessing the predominant quantitative research methods taught in planning schools in the United States. In this paper our reaction is specifically to the planning and design programs at the California State Polytechnic University. As designers we find inspiration in the interaction between diverse traditions, including polytechnic and workshop-like Bauhaus School traditions. Hence we propose to complement the rationalist training with an alternative that encourages students to embrace the spontaneity of daily life, to enrich their spatial understanding through sensorial analyses, and to draw lessons from the clarity of the inner being. These methods allow students to codify and express professionally experiences they take for granted.

In writing a paper about the course, however, we also find inspiration in the current pressures to focus European planning education mainly on practical education, to separate planning practice from theory, and to replicate in Europe the Anglo-American neo-liberal model of higher education. If we look at the past to draw lessons for the future, two decades ago at the 1987 meeting of the American Educational Research Association, Schoen opened his presentation, "We are in the midst of, in our cyclical American way, we are in the midst of a new wave of school reform, and as usual we are blaming the schools for issues that properly belong to the society as a whole" (p.1). If societal issues are reflected in pedagogy, probably the European education shift toward the neo-liberal model is a reflection of the change occurring in the European society as a whole. For the purpose of this paper, however, we are interested to find out how the current European education reform is different than the American reform that Schoen addressed two decades ago.

The Bologna declaration for the European Higher Education Area intended to create a "Europe of Knowledge" that would bring to reality various and contradictory goals such as European citizens' "awareness of shared values and belonging to a common social and cultural space" (p.1), as well as "a world-wide degree of attraction equal to our extraordinary cultural and scientific traditions" (pp.2-3). There is an irony in the way the Bologna declaration appreciates the European cultural diversity, and yet promotes the mainstream Anglo-American system of higher education "embedded in a neo-liberal market environment [...] which has proven its excellence and superiority, at least when measured in economic terms, attractivity to students, Nobel prizes etc" (Kunzmann, 2004; pp.2 & 4). Nevertheless, Kunzmann advises, a bureaucratic adoption of the American model of planning education would hamper the progress of the planning field as a whole, due to constraints with respect to language and institutional cultures, for instance, as well as professional interdisciplinarity, time span of university planning programs and so forth. Considering the inevitability of the globalisation process, he hopes for fulfilment of "the dream of cultural regionalism in a globalised world" (p.8).

The European aim to preserve cultural regionalism or certain connectivity between place and culture is an important difference between the educational reforms in the United States and Europe. It is not surprising that

the significance of the relationship between culture and place (i.e. neighbourhood, physical city, urban region) arises within the context of spatial determinism in the European planning culture. Contrarily the place-culture relationship is neither an apparent concern in the multicultural American society, and nor within the context of institutional determinism in the American planning culture (Apostol forthcoming). So could the place-culture relationship be a European contribution to the Anglo-American model in planning and design pedagogy? If so, how could we train practitioners to understand the ties between place and culture? How would such planning course look like? In light of the similarities and differences between the two educational environments, this experimental planning course proposes a dialectic perspective on spatial research deferent to cultural and individual particularities, and that approaches planning practice as reflection-in-action.

Course Background

The course is the result of the teaching collaboration between a planner and a landscape architect. Both have training in architecture, but from different traditions in Europe and the United States. Our interest in architecture and urban design as collective interpretation of the spatial production from transdisciplinary perspectives strengthen our common background. In managing dissimilarities, we assumed specific roles within the teaching process. We designed this methods course as an upper division undergraduate planning course, open to students from all Departments in the College of Environmental Design. In this paper we present our experience with teaching the first experimental course. In this course we taught a mixed group of undergraduate students in planning and master's students in landscape architecture.

We explored the history of planning education and practice from the beginning of the twentieth century to structure the course. Transformations of the agreed upon role of planning pedagogy gives insights into the transformations of practice over time and vice versa. This exploration brings to light the current state of the planning field, as Rittel's premise discusses that "the occurrence of interest in methodology in a certain field is usually a sign of a crisis within that field" (1984; p.317). We argue that a dialectical attitude toward planning, design, and spatial research with reflective and dynamic alternatives to research methods based on recurrence and predictability can resolve the field crisis.

Historic Overview

In an article about planning in the United States Beauregard argued, "[t]he history of practice, however, is only a partial history of planning. One must also pay attention to education and theory" (Beauregard, 1989; p.383). In the United States, since early 1920s planning education used to link planners' actions and their ideology by connecting theory and practice. For instance, planning theory took into consideration the Chicago school of sociology and human ecology, but "there were no 'planning theorists', only reformers and practitioners with ideas about how the city should be structured" (Beauregard, 1989; p.383). In Europe during the same pre-war decades, Munich Deutscher Werkbund's art school reform anticipated the enhancement of craftwork. Within this school reform the Bauhaus School provided a model of design pedagogy based on creativity. The Bauhaus model taught spatial research as a combination of conscious analysis and dynamic intuition (e.g. Moholy-Nagy's Preliminary Course 1923-1928; Klee's Elemental Design Theory 1921-1931). Ironically, these integrated traditions of planning and design education in the United States and Europe converged into abstract spatial developments (Lefebvre, 1991). The International Style in architecture and the rational comprehensive model of planning grounded the production of abstract space. The rational model informed the modernist project that developed during "the golden years of planning" (Hall, 1988; p.324). This scientific model of problem solving was "backed intellectually by theories of location of firms, initially developed in Germany in the early part of the twentieth century and later introduced in the United States and elsewhere" (Sanyal, 2005; p.5). After the Second World War, the connection between theory and practice weakened within the rational comprehensive model of planning.

Theorists of the rational model of problem-solving and decision making "believed that they have found the intellectual core of planning: a set of procedures that would generate conceptual problems for theorists, serve as a joint object for theory and practice, and guide practitioners in their daily endeavors. This view proved to be erroneous; while early postwar theorists articulated this 'essence' of planning, the modernist project on which such an essence was based was being eroded" (Beauregard, 1989; p.384).

The rational model of planning informed practice for decades (Friedmann, 1987), although it was known that the theoretical framework for planning practice could not be reduced to a set of procedures. In the beginning of the 1970's, Rittel and Weber's article on "wicked problems" brought to attention the unique nature of planning problems. Planning problems cannot be completely 'solved' due to the fact that planning practice is about

performance and not about absolute value. Every planning solution is a “one-shot operation” that leaves little room to learn through trial-and-error. And we cannot transfer across to other problems the lessons learned.

Yet within the rational model of problem solving, “an artful practice of the unique case appears anomalous when professional competence is modeled in terms of application of established techniques to recurrent events. Problem setting has no place in a body of professional knowledge concerned exclusively with problem solving. The task of choosing among competing paradigms of practice is not amenable to professional expertise.” (Schoen, 1983; p.19)

Planning and Design in a State of Crisis

By the 1980s the trends of neo-liberal politics and of the globalisation process brought new challenges to planning. Within a decade the planning field was in a state of crisis, as both the rational model of planning and neo-liberal market schemes failed to produce positive planning outcomes and change (Sanyal, 2005). In understanding the relationship between place and social reality within the planning practice, it is necessary to focus on the dialectics of physical and social urban space. In this context, Beauregard reconsiders the physical city as the object of practice and theory, to move away from the current planning ideological ambiguity. He advises to open planning to a variety of constituencies, and to embrace participation in political action, in order to reconstruct the early modernist relationship between theory and practice (Beauregard, 1989; pp.392-393). Like Beauregard, urban planner and designer Jonathan Barnett recommends the creation of design constituencies (2003). And Castells, responding to globalisation, formulates a new theory of urbanism in the Information Age deferent to urban form and addressing the physical city (2005).

The proposal for a new theory of urbanism is compelling. Yet Friedmann’s argument is still valid, namely that the traditions of planning thought “revolve around one core concern: how knowledge should properly be linked to action” (1987; p.74). Considering the concern of linking properly knowledge and action, Madanipour urges “the need to go beyond these single-view perspectives [e.g. rational model] and elaborate a dynamic, multi-view perspective into what is a multidimensional part of social reality” (2001; p.165). Our premise is that such a dynamic and multi-view perspective could be achieved if planning and design practitioners learn to create opportunities for reflection-in-action.

This reflection-in-action is tacit, spontaneous, and is not a particularly intellectual activity. And yet it involves making new sense of surprises, turning thought back on itself to think in new ways about phenomena and about how we *think* about those phenomena. Examples lie in ordinary conversation, making things, fixing things, riding bicycles (Schoen, 1987). ... Practitioners reveal a capacity for reflection on their intuitive knowing in the midst of action and sometimes use this capacity to cope with the unique, uncertain, and conflicted situations of practice (Schoen, 1983; pp.viii-ix).

Planning and design practice is not a sequence of activities, but a process that depends on the state of understanding the problem. Building an understanding of the problem calls for procedures germane to the problem. Instead of problem solving according to a prescribed set of performance criteria, “[o]ne of the arts [...] is actually postponement of the formal decision in order to enhance the process of forming judgments” (Rittel, 1984; p.324). Rittel proposes “the study of the logic of the reasoning of the designer. What I mean by logic is the rules of asking questions, generating information, and arriving at judgments” (p.323). This critical process takes into consideration intuitive knowledge, which is unmediated by words or rational analysis (Myers, 2002). Thought and feeling are inseparable brain processes, and in practice “we perform a combination of rational and emotional, of pre-linguistic and linguistic functions” (Madanipour, 2001; p.164). In this paper we describe a process of spatial understanding, which is different than a structural approach to design that proposes sets of performance criteria. Furthermore, we believe that balancing the contradictions within the process of design depends on practitioners’ capability to decipher the environment and on their ways to understand phenomena.

In terms of pedagogy the above-mentioned understanding of practice implies an alternative to the epistemology of practice that considers knowledge as a product, and what Schoen calls “school knowledge”. In teaching a course on qualitative methods of spatial research reflection-in-action appealed to us as the most appropriate epistemology of practice. In many planning programs, research methods courses refer mostly to quantitative analyses and rational models of spatial research, which creates a gap between theory and practice with respect to phenomenological and sensorial understanding of space. To bridge this gap one purpose of our experimental course on qualitative spatial research is to take into consideration the value of individual experiences of space. Moreover, instead of thinking of methods we are better off thinking of an “attitude towards planning” (Rittel, 1984). As a result we conceived a dialectical tripartite structure of the subject matter to propose a dynamic alternative to the rational models of spatial research.

Teaching Qualitative Methods in Spatial Research

We call “the dialectics of design” the dynamic understanding of a life cycle of a place across the moments of the dialectical triad: the conception of a place, a sense of a place, and the enduring civic presence of a place. The construction of this triad followed a dialectical Hegelian approach, similarly to Lefebvre’s dialectics of spatial production. The spatial triad proposed by Lefebvre includes representations of space, spatial praxis, and representational spaces (1991). Madanipour identified three traditions in understanding the city that reflect this spatial triad (2001). A synthesis of spatial dialectics considers the city, within an argumentative process, across the three traditions identified as a) a phenomenological point of view (i.e. outsider’s image, spatial praxis), b) a collection of artefacts or a view from above (i.e. producer’s image), and c) an agglomeration of people or a dynamic view of change, exchanges and social relations (i.e. the lived experience of a place, social practice).

In our teaching experiment this dialectical approach to spatial analysis materialized in the course organization as well as in the teaching performance. The objectives of this course expose students to qualitative methods that apply to planning and design research, and allow them to experience these methods in action. Lefebvre’s understanding of space as a social product guided the teaching process. Conflicts and contradictions within the social order produce social space (1991). In consequence we established a reflective contract with the students through regular inquiry on the results of the teaching process. Students’ comments varied from questions like “what am I learning?” and “what is expected from us?” to reflective observations concerning both course content and experience. By understanding student expectations and understanding of the teaching process, we created “natural critical environments” (Bain 2004) that incorporated real-time feedback within a reflective process. Students’ feedback helped to adjust the teaching process.

Course Readings

We organized the course readings and activities according to a tripartite structure of spatial analysis specifically sense, conception, and life of a place. Readings assigned for each triad topic ranged from anthropological to political science theory, in order to differentiate between the structure of political intentions (e.g. producer’s image) and the serendipity of daily experience in urban space (e.g. outsider’s image). A course session on the relative position of the researcher with respect to the object of study introduced the tripartite structure of the lecture core. Forester (2004) and Mead & Bateson (1976) are this session’s readings, as they discuss epistemological concerns with respect to doing field research and practicing argumentative planning.

The first part of the course introduced students to the understanding of a sense of a place. In this part the readings refer to sensorial analyses. We selected, and distributed among three lectures respectively, readings pertaining to a) visual analyses, b) tactile analyses including smell and taste and c) rhythm and movement analyses including sound, music and dance/performance. Knowledge from other fields than design provides a basis for deeper understanding into Lynch’s community visual survey (1990), Lefebvre’s rhythmanalysis in the case of Mediterranean cities (2004), and Sandercock’s inquiry into the role of storytelling in planning processes (2003). Theory about anthropological research complements pieces on urban planning and design, for instance, El Guindi’s introduction to the field of visual anthropology (2004), and Howes’ overview of the sensual turn in anthropology (2003). Marcel Proust’s narrative on *madeleine*’s memory emphasises sensorial connections between memory and space (1934). A couple of excerpts from Bim Mason’s account of outdoor performances in Great Britain bring to light the impact of the built and open environment on its users (1992). At the same time, through association this descriptive and prescriptive piece about street interaction is capable to highlight the role of planning practice as a performance art. In an argumentative process of planning, attention must be paid to the communication content as well as to attracting the audience, to selecting the physical setting, and to establishing intersubjective relationships.

While sensorial analyses proposed a break from the world of words, the second part of the course restored the importance of language. This part introduced students to conceptual analyses. This course on qualitative research methods proposes an alternative to rationalist and abstract research approaches. So we selected two theoretical texts presenting a phenomenological perspective (i.e. Bachelard and Irwin). Irwin’s notes on the ‘nature of abstraction’ suggest to “abandon logic and requiredness” in art in favour of freedom and creativity (1979). In reading the phenomenology of roundness and the dialectics of outside and inside, the students were introduced to Bachelard’s “philosophy of detail” in the experience of intimate places (1994). In order to appropriate and grasp spatial reality, instead of reasoning and causality a phenomenologist suggests repetition of the act of creation.

After exposure to sensorial and conceptual analyses, the third part of the course synthesized the previous two parts to explain the life of a place. The readings refer to both theory and field research, and exemplify an array of qualitative research methods (i.e. Low, Hondagneu-Sotelo and Castells). Besides the relationship between theory

and practice, the selection of these readings relayed different scales of a place. Setha Low's anthropological field research provides the outsider's understanding of Latin American public spaces (2000). Hondagneu-Sotelo's sociological research unveils the formation of neighbourhoods and immigrant communities in California (1994). Castells' chapter discusses the city within a global context. Moreover, Castells is an urbanist and sociologist who reconnects social sciences to urban form, and claims that, "[a]rchitecture and urban design may bridge technology and culture by creating shared symbolic meaning and reconstructing public space in the new metropolitan context" (2005; p.63).

Students read pieces by various authors such as anthropologists, sociologists, urbanists, planners, and a designer, an artist, a performer, a writer and a philosopher. Regardless researcher's field of study, throughout literature reviews we encouraged students to understand the researcher's position relative to the object of study. Whether as an outsider, as an insider or as a border person in the relation with the analysed space, the researcher brings different insights into the story of that place. In the same way, data collection and interpretation reflect the researcher's capacity for reflection and capability to decipher the environment.

Course Activities

Students explored researcher's relation with a place and its culture in the literature. But they also practiced an understanding of their personal relation to the group. As a part of the course introductory session, the students introduced themselves visually by means of a collage composed of magazine photos. After the introduction of the entire class, each student had to define his/her role within the group. The group context defined the individual role. Yet the role also was derived and consistent with each visual psychological profile. Besides an initial group introduction that draws attention to the individual, the purpose of this class assignment initiated a self-reflective process. Such a process stimulated students to embark on a personal trip during this inquiry on qualitative methods of spatial research. In addition to this activity, the course required weekly critical reviews of the readings, a midterm field trip report, and a final integrated project. All of these individual activities developed through class crits similar to a design studio's process.

Throughout the quarter students had to submit short literature reviews, which they uploaded on the electronic blackboard to make them available to the group. Each student had to lead a discussion session on the readings of the respective week. There is an array of pedagogical intentions behind class discussions based on the readings' reviews. One intention is to understand the social construction of knowledge. Another intention is to see the point of, and to get used to an argumentative process of understanding the problem and forming judgement, and to encourage reflection-in-action.

At the end of the first part of the course referring to sensorial analyses we took a field trip to the Getty Center Garden in Brentwood, California. Robert Irwin designed the Central Garden to appeal to all of the senses dynamically throughout short and long rhythms of time. This garden immersed students into an exceptional example of sensorial understanding of space. Students prepared a field report as a first exercise to express their sensorial perception of the garden using Irwin's writing to support their exploration and re-presentation.

The final project required students to integrate qualitative methods of spatial analysis to describe a place. A presentation at the beginning of the course gave students an example on this method type. Students used places they were familiar with, so they could revisit previous coursework, and compare their new analytical methods against earlier scientific analyses. Students had to answer questions like: Why do you choose that place? What is the story that brings the analysis together? What is your position as researcher relative to the place of study? Why is it interesting to understand, and for others to know about the place you chose? How do the readings enlighten your analysis? What are the qualitative methods used for research? Within this project students combined theory and practice, synthesizing the literature reviews and sensorial analyses learned during the course. In terms of research methods this group of students used visual and sound recording, interviews, field observation, mapping and storytelling.

Places selected for analysis fall into three categories corresponding to the researcher's position relative to each case study. One category is a place that acquires the appellative of 'home' by way of comparison. Its researcher is knowledgeable of the place's cultural background, and can perform comparative analyses of the place and its 'authentic' analogue. A second category is a 'familiar' place. The border researcher selected a place that s/he experienced frequently and during a sufficiently long time span to bring up memories and develop emotional ties to it. A third category is a place that is 'different' or 'unique' within its immediate surroundings. Researchers described themselves as outsiders in relation to their place of analysis. Within final presentations students addressed the connection between their position as researchers and their relative role within the group, defined at the beginning of the course.

Course Evaluation

Based upon feedback, the students found this experimental course on Qualitative Methods of Spatial Analysis to be useful and interesting. Students' closing comments relative to course's benefits relate to a multitude of aspects. They mentioned interdisciplinarity as an effective method of learning for problem solving and spatial understanding. They appreciated the attention stressed on the individual experience and on cultural diversity. Although the course syllabus explained the organization of readings, activities and assignments, in the beginning student feedback mentioned 'the lack of course structure'. We interpret that as resistance to a new type of course structure due to the uniformity and linearity of mainstream teaching. The limitations of this type of course could be identified in the class size, as it is difficult to invest attention to each individual within a large class. In teaching a phenomenological viewpoint we could see the risk of superficial analyses, if not closely monitored. But all students embraced this approach to spatial understanding. While they enjoyed the course activities, some of the students still expressed confusion about this reflective process. However, most of the students understood how they could use these methods in future projects. All students mentioned the benefits of combining theory and practice within the course.

Closing Notes

Is this course on spatial research able to prepare planners and designers to practice with alternatives to the rational comprehensive models? We expect that experimenting with the dialectics of design within the teaching process may put students in contact with intimate understanding of spatial problems. We base our expectations on students' reactions to this course. Those students who resisted the reflection-in-action training eventually delivered good final presentations. We appreciate this as a measure of understanding through sceptical inquiry and postponement of decisions in favour of critical judgment. Questioning is a first step in becoming reflective within the practice, and is beneficial in learning how to create opportunities for reflection-in-action.

Overall, we evaluate the course as being effective. The dialectical structure accommodates "hard" and "soft" knowledge (Schoen, 1983). This structure consciously incorporates intuitive and sensorial knowledge within the process of building spatial understanding. Students relying on intuition benefited from incorporating their insights within a body of literature, joining conversation through their research. At the same time students who relied on scholarly and/or scientific knowledge acquired the confidence to distinguish their feelings and intuitions, and integrated them within the process of forming judgments. In conclusion we expect that, as future practitioners, these students can choose between "different paradigms of practice" (Schoen, 1983). Unveiling of the ties between place and culture depends upon practitioners' capacity to include pre-linguistic and linguistic analyses in the exploration of the life and the enduring civic presence of a place.

When operating within a dialectical attitude towards planning and design, the relationship between theory and practice is essential to spatial understanding. Theory and practice mingle within dynamic views across the different moments of the dialectical triad. Certainly the European planning traditions do not need to lament the loss of cultural regionalism into a globalised world. European planning cultures could propose a dialectical alternative to previous methods of planning pedagogy and practice, an alternative that values the senses, the inner being, individual experiences and cultural particularities of places.

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Additional Information

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