03
Confluences

Social Housing
in Rimini
PEDAGOGY
COMMUNITY PARTICIPATION
RESEARCH
WORKSHOPS
LEARNING SPACES
PARTICIPATORY ACTIONS
READERS
OIKOPEDIA
Civic Housing
Issue 02/Chapter 10
Issue 02/Chapter 08
Issue 02/Chapter 06
Issue 01/Chapter 05
Issue 01/Chapter 02
Rimini
Affordable Housing
Capacity Building
Community Participation
Housing Innovations
Participatory Planning

Participatory Strategies to Facilitate Access to Social Housing in Rimini

Filippo Boschi

INTRODUCTION

From June 2014 to March 2015, a community action project aimed at involving social and political stakeholders in the provision of social housing in the city of Rimini was carried out by the Heriscape Association and the Ordine degli Architetti di Rimini (Chamber of Architects). The activities involved private stakeholders and public institutions and were aligned with the Strategic Plan of Rimini.

The main purpose of the action in Rimini was to define possible and feasible strategies to support solutions for the social housing problems in this medium-size city, with the collaboration of the private and public sectors.

SOCIAL HOUSING IN ITALY

Social housing is part of welfare and planning policies in many European countries. Despite this shared interest, there is no agreed definition of the term *social housing* across Europe and no common policy. As a result, each country has developed its own way of facilitating access to housing. The differences encompass the legal status of the landlord, the rent regime, the funding method and the target population (Braga & Palvarini, 2013).

The house price escalation in Italy since the mid-1990s has not been accompanied by a comparable rise in household incomes, which have only experienced a modest increase. This phenomenon started in the metropolitan areas and has then spread to smaller cities like Rimini. In the process, housing needs have changed and become more complex and diversified. In fact, today the problem of accommodation not only concerns the weakest members of society, but also people who, even though have relatively regular and stable incomes, find it very difficult to access the housing market.

Historically, the provision of affordable housing in Italy has been the task of public institutions with the limited support of the private rental sector (Atzei & Fabbri, 2001). This subsidised housing was assigned to the population following specific rules and procedures based on income ceiling. Overall, the rate of social housing provision in Italy, as compared to the total housing stock, is quite marginal, accounting for approximately 5% of the housing available in the market.

The recent economic crisis has had a strong impact on social housing provision leading to a higher demand for affordable housing and social allowances; including demands from potential buyers who are unable to access the housing market because the prices are too high. For this part of the population (defined as the "grey area"), a mortgage or rent has a significant impact on their annual living expenses. In 2012, 10% of the families surveyed indicated that more than 30% of their income was used to pay for housing, a threshold usually considered as a distinction of economic disadvantage. Thus, the crisis has had two negative consequences: An increase in the demand for social housing, particularly

among the middle-class households and workers with atypical contracts, and a reduction of the public resources to finance the housing sector. In fact, the traditional public programmes, such as the *Edilizia Residenziale Pubblic*a (ERP), have proved insufficient in providing an adequate response to the shortage of social housing (Van Riel & Semprini, 2004).

After years of political support for home ownership, with an incidence of 70% (one of the highest rates in Europe), new needs for flexibility, increasing difficulties in securing mortgages and a growing demand for temporary housing (caused by an elastic labour market) have brought about an emergent necessity to extend the availability of social housing to the rental market.

Nowadays, numerous public and private organizations operate in the social housing sector. However, even though these organisations try to offer solutions to different segments of the population in need of social housing, they act without the coordination and cooperation that is necessary to identify social demands, to define the roles for each organisation and to establish a joint policy to provide effective answers to the lack of affordable housing. The diversification of actors, policies, programmes, tools and projects, and the lack of collaboration between the public and private organisations dealing with social housing, hinder the effectiveness of any action. In addition, new recently emerging challenges are affecting urban policies, among them, the rehabilitation and redevelopment of run-down urban areas, control soil sealing and land take, urban quality and social facilities requirements, the promotion of participation and the search for environmental and sustainable solutions.

Overall, the described situation, in part motivated by the present economic crisis, has resulted in the need for new policies and innovative tools to provide an effective answer to the housing problem (Braga & Palvarini, 2013). As a partial answer, the programme called *Piano Casa*, the institutional and ordinary model to the current system of public residential housing ERP, has been developed to provide a constructive response using economic and financial tools like property investment funds and ethical funds. Furthermore, the lack of public resources to sustain housing policy has resulted in improved cooperation between individuals and public institutions, both at national and local levels, in a joint effort to deliver expert and actionable responses.

Rimini Situation: Needs and Opportunities

The conditions of the housing market in Rimini do not differ substantially from the general situation in the rest of the country.

According to a report prepared by the Cassa Depositi e Prestiti (Carriero, Russo, & Screpanti, 2014), there is too much rigidity and not enough liquidity in the rental market to meet current supply and demand. With regard to the available housing stock, there is a significant amount of unofficially used

or unused properties which constitute potential new accommodation. This vacant stock (appraised in 15,000 units, only in Rimini), represents an important opportunity for housing policies but it is also a potential risk for urban decline in specific areas. Alongside the difficult economic situation, Rimini has been facing a steady demographic increase over recent years; a positive trend which is exceptional if compared to other similar regions in Italy.

Even though the general situation is similar and comparable to other cities in Italy, there are three elements which characterise the housing market in Rimini: An increase in housing demands; a competition for the housing market driven by tourism and university accomodation needs; and a significant presence of non-profit organisations in social housing provision.

HOUSING DEMAND

The demand for affordable housing has grown exponentially over the last three years from 900 to 1,600 annual requests for 1,600 available public housing units which have a turnover of only 3%. This situation is further confounded by the fact that there is an income ceiling to access affordable housing. The current ceiling is too high and enables people who could theoretically afford a home in the controlled or free rent market to apply for social housing, thus hindering the access to those who really need it. Thus, the situation in Rimini can be summarized as follows: Empty houses, citizens requesting rent controlled homes who cannot get one, and citizens living in affordable housing who could access the real estate market.

The housing problem in Rimini is also very well depicted in the annual report drawn up by Caritas Diocesana Rimini (2013). According to this report, due to the worsening of the economic crisis, more and more people have started to request first aid housing services. In addition to the homeless, the new applicants for social help are people with homes who cannot afford to pay the rent, the utilities and sometimes the mortgage. Therefore, a new type of population segment is asking for help and support; people who would never have thought of being in a position of need, among them many families with children. According to Caritas, the number of evictions is increasing, even for those who live in public housing. There is also a growing population who live in holiday apartments during the winter and are unable to find affordable accommodation during the summer as prices rise significantly in this period. At the same time, the number of homeless people has increased.

TOURISM AND UNIVERSITY

The tourism sector strongly spurs the economy of the area, even during the economic crisis. However, it also affects the housing market. In fact, part of the touristic demand for housing interferes drastically with the housing market thus influencing rents and house prices. In

addition, the university affects the housing market, since the lack of affordable student housing forces students to compete in the same free market. Currently, there are more than 6,000 registrations at the university campus in Rimini of which more than 50% are from applicants outside Rimini. The university is struggling to find appropriate accommodation for them.

THE NON-PROFIT SECTOR

The non-profit sector (or third sector) plays an important role in supporting the city's welfare state. In particular, many non-profit associations and organisations support and manage projects and programmes to help and reintegrate socially marginalized people. In 2011, there were almost 130 active voluntary organisations in Rimini in the health and social sectors, working on social integration, training and environment (Rimini Municipality, 2011).

A COMMUNITY ACTION PROJECT

In the current social housing context, a community action project—involving the municipality of Rimini and other private and public stakeholders—was carried out to improve access to affordable housing.

Objectives of the Project

For the reasons previously explained, housing demand in Rimini has become higher, more complex, and increasingly diversified. Furthermore, the applicants for social housing respond to a variety of social groups which were not the typical beneficiaries of social housing in the past: Singles, single-parent families, immigrants, temporary workers, and off-campus students. Sustained by this new atypical demand, the need for social housing is also affecting intermediate segments of the population (grey area) who are no longer able to satisfy their housing needs on the free market, either for economic reasons or due to the lack of appropriate options available. In this context, a goal of the social housing programmes is to improve the conditions of these people by favouring the creation of dignified social and living conditions; this means, not only facilitating access to suitable dwellings, but also nurturing rich and meaningful human relations.

The cooperation between citizens, private associations, and public institutions is necessary due to the lack of public resources to sustain a social housing policy. For this reason, Heriscape and Ordine degli Architetti di Rimini have designed and implemented a community action project involving different partners and institutions to set up some criteria to overcome the difficulties of the social housing sector. The aims of this action have been:

- to identify social housing problems and opportunities, to set a baseline for future actions and policies;
- to create a permanent round table involving local associations and institutions committed to facilitating access to housing and to assuring the welfare of the population;
- to foster the collaboration among the partners in order to provide effective answers to the social housing needs of different sectors of the population;
- to outline possible solutions and pilot actions carried out with the participation of the involved stakeholders;
- to come up with a methodological approach which contributes to establishing a broader housing policy at local and national levels;
- to disseminate the outcomes of the action at national and international levels, and to evaluate their possible application to different European contexts; and
- to set up criteria for future actions and policies that have to be developed by the participants.

Participatory Process

The community action was implemented in three stages: Analysis of the context, selection of the stakeholders and creation of the round tables.

ANALYSIS

After collecting data and information about the situation of social housing in Italy, research was conducted on the conditions in Rimini by analysing different information sources, such as reports, statistics and interviews. The first findings showed opportunities and synergies that, in a second phase of the process, were shared with the involved stakeholders with the objective of verifying and putting into practice joint strategic actions.

SELECTION AND INVOLVEMENT OF STAKEHOLDERS

One of the goals of the action was to encourage, promote and define strategies to facilitate the realisation of a social housing programme, which was to be developed through an integrated approach involving public institutions and private organisations.

With this purpose, ten stakeholders were selected on the basis of their role in the social housing field. The participating organisations were the following:

- Public institutions: Municipality of Rimini (Housing Policies Department, Youth Policy Department, Urban Planning and Territorial Management Department).
- Housing associations: ACER Rimini (Emilia Romagna Affordable Housing Agency).

- Financial institutions: Carim Foundation (Bank Foundation).
- Non-profit social welfare associations: Papa Giovanni XXIII Association, San Giuseppe Foundation, Slash Association, Caritas, Fratelli è Possibile Social Cooperative.

Firstly, these organisations were approached in an interview conducted by researchers from Heriscape. The purpose of the interviews was to gain first-hand knowledge of the working methods and activities carried out by the stakeholders in the field of social housing. Secondly, the information collected in the interview created the basis for the round tables, and subsequently helped structure and formulate possible strategies.

CREATION OF ROUND TABLES

In the third stage, two round tables with representatives of the organisations were set up in the seat of the Strategic Plan of Rimini. These meetings were an opportunity to discuss possible solutions to be carried out by the involved participants. In the first meeting, the discussion focused on the presentation of four projects proposed by the stakeholders with the aim to find synergies and joint strategies for their development: *Housing First*, *Experiential Housing* (Housing Esperienziale), *Three Tents* (Tre Tende) and *Fondo Emilia Romagna Social Housing* (FERSH).

HOUSING FIRST. In this programme, the house plays a primary role in the reintegration of homeless people. The house is thought of as a tool of individual empowerment and social commitment. Among other aids, the beneficiary receives an apartment and can then have access to health and social services in the area where the house is located.

The dwellings are found in the real estate market. The associations responsible for finding them are trying to set up rental agreements with the owners of 30 to 35 square metre apartments. According to the original project, the tenants should pay a percentage of the living expenses that may be around 50% or 30% of the overall cost for renting and utilities. If this is not possible for them, then the municipality of Rimini has allocated funds to cover arrears or the costs of up to one year.

EXPERIENTIAL HOUSING. The goal of this project is to recover and reuse unused or abandoned hotels, in order to provide beds and meeting places at reduced rents for students, and additionally for tourists during holiday periods. The business plan also includes a provision of meals for homeless people.

THREE TENTS. Three buildings have been designed and will be built alongside the existing Casa Bronzetti on land owned by the San Giuseppe Foundation, in Rimini. The target group is constituted by adults with moderate to severe disabilities, unaccompanied young migrants, and social and economically marginalised people. The

houses are designed according to the needs of the future users; they are integrated into the surroundings and include different social facilities. To this end, the various partners participating in this project will provide the following services:

- Housing assistance.
- Personalised courses aimed to help people to be independent and to increase their social skills.
- Parenting and family support in the process of social integration.
- Educational activities and workshops.
- Social and conflict mediation.
- Recreational activities.

The permanent presence of a social mediation service will act as an element of social cohesion by developing a social and supportive network in the area.

FONDO EMILIA ROMAGNA SOCIAL HOUSING. It is a financing tool created by a group of bank foundations to support the social housing projects. To be financed, the projects have to fulfil some urban, social and financial requirements. Interventions should be placed in areas with strong housing potential, which are well connected by public transport and have commercial and public services (schools, hospitals, green areas, recreational facilities, etc.).

Interventions should be made in a variety of building types to meet the needs of different groups of users and to foster and adequate social mix. Also, there should provide social support to facilitate the inclusion of the disadvantaged people (for instance, social and health assistance, support to find a job, etc.). Buildings should conform to the principles of environmental sustainability and energy saving standards, using sources of alternative energy wherever possible. Initiatives must be sustainable from an economic and financial point of view: The package of intervention should be robust, financed by the banks, and with an aggregate performance in line with the objectives of the Fund. Typically, each project should furnish at least 100 housing units with a total value of at least 10 million euros.

The analysis and discussion of the projects by the participants revealed some critical points: Lack of economic resources, need for better communication between public institutions and non-profit organisations, and a stronger collaboration for the implementation of the projects.

In the second round table, the discussion focused on the feasibility of two of the projects: *Experiential Housing* and *Three Tents*. At the end of the two round tables the possibility of creating a permanent steering committee on social housing in Rimini, starting from the participants in this community action, was discussed. The participants agreed that one organization should lead the committee and define the general aims and objectives for future projects.

CONCLUSIONS

Each participation process is unique and requires a specific design process, tools, and methods. Therefore, it is difficult to come up with a generic methodology that can be replicated in different cases. Nevertheless, it is possible to derive some conclusions from the community action project carried out in Rimini, which can be useful the future. To summarize, these are:

- Interviews are helpful to identify and collect information both on the stakeholders' activity and on the proposals to design the participatory process.
- Round tables could be considered an incisive and effective way to create a common space to integrate all various stakeholders concerned with social housing in a particular community. They have been able to share problems, experiences and know-how, which in turn might benefit the development of the projects. In this regard, the first round table was particularly successful to define critical aspects and opportunities. In fact, the promoters of a project often could not come up with specific solutions because they did not have a whole picture of the social housing situation in the city. The meetings enabled them to gain this overall view.
- It is important that round tables are considered not only a sharing space but also a place where the participants are motivated to work together, to develop projects conceived as part of a network and to find ways to solve difficulties encountered by the stakeholders.
- Even if all the stakeholders were acting on the same problem (shortage of social housing) and possibly due to their different competences and approaches to the problem, it was important to define shared languages (verbal or graphical) to facilitate the communication and the debate among them.
- Lastly, the participation in this action helped stakeholders to gain a deeper insight into social housing problems and helped them to define and consolidate their project.

Other conclusions that can be derived from this experience are the following:

- Creating a network of all the stakeholders involved (institutions, organizations and associations, public and private) really helps to develop social housing projects effectively, providing a diversity of options that respond to multiple needs.
- A steering committee on social housing, with representatives of the various organisations, was considered as positive by the participants because: It brings together the local associations and institutions; it constitutes a place where everyone involved is informed of the latest initiatives and can share experiences and promote new practises; it helps to optimise resources, and it contributes to developing a joint strategy.

In conclusion, this action could be considered a positive experience and a really useful and successful process. But, looking specifically to the social housing issue, some limits can be observed.

In the area of Rimini, as in other medium-size cities in Italy, there is a large number of players involved in projects dealing with social housing programmes. Despite the importance of the problem, the municipality of Rimini does not have a precise picture of all the players acting in the social housing field. This lack of knowledge, partially filled by this action, testifies the lack of preparation of the municipalities to lead the community responses to the social housing problem. It also reveals their lack of predisposition to create partnerships among public and private organizations. This partial inability of the public sector to cooperate with private organisations has a historical background, since typically the provision of affordable housing was a specific and sole assignment of dedicated regional and national public agencies.

Looking at the projects, it is clear that many of them are concerned with very specific target groups and often linked to those in critical or emergency situations. Very few projects are actually dealing with the emerging target group referred as the grey area. This is probably due to the fact that at the local level only specific needs could be really dealt with, and a generalist answer for social housing should be pursued only at the regional or national level. Furthermore, the experience of this participatory process shows the limits of acting on a small scale. In fact, a typical investor in social housing performs real estate transactions on a scale that cannot be compared to that of a medium-size city like Rimini. Therefore, for such cities it is necessary to work on different types of financing solutions that facilitate access to housing.

It is also necessary to mention that many initiatives presented and discussed in the participatory process face economic difficulties: Public resources are very limited and often private stakeholders do not have enough funds to sustain and carry out the projects. The situation is paradoxical. On the one hand, the lack of public funds, the credit crunch and the market crisis have affected private developers. On the other hand, there is an increasing and significant number of unsold and vacant houses in the housing market. A situation like this calls for action to use the existing stock, to incentivise renting and selling, rather than building new houses, as some of the projects proposed. But the difficulties to act in this direction lie in the fragmented ownership of the housing market and in the weakness of local governments, due to the lack of legal instruments and financial resources.

References

Atzei, A., & Fabbri, C. (2001). *La società che cambia. La politica sociale per la casa e le nuove politiche abitative*. Istituto Autonomo Case Popolari della Provincia di Rimini. Retrieved from acerimini.it/Doc_pubblicazioni/pubbl_1/1_iacp_rimini.pdf

Braga, M., & Palvarini, P. (2013). *Social housing in the EU*. European Parliament's Committee on Employment and Social Affairs. Retrieved from europarl.europa.eu/RegData/etudes/note/join/2013/492469/IPOL-EMPL_NT(2013)492469_EN.pdf

Caritas Diocesana Rimini. (2013). *Report delle povertà*. Retrieved from caritas.rimini.it/wp-content/uploads/Rapporto-2013.pdf

Carriero, A., Russo, F. A., & Screpanti, S. (2014). *Social housing. Il mercato immobiliare in Italia: Focus sull'edilizia sociale*. Rome, Brussels & Milan: Cassa depositi e prestiti. Retrieved cdpisgr.it/static/upload/cdp/cdp-report-monografico_social-housing.pdf

Rimini Municipality. (2011, March). *L'Arengo. Periodico del Comune di Rimini*. Retrieved from www.comune.rimini.it/sites/comune.rimini.it/files/arengo201103.pdf.1301054522.pdf

Van Riel, S., & Semprini, M. P. (2004). *L'edilizia residenziale pubblica a Rimini e Provincia, dall'unità d'Italia ad oggi*. Firenze: Alinea. 20


Designing
a Cohousing
Process
WORKSHOPS
LEARNING SPACES
PEDAGOGY
COMMUNITY PARTICIPATION
PARTICIPATORY ACTIONS
RESEARCH
READERS
OIKOPEDIA
Civic Housing
Housing Systems
Barcelona
Affordable Housing
Capacity Building
Codesign
Community Participation
Housing Regeneration
Participatory Design
Issue 01/Chapter 02
Issue 01/Chapter 03
Issue 01/Chapter 07
Issue 02/Chapter 07
Issue 02/Chapter 10

Civic Housing: Designing Participatory Processes for a Cohousing Project

Leandro Madrazo, Ángel Martín Cojo

INTRODUCTION

Cohousing started in Denmark during the 1960s as a reaction to the standardized and anonymous modes of living that had become commonplace with the construction of post-World War II housing estates. It was an attempt to recover the sense of place and the feeling of belonging to a community which had traditionally characterized living in towns and villages or, in other words, to restore the lost ties between building and dwelling that had been lost with modern housing. Since then, the cohousing movement has been steadily spreading over the world (McCamant & Durrett, 2011). Nowadays, we can find organizations and professionals in many countries that provide support to carry out cohousing initiatives.

In a cohousing project, the future residents can collaborate in the design, building, use and maintenance of their homes in different ways: Specifying the characteristics of the future dwellings, selecting materials and building components, collaborating in the construction, sharing the common facilities and looking after them once they live in the houses. This way, a sense of community emerges throughout the different stages of collaboration, from defining housing needs to sharing amenities (kitchen, children's playgrounds, etc.) which helps participants to build trust in one another. Besides the future residents, other professionals can be part of a cohousing project acting as designers, contractors, counsellors or mediators, in different stages of its development.

Participating in a cohousing initiative means taking part in a learning process which also spans throughout the different stages, from the design of the future homes—learning to identify the housing needs, to discussing and negotiating them with other participants—, to the construction of the buildings—acquiring skills from construction workers—, to the use and maintenance—understanding how building systems operate and helping to repair them.

Some learning models, such as *project-based learning, action learning* and *action research* which are at the core of the architects' design education and practice, underpin the learning processes within a cohousing project. Architects are familiarized with project-based learning during the studies by being confronted with problems in the design studio for which they have to find solutions with the support of other peers and critics, or even with the collaboration of users. Action learning "means learning from action or concrete experience" and then taking new action as a result of the learning, while action research is "a cyclical iterative process of action and reflection on and in action" (Zuber-Skerritt, 2001, p. 1). Action research is particularly relevant in the context of a collaborative design process, such as the one that takes place in cohousing, since "[it] requires the research process to be made visible. It demands public accountability and visible self-evaluation, an issue that is assuming increasing importance for current professional design practice" (Swann, 2002, p. 57). Both action learning

and action research can become closely knitted in the development of a design, particularly in one carried out in a socially delimited context such as a cohousing project which is precisely aimed at transforming an existing reality, socially and physically.

Jeremy Till has contended that "The architect (as citizen-expert) needs to listen to, draw out and be transformed by the knowledge of the user (as expert-citizen)" (Till, 2005, pp. 33–34). This requires creating spaces to foster the dialogue between experts and non-experts, and having appropriate languages to facilitate the communication between them. Furthermore, Susanne Hofmann argues that "The precise exploration of users' needs and ideas regarding the use of buildings, as well as effectual communication between laypeople and architects are important foundations for the design quality and sustainable use of buildings, which is expressed by the satisfaction of their users" (Hofmann, 2015, p.9). To understand the users' needs in the context of a participatory design process involving laypeople, architects need to have specific communication skills and tools that help them to establish a fruitful dialogue with non-experts using a common language.

With the purpose of facilitating the acquisition of these skills, the School of Architecture La Salle and Sostre Cívic— an association that promotes cooperative models to facilitate access to housing—organized a seminar titled *Civic Housing* in the academic year 2013–2014 which enabled undergraduate architecture students and members of the cooperative to collaborate in the early phases of a cohousing project in the historical centre of the city of Barcelona. The initial task for students was to design the communication tools that would enable dwellers to make explicit the knowledge they possess about the spaces they inhabit. At the end of the seminar, students provided a range of architectural responses to the issues identified in the dialogue with dwellers.

FIGURE 1. Building to be refurbished in El Born neighbourhood, Barcelona. Source: Ángel Martín Cojo

A COHOUSING PROJECT: RENOVATION OF AN EXISTING MULTIFAMILY BUILDING

Sostre Cívic had reached an agreement with the planning authorities of the city of Barcelona to refurbish a five-story building located in El Born neighbourhood, in the old historical centre (Figure 1). This case offered an opportunity to create a project-based learning space in which students from the School of Architecture La Salle would play the role of experts supporting a cohousing initiative. The task of students was to design the methods and tools that would enable dwellers to express their experience about the living environment. In this context, students played multiple roles: As design researchers, as designers of the design process, and as facilitators who helped dwellers to express their thoughts and to elicit the knowledge they possess.

The learning activities planned in the seminar had a pedagogic value for both architecture students and dwellers. We expected architecture students to develop the skills necessary to derive a knowledge about living and dwelling from laypeople which they could subsequently incorporate into a collaborative design process. Members of the cooperative, on the other hand, would have a chance to reflect on the qualities of their current and future living environments, and to express their views with the communication tools devised by the students.

In particular, through the learning activities carried out during the seminar architecture students had the opportunity to develop their abilities:

- to engage dwellers in a reflective process on their present and future living place;
- to design the tools and methods that would enable users to express their knowledge and needs;
- to learn from users—rather than from the building regulations or from established architectural models—the needs of the future dwellings; and
- to analyse the insights obtained from the interaction with dwellers and then take them into account in the design process.

Furthermore, dwellers participating in this learning process could develop a capacity:

- to express and communicate their experience about the spaces they live in;
- to assess their living environment in qualitative terms, by describing what they consider good or bad about the places they live in; and
- to envision the qualities of their future living environment.

As a result of the interaction between experts (students and teachers of architecture) and non-experts (members of the housing cooperative), we expected that the "problem" of the renovation of the building would be formulated in different terms as in the briefs—prepared by developers, and planning authorities—that are customary in the design of multifamily housing, briefs that are mostly based on stereotyped models of living and in the application of housing regulations and standards. Thus, the purpose of the collaboration with the members of the cooperative was to help them to formulate an idea about their future housing which would emerge from their own needs and visions, and from their understanding of the building to be refurbished and its context.

LEARNING ACTIVITIES

The learning activities (LAs) carried out by students in the 14-week seminar were the following:

- Reflecting on the need for citizen participation in architecture.

- Designing a participatory process: Analysing existing methods and tools.
- Implementation of the participatory process: First working session with dwellers.
- Evaluation of inputs obtained in the first participatory session.
- Redesigning of the participatory processes: Improved methods and tools.
- Implementation of the participatory process: Second working session with dwellers.
- Creating a design brief based on answers from participants.

Within every learning activity, a series of tasks (TKS) were carried out. Learning activities and tasks were organized according to the structure provided by OIKODOMOS Workspaces[1] and carried out in this web-based learning environment. In this way, other students and teachers from partner schools of the OIKONET network could follow the course development and had access to their outputs. The scope of every learning activity, the tasks in each one and the outputs produced by students are presented in the next sections. At the start of the learning activities, Sostre Cívic representatives were invited to present in the classroom the objectives of the organization and the plans for the renovation of the multifamily building.

LA "Reflecting on the Need for Citizen Participation in Architecture"

The purpose of this preliminary activity was to find out why participation plays an important role in architecture, particularly in contemporary housing. Some examples of participatory projects were gathered by students and presented in the classroom and in the on-line learning environment (Figure 2).

FIGURE 2. Preliminary reflections about the significance of citizen participation. Student: Izabela Grotowicz

1. See www.oikodomos.org/workspaces/civic_housing

LA "Designing a Participatory Process: Analysing Existing Methods and Tools"

This learning activity consisted of two tasks: 1. To analyse some of the methods and tools used in participatory processes and 2. To design the tools and communication procedures to enable the dialogue with the members of the cooperative.

TK "ANALYSING EXISTING METHODS AND TOOLS"

Students analysed some of the works from Giancarlo De Carlo (2005), Christopher Alexander (1977), Ralph Erskine (1987), John Habraken (1972) and Henry Sanoff (2006) to learn about the means and goals of participatory processes in housing design. From the study of these precedents, they understood the importance of having appropriate means of representation to facilitate the dialogue between experts and non-experts, between architects and dwellers. The findings were presented and discussed in the classroom and in the on-line learning environment (Figure 3).

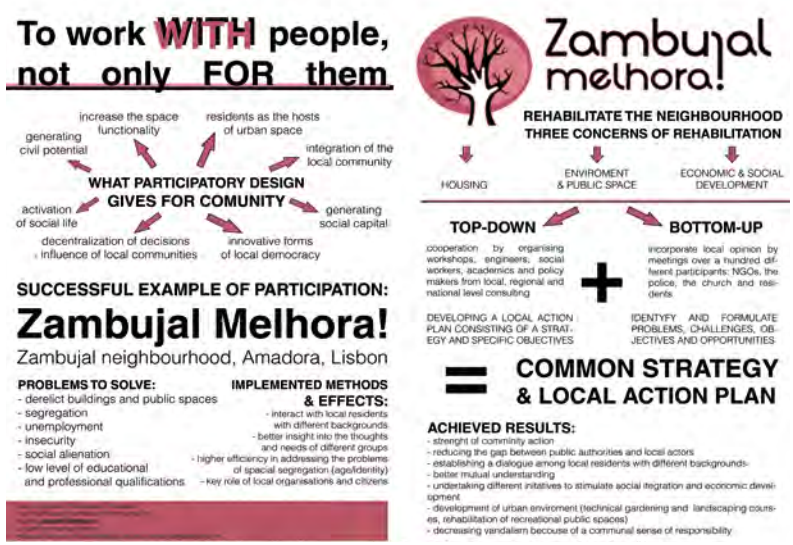


FIGURE 3. Preliminary research on participatory methods and case studies. Student: Izabela Grotowicz

TK "DESIGNING COMMUNICATION TOOLS"

During the discussions about the participation methods and tools of the previous task, it was concluded that with simple utensils—such as paper sticks, needles, threads and cardboards— it would be possible to create tools for the participants to express and represent their knowledge and experience of living in a more intuitive manner. Thus, the next task was to design and produce the communication tools which would then be used in the meetings with the residents (Figure 4).

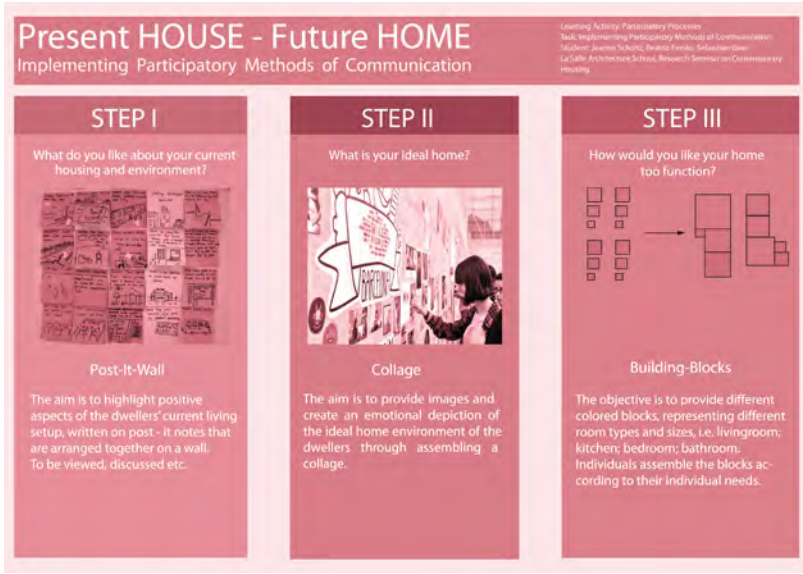


FIGURE 4.
Proposal of communication tools based on simple techniques. Students: Jeanne Scholtz, Beatriz Ferrão, Sebastian Baier

The tasks to be conducted with dwellers in the participatory sessions were also planned and discussed with the students. They were finally structured in the following way:

- "DESCRIBE THE SPACE YOU LIVE IN". Getting to know the experiences of dwellers with the spaces they inhabited by means of interviews, observations and questionnaires.
- "IMAGINE YOUR IDEAL LIVING SPACE". Letting participants to express their visions and aspirations about their future homes with drawings, images, and words.
- "PLAN YOUR FUTURE HOME". Arranging the spaces and activities in the dweller's envisioned homes, with their collaboration.

LA "Implementation of the Participatory Process: First Working Session with Dwellers"

The communication tools which were devised in the previous learning activities were first implemented in a participatory session that took place at the premises of Sostre Cívic in Barcelona on October 29, 2013. Forty members of the association and ten students participated in this session (Figure 5).

The aim of this meeting was to obtain from dwellers some ideas about the places they would like to live in. The students acted as facilitators of the process. For the dwellers, this action was the starting point of their participation in the design process of their future home.

The tasks that dwellers carried out in this session were the following:

FIGURE 5. First participatory session with members of the housing cooperative. Source: Ángel Martín Cojo

TK "DESCRIBE THE SPACE YOU LIVE IN"

Students asked dwellers about their experience in their current living environment. The future residents had to describe in their own words what they liked most and least about their current living places. The texts were written in post-its and shared with the rest of participants (Figure 6).

What came out from this activity was a vocabulary of the domestic space as described with the language of the dwellers, rather than with the architects' jargon. These are some examples of the descriptions provided by participants: "Living in a building with plants and flowers gives vitality", "I would love to have enough space and tranquillity to be with my daughter", "We should have rooms with different functions according to the activity wished to be done at that moment", "A cosy place to work and read", "To make it feel like home, I would like to have my own private space but also a space to have some friends over, share a meal and talk without having to rush". These statements were analysed by students in order to define the "problem" to be solved. In this way, the building programme was not formulated in advance in professional terms—functions, building regulations and standards—but it was derived from the inputs of the dwellers.

For the members of the cooperative, the participation in this activity was an opportunity to make a critical reflection about their current living environment. Even though most of them had joined the cooperative because they were not satisfied with their dwellings, they still lacked the instruments to articulate their critiques. Carrying out the activity enabled them to identify what they liked or disliked about their current living conditions and to communicate them to other people.

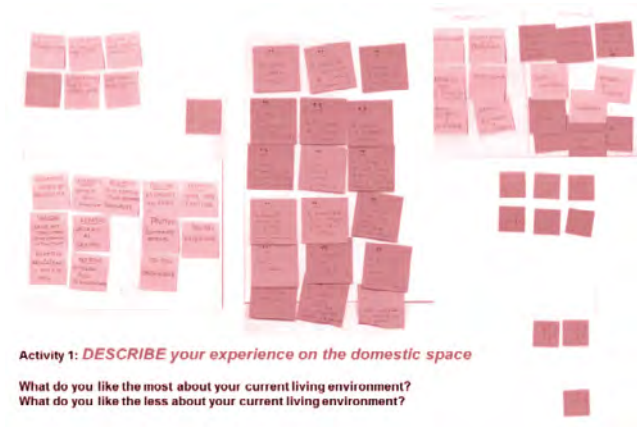


FIGURE 6. Task "Describe the space you live in". Source: OIKONET Seminar

FIGURE 7. Task "Imagine your ideal living space". Source: OIKONET Seminar

TK "IMAGINE YOUR IDEAL LIVING SPACE"

Participants were asked to reflect on the visions and expectations of their future home by means of a conceptual map made up of images that illustrated domestic spaces. They had to choose some of the images that students selected for them and then make a collage which represents their ideal living place (Figure 7). Through this activity the future dwellers could visualize the kind of domestic spaces they had in mind.

This activity exploits the capacity that images have "to evoke deeper elements of human consciousness that do words" (Harper, 2002, p. 13). The technique known as photo or image elicitation has been used since the 1950s by sociologists and anthropologists, in combination with interviews, to know the meanings or values that people associate to images. In this session, participants were asked to describe the ideas that the photographs evoked. Their words revealed the hidden meanings of the images, but also their "idea" of home built in their memories (Rivera, 2011).

LA "Evaluation of Inputs Obtained in the First Participatory Session"

The objective of this learning activity was to start aligning the dwellers' visions with the design proposals that students had made in response to their demands, based on the inputs received in the previous participatory session.

The output of this activity was an A3 sheet where each student classified the inputs obtained from dwellers under different topics: Sociability, privacy, community, respect, comfort, identity, relation with nature, and integration within the neighbourhood (Figure 8).

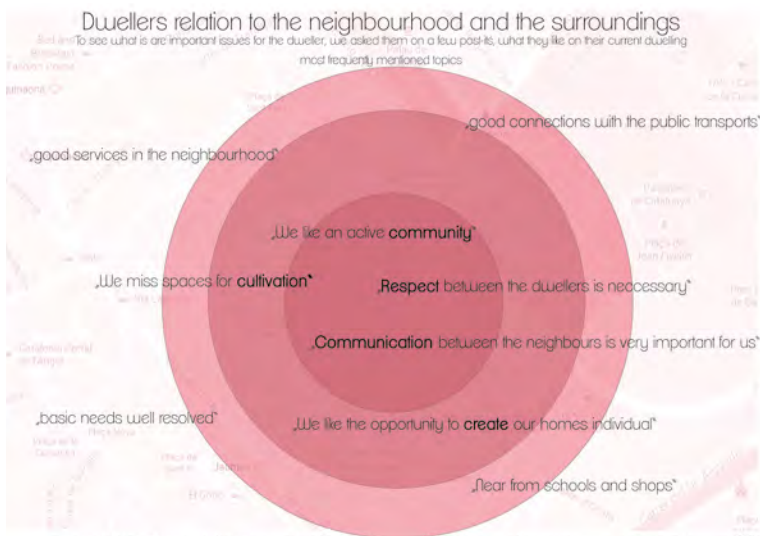


FIGURE 8. Analysis of dwellers' inputs. Student: Raphaela Buchberger

LA "Redesigning of the Participatory Processes: Improved Methods and Tools"

After evaluating the results of the first participatory session, students were asked to prepare a second session which would enable to get a better understanding of the needs and visions of dwellers with regard to their future homes. Two new activities were proposed to be carried out in a second participatory session: Plan your future home (Part 1) and Plan your future home (Part 2).

LA "Implementation of the Participatory Process: Second Working Session with Dwellers"

Task "PLAN your future home" was carried out in a second participatory session that took place on January 14, 2014.

TK "PLAN YOUR FUTURE HOME"

This activity was carried out in two steps, each one using a different representation technique:

PART 1. The future dwellers named the eight most important activities they do at home and then placed them on a board with concentric circles, with the most important ones located at the centre. Afterwards, they connected the related activities with lines. Finally, they specified if the activities took place within the limits of the household or outside it (Figure 9).

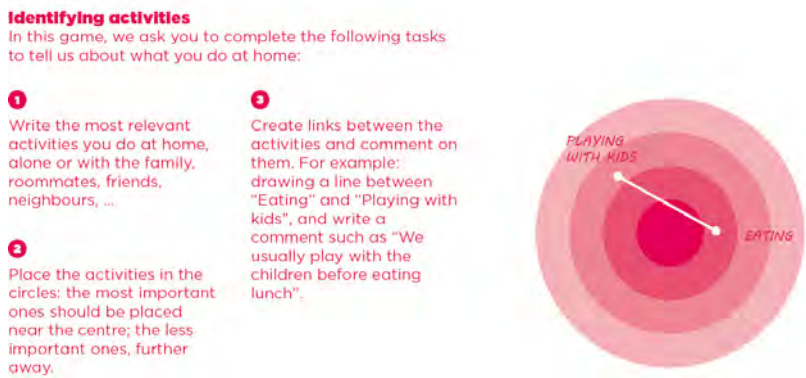


FIGURE 9. Task "Plan your future home" (Part 1). Source: OIKONET Seminar

PART 2. Participants selected some of the activities they had named and described them on a paper stick. The selected activity was broken down in smaller actions taken place at different times and places. The size of the paper stick represented the value that the dweller assigned to it (the larger the paper, the most important the activity). Finally, they specified whether these domestic activities were carried individually, with family members or with the community (Figure 10).

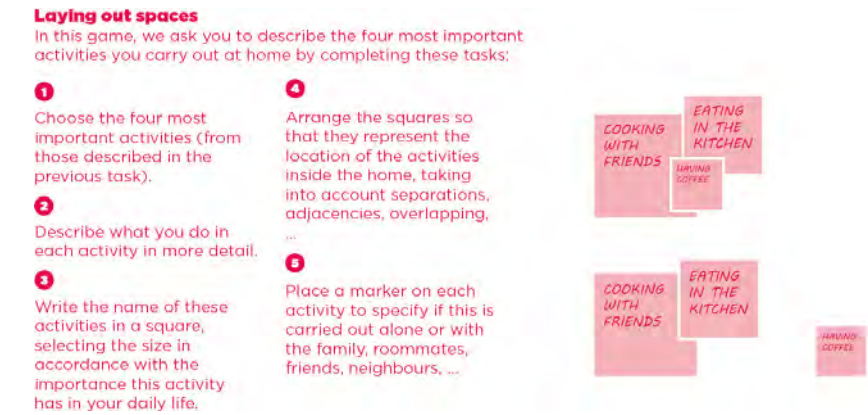


FIGURE 10. Task "Plan your future home" (Part 2). Source: OIKONET Seminar

By proposing participants to think about the "activities" they do at home, rather than asking them to place the "bedroom" or the "living room", they could think about alternative spatial organizations derived from their living experience.

LA "Creating a Design Brief Based on Answers from Participants"

As a final step of the participatory process, students produced some design guidelines based on the insights of the dwellers. These guidelines were produced using a template which was structured in two areas (Figure 11): At the top, the inhabitant's needs and expectations on their future dwelling; at the bottom, the response given by experts (in this case, the architecture students) to those needs. The architectural responses to the dwellers' demands were described by means of a verbal and graphic language that should be understandable to non-professionals (Figures 12, 13).

Using this template, students had to provide the following information:

- Dwellers' inputs: The information provided by participants, literally transcribed, and classified in themes.
- Description of the problem: A summary of the issues identified after analysing the inputs from participants.
- Context: Other themes related to the described problem.
- Architectural response: Proposed architectural solutions to issues that were raised by dwellers.

These are some of examples of themes that students derived from the inputs of the participants:

- Natural light: "Natural light, large windows and beautiful views were often mentioned".
- Community: "Almost all of the participants mentioned that they wanted share their life with the community, not only rooms but also activities".

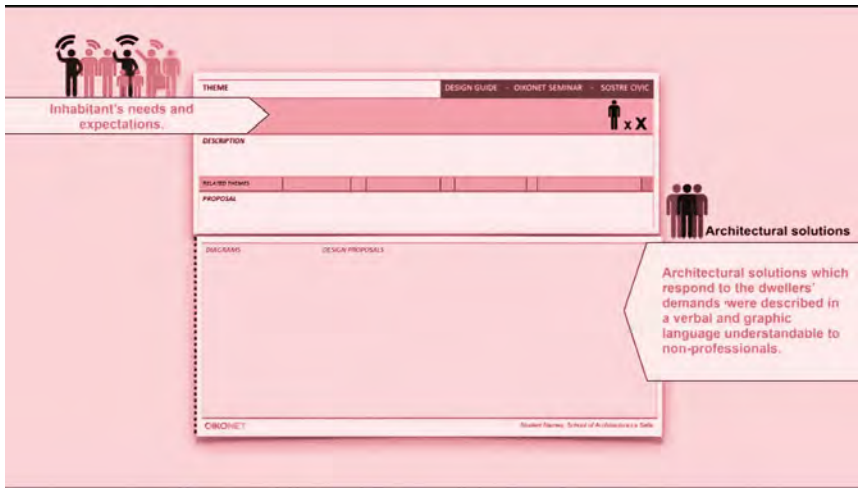


FIGURE 11. Design brief template. Source: OIKONET Seminar

- Green housing: "Many dwellers would like to have green spaces in their houses. Some of them suggested having a place to plant fruits and vegetables" (Figure 12).
- Children development: "Families with children stressed that it would be important for them to have a special place for their children to play outside their apartments. This place would have different functions, for example: A place to draw and paint, to play with other kids and to do outdoor activities."
- Productive space: "Many dwellers mentioned that they would like to have in their apartment a place of their own, to work or study, do their hobbies, to read, to relax and listen to some music."
- Open kitchen: "Many people wanted to have a room to share with friends and family to do some basic activities like cooking, eating or just sitting together" (Figure 13).
- Relation with the exterior: "Outdoors is the space where most of dwellers socialize with their neighbours and where they can better develop the feeling of living together. Being outside also contributes to feel more in touch with nature."
- Sustainability: "Growing fresh organic products reinforces environmental and social sustainability. Reusing old materials and sharing equipment helps to create a sense of community."
- Comfort: "Users clearly identify their needs. Natural light, large windows and beautiful views are most often mentioned. Need for a warm, homely atmosphere. Collaboration in the design process also enables them to identify themselves with the place of residence."

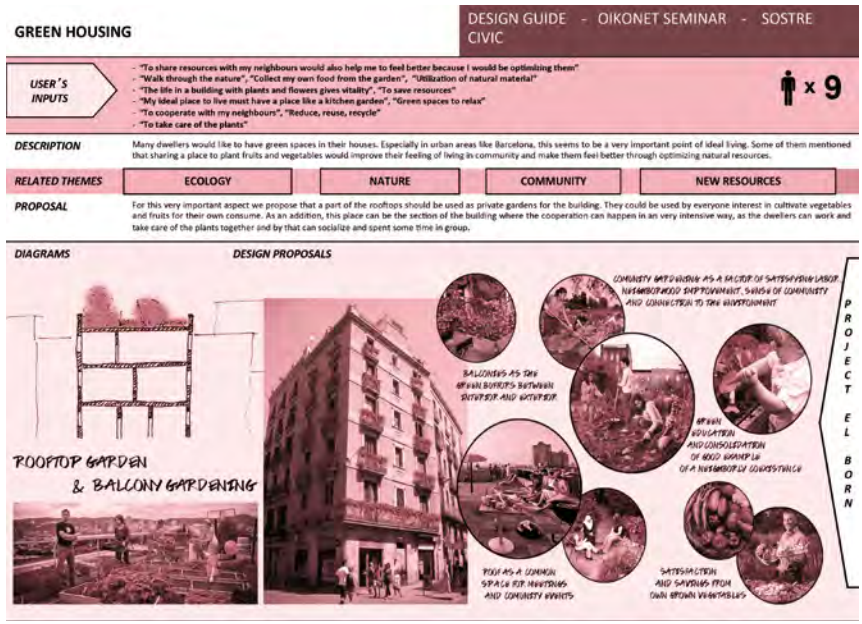


FIGURE 12. Design brief for the theme "Green Housing". Students: Alejandro Calleja, Beatriz Ferrão, Izabela Grotowicz, Jeanne Scholtz, Sebastian Baier

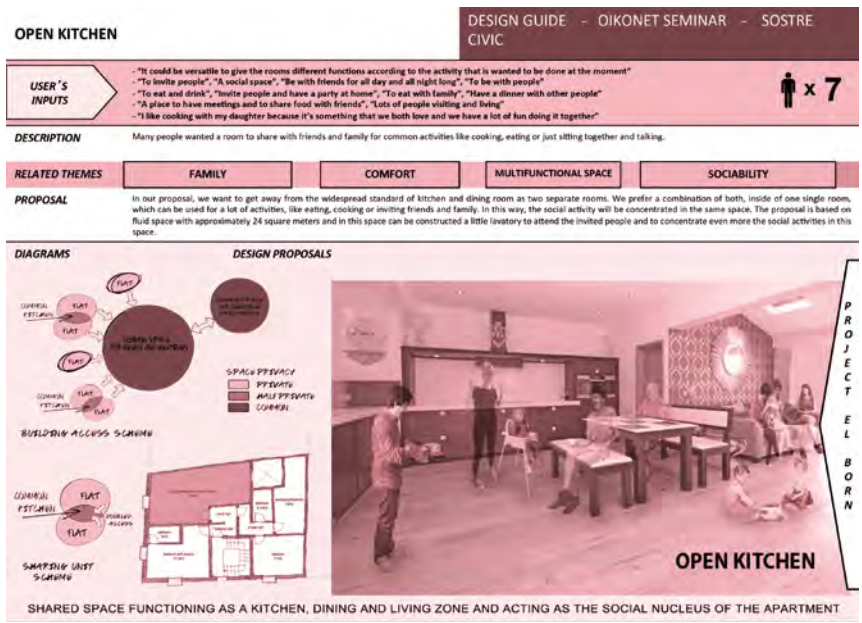


FIGURE 13. Design brief for the theme "Green Housing". Students: Alejandro Calleja, Beatriz Ferrão, Izabela Grotowicz, Jeanne Scholtz, Sebastian Baier

CONCLUSIONS

Every participatory process is unique and, therefore, it needs to be addressed much like any other design task: Understanding its specific context and objectives, using the resources at hand and recognizing the existing constraints. The fact that a participatory process is born from specific conditions also makes it difficult to come up with generic methods and tools which can be applied to different situations. The communication tools that the students designed for this particular cohousing project helped them to understand the needs of dwellers, and made dwellers reflect on the conditions of their current living environments. However, even though these tools were effective for this participatory project, this does not mean that their application in other contexts—other cohousing project, with other participants—would produce the same results.

The two participatory sessions helped to create a base to foster a dialogue between future dwellers and professionals, and also to start to build trust among them. However, the shared activities only covered a preliminary stage of the cohousing project which should further continue with the proposal of concrete renovation plans for the existing building. This design development phase was outside the scope of the seminar and its subsequent implementation would pose its own challenges: How to avoid turning to stereotyped formal solutions—influenced by trends or taste—during the design process?; How to respond to the individual demands in the overall building design?

The main role for teachers in this pedagogic experience has been that of learning designers, that is, their task has been to create a learning space in which students can be the protagonists of their own learning; a learning space that transcends the boundaries between academia and society. Learning activities and tasks were continuously reformulated based on the responses given by the housing cooperative members in the participatory sessions. Through this participatory experience with cohousing, students have been able to develop some of the skills they need to play the role of "designers of design processes" rather than of "designers of architectural artefacts", skills that they will need when they intervene as professionals in a participatory design process.

References

Alexander, C. (1977). *A pattern language: Towns, buildings, construction.* New York, NY: Oxford University Press.

De Carlo, G. C. (2005). Architecture's public. In P. Blundell Jones, D. Petrescu, & J. Till (Eds.), *Architecture and Participation.* London & New York, NY: Spon Press.

Erskine, R. (1987). *Architecture, the useful and universal art.* Discourse on the reception of the RIBA Gold Medal for Architecture.

Habraken, N. J. (1972). *Supports: An alternative to mass housing.* London: Architectural Press.

Harper, D. (2002). Talking about pictures: A case of photo elicitation. *Visual Studies*, *17*(1), 13–26.

Hofmann, S. (2015). *Architecture is participation.* Jovis. Retrieved from issuu.com/detail-magazine/docs/architecture_is_participation

McCamant, K., & Durrett, C. (2011). *Creating cohousing: Building sustainable communities.* New Society Publishers.

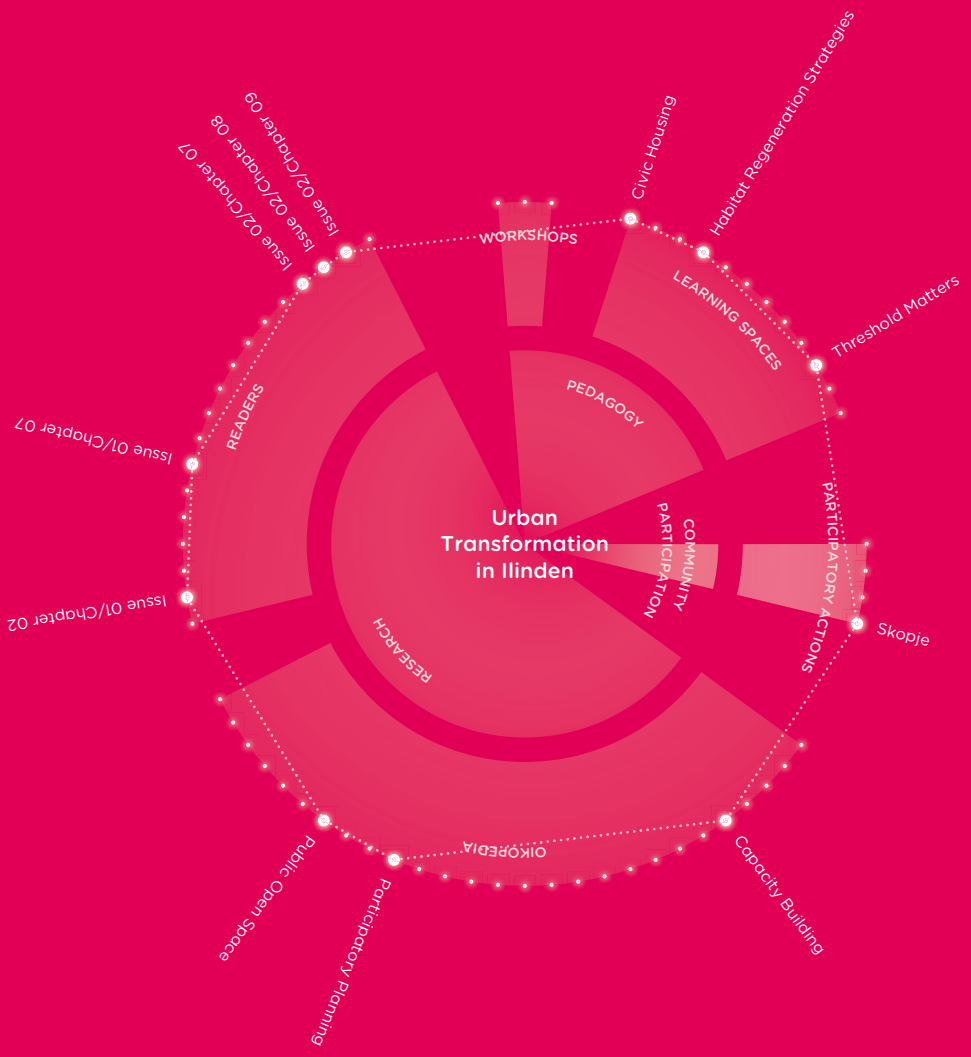
Rivera, O. (2011). *Procesos de participación: Proyectar, construir y habitar la vivienda contemporánea.* (Doctoral dissertation, School of Architecture La Salle, Ramon Llull University, Barcelona). Retrieved from tdx.cat/bitstream/handle/10803/22702/TESIS%20FINAL%20MAQUETADA%20-%20Procesos%20de%20Participaci%C3%B3n.pdf?sequence=1

Sanoff, H. (2006). *Programación y participación en el diseño arquitectónico* [Programming and participation in architectural design]. Barcelona: Ediciones UPC.

Swann, C. (2002). Action research and the practice of design. *Design issues, 18*(1), 49–61. Retrieved from www.spatialdesign.info/blog/wp-content/uploads/2007/12/Swann_DesIss_2002.pdf

Till, J. (2005). The negotiation of hope. In P. Blundell Jones, D. Petrescu, & J. Till (Eds.), *Architecture and participation.* London & New York, NY: Spon Press.

Zuber-Skerritt, O. (2001). Action learning and action research: Paradigm, praxis and programs. In S. Sankara, B. Dick, & R. Passfield (Eds.), *Effective change management through action research and action learning: Concepts, perspectives, processes and applications* (pp. 1–20). Lismore, Australia: Southern Cross University Press. Retrieved from citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.464.5871&rep=rep1&type=pdf


Urban
Transformation
in Ilinden
PEDAGOGY
RESEARCH
COMMUNITY
PARTICIPATION
WORKSHOPS
LEARNING SPACES
PARTICIPATORY ACTIONS
OIKOPEDIA
READERS
Civic Housing
Habitat Regeneration Strategies
Threshold Matters
Skopje
Capacity Building
Participatory planning
Public Open Space
Issue 01/Chapter 02
Issue 01/Chapter 07
Issue 02/Chapter 07
Issue 02/Chapter 08
Issue 02/Chapter 09

Living/Dwelling: A Participatory Action in the Neighbourhood of Ilinden, Skopje

Mihajlo Zinoski, Ognen Marina

INTRODUCTION

With the purpose of fostering community participation in the urban development, three schools of architecture—from the University Ss. Cyril and Methodius, Skopje; Polis University, Tirana; and the University of Belgrade—collaborated in a community development planning project called *Living/Dwelling* carried out in the Ilinden neighbourhood, near Skopje, during the academic year 2014–2015. The programmes from the three schools became intertwined through the joint learning activities carried out in relation with the project. Current housing problems in Ilinden were jointly analysed by students and teachers, residents and local administrators. The underlying research issue was the process by which physical boundaries of public and semi-private spaces are negotiated. The participation of academic community members with expertise in various knowledge areas helped to create a new learning space around the project. Furthermore, researchers and teachers from the participating universities could interlink their research through the collaboratively designed learning activities. The ultimate goal of this pedagogic and research work was to embed learning processes in the social, cultural and economic milieus. Overall, this initiative has contributed to pedagogic innovation in the field of housing studies by engaging the academic community in the transformation of the social and physical environment.

CONTEXT OF THE COMMUNITY ACTION: INTEGRATION OF URBAN AND RURAL ENVIRONMENTS, PRIVATE AND SEMI-PRIVATE SPACES

"Rurban" Environment

Skopje has developed as a national, economic, social, and cultural capital adopting the model of socialist cities (French & Hamilton, 1979, pp. 195–261), although with some differences derived from its specific historical and urban conditions (Sýkora & Bouzarovski, 2012). The history of the production of urban space and urban form in Skopje has been a history of discontinuity, of fast changes which have led to questioning the essential premises of its previous urban structure and then to start over again. Until 1990, the development of the city was the consequence of state-controlled urban planning. With the shift to an open political and social system, the property started to be regulated by market laws and, as a result, the physical and social space has become more fragmented (Marina & Pencic, 2009, pp. 359–375). Besides, the slow pace of the necessary institutional and legislative reforms has affected the urban structure and prevented the involvement of public interest representatives in the new developments (Tosics, 2004). This process has brought about an unequal spatial transformation, and an uncontrolled and unsustainable urban development which have not taken into consideration the complexity of the city as a whole.

The municipality of Ilinden is located at 24 km from the centre of Skopje. It has evolved from a village to a newly emerging and vibrant suburban community which was rapidly populated by labour migrants arriving from different parts of the country in the 1960s. Ilinden has gained momentum as a place with an increasing potential for urban development due to the benefits of its proximity to the urban centre and the stimulating policies for private developers and business. A main challenge that this emerging suburban neighbourhood is facing is to drive the transformation from a traditional agricultural territory into a sustainable suburban area.

During the last two decades, the agricultural land in rural areas nearby Skopje has been transformed into parcels that have been integrated into the newly developed urban plans. As a result of this process, the vernacular type of housing and dwelling, which was the manifestation of an economy and culture based on agriculture, has been substituted with a hybrid type of urban house which exemplifies the new "rurban" (*rural* and *urban*) environment. A rurban territory is a transitional area between the city and the country which combines both types of dwelling, but cannot be characterized as one or the other. Guallart has referred to this hybrid territory in these terms:

> (...) one way of breaking out of the city-country dichotomy is to generate places of transition between the two, to create 'rurban' territories with a view to integrate the culture of the *huerta* into the city, guaranteeing that certain values of the same are assumed as own of our culture and our time. (Guallart, 2004, p. 17)

The neighbourhood of Ilinden is a perfect example of this kind of transitional territory. As such, it offers an excellent opportunity to open a debate about the importance of counting on the knowledge and expertise of residents to legitimatize the decisions about urban development and, as a result, to foster social cohesion.

Due to this coexistence of rural and urban elements, Ilinden cannot be considered neither a part of the city of Skopje nor a village on its own. The combination of the rural and urban components and practices have brought about new hybrid living patterns with great social significance for the future development of the community. Despite the urban character of the neighbourhood, the dwelling patterns are those of an agrarian community. At a time in which its rurban development still needs to be consolidated, the participation of the neighbours becomes particularly relevant to help preserve the best qualities of both environments, urban and rural, in the future development of the community. As Alexander stated:

> People feel comfortable when they have access to the countryside, experience of open fields, and agriculture; access to wild plants and birds and animals. For this access, cities must have boundaries with the countryside near every point. At the same time, a city becomes good for

> life only when it contains a great density of interactions among people and work, and different ways of life. For the sake of this interaction, the city must be continuous—not broken up. (Alexander, 1977, p. 22)

In Ilinden, both discontinuities and continuities between the city and the countryside could be integrated in a socially sustainable urban development model.

Spatial Boundaries

In 1996, Ilinden and its surrounding areas gained the status of municipality and consequently became subjected to urban planning regulations. The urban planning legislation provides the legal framework for the spatial development of a community which still maintains its rural character. In the planning documents, real estate properties have become "parcels" defined by a "regulatory line" which separates them from the neighbouring plots. In turn, the building area within a parcel is delimited by a "building line" which determines the land which can be constructed on. The remaining area between those two lines is the yard, a semi-private space.

In the social theory of architecture, there is a clear distinction between private and public space. Typically, private space is understood as the world that belongs to the inhabitant, while public space is the world of strangers. A semi-private space, on the other hand, is a space for social interactions but nevertheless a personalized one. The spatial pattern of Ilinden is characterized by the yards, semi-private spaces that have not been programmatically defined but are socially distinctive. The genuine quality of the yards lies in the unexpected encounters that occurred in them. Ultimately, it is the dwellers who decide the extent to which a yard works as a private or public space. As Hillier and Hanson have argued:

> Every building selects from the set of possible strangers a subset of "visitors" who are persons who may enter the building temporarily, but may not control it... (they) fall within this category of being more than strangers even that they have a legitimate reason to cross the boundary of the building, but less than inhabitants, in that they have no control over that building and their social individuality is not mapped into the structure of space within that building. In this sense a building also localizes the global world of strangers, by the same means as it globalizes the local world of inhabitants. It realizes a category order locally, and then uses the inhabitants to interface this category order with the rest of the social world. (Hillier & Hanson, 1984, p. 146)

As the semi-private spaces tend to become privatized, the social contact between neighbours is reduced or it becomes no longer possible. As a result, walled communities emerge and the yards end up becoming introverted spaces. Such appropriation of the yards perverts the meaning of

semi-private spaces which are meant to be spaces for the neighbours to share activities, places for socialization and for the production of social and cultural meaning. These social qualities of the yards in Ilinden have been recognized as a trait which could be extended to other public spaces of the neighbourhood, from pedestrian streets to places for social encounters.

Community Participation

During the 1970s and 1980s, planners and decision makers began to realize that top-down policies and urban plans were deeply disconnected from the needs of the citizens. In this context, citizen participation in urban development was meant to be a reaction to the highly centralized planning strategies. The assumption was that participation would give citizens an opportunity to take part in the decisions that affected their lives, that is, the spaces they live in, thus helping to restore the lost link between the physical environment and its dwellers, which in turn—it was thought—would assure the sustainability of the urban development.

As a result of the rigidity in the housing developments built in post-World War II Europe which were dominated by the paradigm of rationality and functionality, a number of authors started to reject the standardization of housing contending that a dwelling was an act rather than an industrial product. Authors like Lucien Kroll highlighted the complexity underlying the historical towns which gave dwellers a chance to develop their own living space. Latter participatory design was not only applied to housing developments but also to large-scale planning. As the importance of citizen participation in the development of socially sustainable environments became widely acknowledged, it was incorporated into the urban planning process in many countries. However, the challenge of developing participatory methods to include the contributions of citizens in the decision-making process remained unsolved. Some authors have manifested their frustration with community participation since it has become a placatory gesture (Blundell Jones, Petrescu, & Till, 2005) whose goal is to get plans accepted by the public. Improving participatory methods also requires changes in the education of architects and planners, so that they can get the skills they need to effectively interact with citizens in a participatory design process (Schneekloth & Shibley, 2000).

One of the key objectives of community participation in urban development is to incorporate the knowledge and expectations of residents into the decision-making process. To make citizen participation effective, relevant and productive for all involved parties, the design of a participatory process which takes into consideration the conditions of each case is of utmost important. Halprin and Burns (1974) developed a framework for participatory workshops known as the RSVP cycle (Resources, Scores, Valuaction and Performance). At the *resources* phase, participants collect information, facts and data from all relevant sources, from existing plans

and policies to surveys performed at the sites. The *scores* phase determines the way in which participation is performed in accordance to some specific guidelines and actions. The notion of open process is important in order to establish clear and effective communication mechanisms which take into consideration the different background of the participants. *Valuaction* is a term coined by the authors to refer to the evaluation, feedback and decision-making phase of the process. Finally, at the *performance* stage, the workshop results are assessed and systematized so that they become a resource for future actions, plans or strategies.

Within this context, the objective of the community action planned in Ilinden was to gain an understanding of the residents' experience of living in a mixed rural and urban environments, as manifested in the usages they gave to the yards.

LIVING/DWELLING PROJECT

From September 2014 to November 2015, the Faculty of Architecture in Skopje and the municipality of Ilinden collaborated in a community project named *Living/Dwelling*. The objectives of the project were to set up a community action to foster social sustainability with the involvement of members of academia (students, teachers and researchers), residents and local administrators. The community participation included the elaboration of a survey to identify the qualities of the lived environment and the design of scenarios for the future development of the neighbourhood.

Learning Activities

The methodology used in the community action was based on the RSVP cycle. As part of the *resources* phase, students analysed the neighbourhood, in particular the living patterns associated with a rurban environment, the use of semi-private spaces and the emerging building and spatial patterns. Then, they examined the living and dwelling habits of the neighbours. With this purpose, residents were interviewed and invited to propose future activities to hold in the semi-private spaces, that is, in the yards. The intention of the survey was to elicit the knowledge amassed by residents and to get suggestions from them about how to improve the social interaction in the yards. In parallel, students attended lectures to learn how to analyse the various usages of semi-private spaces by means of surveys.

The *scoring* stage was performed in a brainstorming session in which the issues identified through the interviews were assigned to categories: Identity, fence, sharing, community garden, social zoning, common elements, spatial compromise, patterns, and provocation (Figure 1). The conclusions of this phase were presented in front of the town hall where an

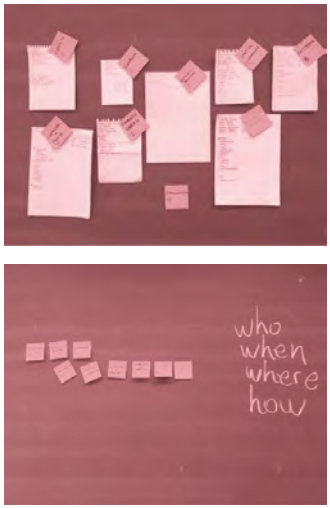


FIGURE 1. Brainstorming session. Source: Mihajlo Zinoski

open discussion was held with the participation of students and lecturers from the schools of architecture of Skopje, Tirana and Belgrade, together with the local authorities and dwellers. In this session, some basic ideas about community participation methodology and the goals of social sustainability through urban planning processes were introduced to residents and local administrators. The students presented the results of the survey they had conducted. Altogether, this session contributed to gaining a better understanding of how the municipality could develop in the future by respecting the existing social and economic structure.

The next phase of the project, *valuaction*, started off by organizing the data obtained in the survey in different groups. This analysis helped students to relate the habits and needs of neighbours with the social activities which could take place in the semi-private spaces. A set of maps was created to visualize the social sustainability patterns:

- A map in which the usages of the semi-private zones were structured in three layers: Agriculture, gardening and storage (Figure 2).
- A map in which the existing or non-existing relationships between the neighbours are reflected (Figure 3). The fact that most of the relations occurred between next door neighbours is noteworthy.
- A map indicating the typical structure of a household, the topological position within the parcel and the relationships between them. This map reveals the potential areas for social interaction in the neighbourhood (Figure 4).
- A sociogram that shows the social interactions of the inhabitants according to their age and personal relations. With this map, it is possible to redefine the actual semi-private zones by arranging them according to personal and social exchanges (Figure 5).
- A map representing the topological disposition of shared activities in the semi-private spaces. The social interactions are defined by the intensity of dwellers' social activities (Figure 6).

The final stage of the project is *performance*. The purpose of this stage was to build a sense of accomplishment among the participants by reviewing the results of the decision-making process. It was organized as a workshop session where participants were invited to explore different possibilities for future spatial development of the local community based on findings of the third phase. They were asked to develop different scenarios:

- SCENARIO A. ACKNOWLEDGING THE EXISTING BORDERS AS A CLEAR LINE OF SEPARATION. The purpose is to secure private interest over that of the public institutions; however, this limits the possibilities of the future development of common public spaces and infrastructures.

FIGURE 2. Map of usages of the semi-private zones. Source: Mihajlo Zinoski

FIGURE 3. Boundaries and semi-private zones. Source: Mihajlo Zinoski

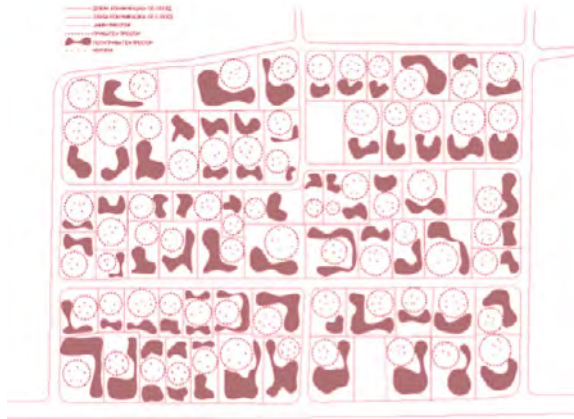


FIGURE 4. Shared zones between households. Source: Mihajlo Zinoski

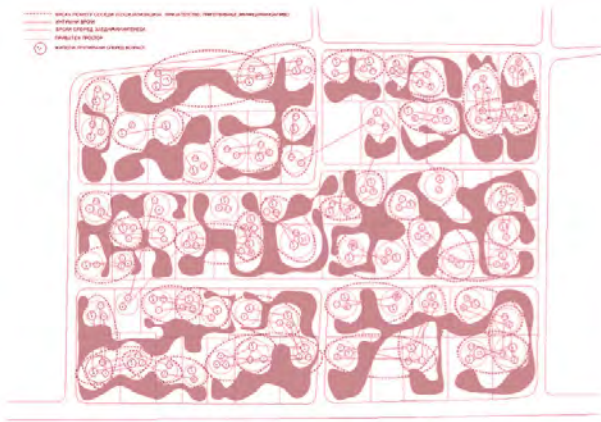


FIGURE 5. Sociogram of shared semi-private spaces. Source: Mihajlo Zinoski

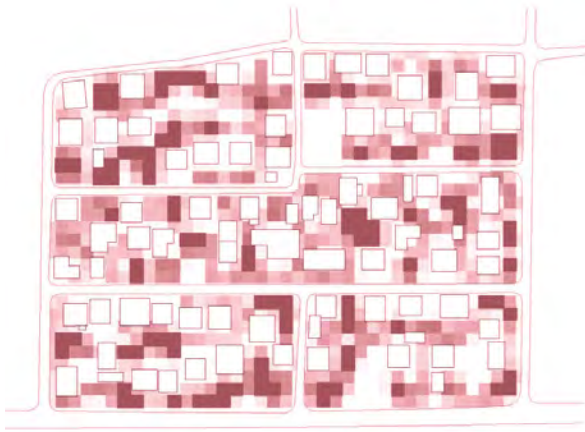


FIGURE 6. A frame from the map of shared semi-private spaces. Source: Mihajlo Zinoski

- SCENARIO B. BORDERS AS A PLACE OF CREATIVE EXCHANGE. This scenario is based on the idea that spatial boundaries become the subject of active negotiation and exchange among stakeholders. This facilitates the creation of new public spaces which can be used in variety of ways such as sidewalks or shared spaces.
- SCENARIO C. CLEARING THE LINES OF SEPARATIONS. This scenario considers the possibility of removing the walls that delimit the private properties, so that new forms of relation between neighbours can arise. This way, the shared use of semi-public and public spaces would contribute to the emergence of new social and spatial practices.

The scenarios developed in the fourth stage of the community participation action acknowledge the existing conditions in the community (Scenario A), explore the potential for future development with less intrusive actions (Scenario B) and pave the way for future possibilities (Scenario C). Through the community action citizens and students have been able to understand the present conditions in the neighbourhood and have jointly discussed the future development of the community.

CONCLUSIONS

Through this community action in Ilinden, citizens and students have been able to understand the present conditions in the neighbourhood and have jointly discussed the future development of the community. The main challenge was to grasp the multiple perceptions about the potential of the semi-private spaces. The results of the conducted survey highlighted the importance of public spaces in creating a more socially sustainable community. The survey also showed that most of the residents understood the yard as a private space attached to their home. Every inhabitant uses their yard differently. Unlike the private house which is a domain of intimacy and has a specific form, the yard is characterized by the event which happens in space and time and it does not have a fixed formal expression. The dynamism and mutability of the semi-private spaces is a direct manifestation of the social interactions.

A new learning space has been created in which different knowledge areas come together in order to understand a specific problem and to discuss the solutions for it. Both students and dwellers were learners in this space. The students have learned how to create and use surveys as tools to analyse the social dynamics of a community. Furthermore, they were confronted with the reality of people living in rurban areas and they had to learn how to communicate with the dwellers. Students also became acquainted with the urban planning legislation and took it into account in their proposals.

Citizens participating in this project became aware that semi-private spaces are places for social interaction. Their participation in the

discussions about the future urban development of their neighbourhood has contributed to creating a sense of community. Furthermore, neighbours have been able to better understand the role of the local administration in urban planning. Conversely, the municipal authorities have become more receptive to the contributions of citizens in the planning process.

References

Alexander, C. (1977). *A pattern language: Towns, buildings, construction.* Oxford University Press.

Blundell Jones, P., Petrescu, D., & Till, J. (Eds.). (2005). *Architecture and participation.* London & New York, NY: Spon Press.

French, R. A., & Hamilton, F. I. (Eds.). (1979). *The socialist city: Spatial structure and urban policy*. John Wiley & Sons.

Guallart, V. (2004). *Sociópolis: Project for a city of the future*. Barcelona: Actar.

Halprin, L., & Burns, J. (1974). *Taking part: A workshop approach to collective creativity*. The MIT Press.

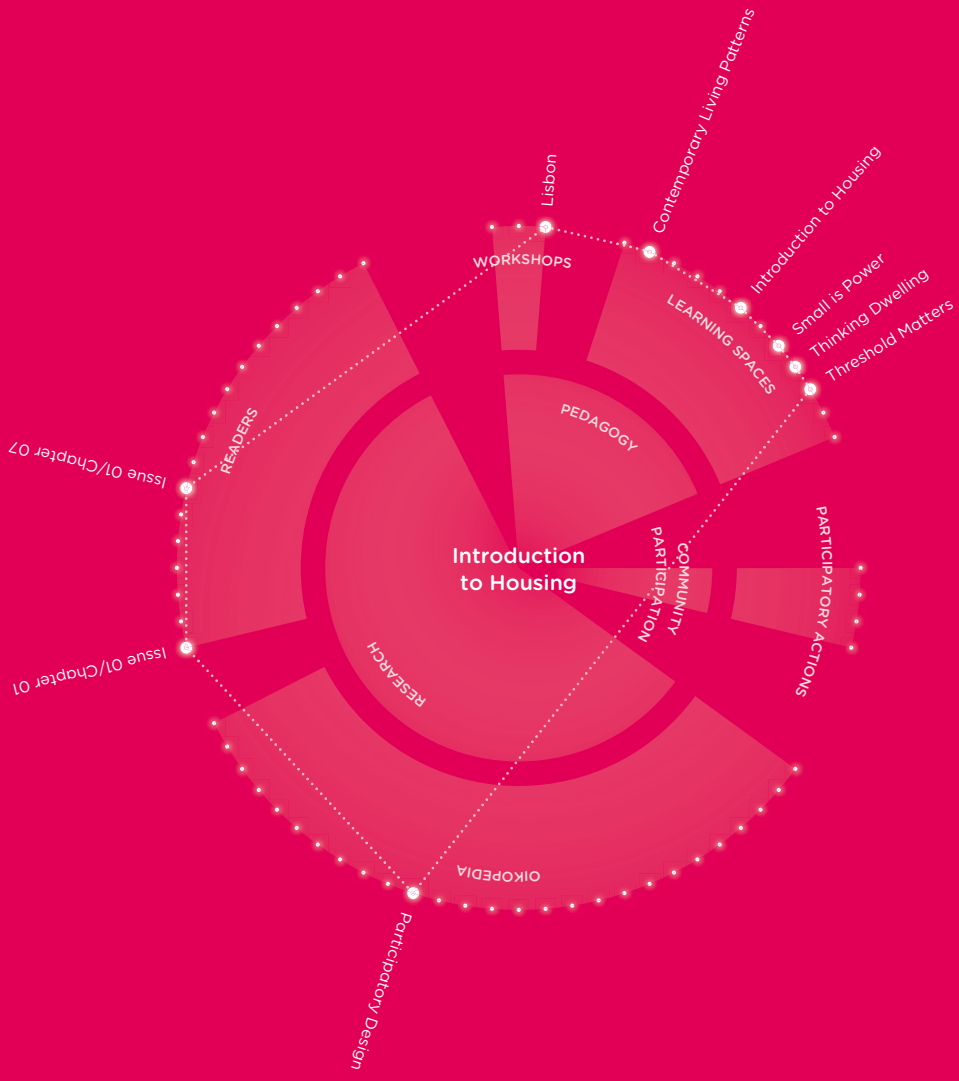
Hillier, B., & Hanson, J. (1984). *The social logic of space*. Cambridge University Press.

Marina, O., & Pencic, D. (2009). Urban transformations of Skopje: Fragmented city-legacy of history. *Proceedings of the International Scientific Conference Spatial Planning in the South Eastern Europe (up to the World War II)*. Belgrade, Serbia.

Schneekloth, L. H., & Shibley, R. G. (2000). Implacing architecture into the practice of placemaking. *Journal of Architectural Education, 53*(3), 130–140. doi:10.1162/104648800564527

Sýkora, L., & Bouzarovski, S. (2012). Multiple transformations conceptualising the post-communist urban transition. *Urban Studies*, *49*(1), 43–60.

Tosics, I. (2004). Determinants and consequences of spatial restructuring in post-socialist cities. *Proceedings of the Conference Winds of Societal Change: Remaking the Post-Communist Cities*. Champaign, IL: University of Illinois at Urbana-Champaign.


Introduction
to Housing
WORKSHOPS
Lisbon
Contemporary Living Patterns
LEARNING SPACES
Introduction to Housing
Small is Power
Thinking Dwelling
Threshold Matters
PEDAGOGY
COMMUNITY
PARTICIPATION
PARTICIPATORY ACTIONS
RESEARCH
OIKOPEDIA
Participatory Design
READERS
Issue 01/Chapter 01
Issue 01/Chapter 07

Introduction to Housing: A Collaborative Learning Space

Carla Sentieri, Nadia Charalambous, Yasemin Alkışer Bregger

INTRODUCTION

Introduction to Housing is a collaborative learning space created by a group of European schools to introduce architecture students to the fundamentals of housing design and architecture. A blended-learning approach which combines face-to-face teaching with learning supported by on-line tools was adopted to design and implement the learning space. A number of learning activities and tasks, supported by the OIKODOMOS Workspaces on-line learning environment, were designed to interlink with other activities carried out at the participating institutions in design studios, workshops and seminars over a period of three academic years.[1] A flexible learning structure was devised in which learning activities were organized as sequences that could be carried out synchronously or asynchronously by students from the participating schools. This chapter reflects on the design, development and implementation of this learning space, its effectiveness in relation to the desired learning outcomes and existing curricula as well as the challenges and implications for both tutors and students.

CONTEMPORARY HOUSING ENVIRONMENTS

Cities around the world have been changing rapidly in the past decades in response to the processes of globalization, increased mobility, climate change, technological developments and economic crisis. Recent studies reveal that three quarters of the world population will reside in cities by 2050 while two billion will be living in squatter settlements by 2030 (Smith, 2011, p. 67). Migration flows and the movement of refugees have enhanced the diversity of the urban population, opening up discussions on how to deal with multiculturalism and coexistence between communities.

These changes entail a respective transformation of housing environments where the everyday life of the diverse groups living in cities unfolds and poses increasingly complex challenges, like those derived from overcrowding, homelessness, accessibility to and provision of adequate housing, social integration and sustainable development, among others (European Commission, 2010; UN Habitat, 2013). Socio-cultural changes mostly due to globalization and ease of mobility have a direct impact on family structures and living arrangements questioning traditional concepts of dwelling based on locality, permanence and a sense of belonging (Fokkema & Liefbroer, 2008).

Within this framework, a discussion on the global dimension of housing in contemporary societies has evolved based on the existence of common driving forces influencing the contemporary habitat in different cultures,

1. See www.oikodomos.org/workspaces/introduction_housing

societies and places, including: Gentrification, affordability, mobility, sustainability, and economic and social restructuring. Without denying the existence of global forces that push towards the aforementioned changes, we also notice that in cities around the world such changes are related to the specific shape of local socio-spatial realities, acknowledging the increased tensions between global forces and local cultures. These issues are thus key themes of interest to all those concerned with the study and development of contemporary housing.

Furthermore, the house is rightly considered as one of the most important means of exploring the social and experiential dimensions of architecture. Houses are a complex expression of the everyday life of their inhabitants; of different cultures, ethnicities and social groups. Hence, they have been considered to be sociograms not only of their occupants but of society at large (Hanson, 2000).

Contemporary housing environments, therefore, need to be addressed through a multidimensional perspective by encompassing all factors underpinning the design of dwelling: Environmental, economic, political, cultural and social. Such an understanding poses considerable challenges as well as opportunities to housing actors, including architects, and has an evident impact on design practice and education (Dorst, 2008). The architects' ability to handle such complexity becomes a prominent issue, which is further fuelled by the rulings of the Bologna process that emphasize the development of critical thinking abilities for the future shapers of the built environment.

Within this framework, the learning space *Introduction to Housing* highlights an opportunity to rethink pedagogic approaches to the study of housing in response to the aforementioned challenges. The pedagogic purpose of the learning space is to introduce students to the basic principles of understanding and designing what a house might represent in our contemporary culture through the collaborative design and implementation of sequences of learning activities. These learning activities attempt to bring together courses in architecture schools which deal with the study and development of contemporary housing while adopting a blended-learning approach to overcome the boundaries between physical and digital learning spaces across the participating institutions.

A joint learning structure was initially designed and developed through the combination of components of a diversity of courses from three European schools of architecture, in Spain, Cyprus and Serbia. The learning structure was subsequently revised and enriched through the participation of two more schools of architecture in Turkey and another one in Lisbon. A number of learning activities and tasks, supported by the OIKODOMOS Workspaces on-line learning environment, were designed to interlink with other activities carried out at the participating institutions in design studios, workshops and seminars for a period of three years (2013–2016).

The following sections illustrate the process of development and implementation of the collaborative learning space through its various phases as well as the challenges and opportunities for the participating students and tutors.

DEVELOPING A COLLABORATIVE LEARNING SPACE

Nowadays, there are considerable differences among schools with regard to the pedagogic model they adopt in the design studio, in general, and in the housing design studio, in particular. Each school endorses a particular pedagogical philosophy and operates within a specific cultural context; it has its own academic programme and timetable. Therefore, the first challenge faced in the design of the learning space *Introduction to Housing* was to agree on a common learning plan which would reflect the pedagogic objectives of the participating institutions.

Step 1: Creating a Common Learning Structure

The methodology adopted to create a joint learning structure was based on the one created for the OIKODOMOS Virtual Campus (Madrazo, 2011). Within this project, a learning platform which included the web-based environment "Workspaces" was created to facilitate the collaborative design and implementation of learning activities and tasks around a specific topic (Madrazo, 2012). Following this model, learning activities (LAS) and tasks (TKS) were collaboratively designed in alignment with the common pedagogic goals set by their respective institutions.

In its first phase of implementation (spring semesters 2013–2014 and winter semester 2014–2015), the structure and contents of the learning space drew on the curriculum of the first year housing design studio of the School of Architecture of Valencia (ETSA-UPV) and the second year housing design studio at the University of Cyprus (UCY) and included work from a *3D Visual Communication* course at the University of Belgrade (AF BELGRADE). Consequently, LAS included activities already being carried out at the participating institutions in housing design studios and other courses. TKS reflected the learning outcomes set by the participating institutions, including: Demonstration of knowledge of the relevant theoretical background, demonstration of coherence and continuity in the development of the design process, appropriate use of different representation techniques (verbal, textual and graphic; digital and analogue) in order to communicate ideas (concepts and design proposals) in an effective manner, ability to demonstrate team working skills and the ability to criticize one's own work and that of others (Table 1).

Based on this initial joint learning structure, the activities in the learning space *Introduction to Housing* were implemented with the participation of tutors and students from ETSA-UPV, UCY and AF BELGRADE. At the end of the

LEARNING ACTIVITIES	TASKS
RECOGNIZING SPACE	"WHAT IS A HOUSE?"
	"THE OBJECTS"
	"THE ROOM"
	"THE HOUSE"
	"COLLECTIVE HOUSING"
	"PEOPLE AND OBJECTS"
INTERPRETATION OF A TEXT	"READING AND INTERPRETING"
	"MODELLING A PLACE"
	"CONSTRUCTING AN IDEA"
PRECEDENT ANALYSIS	"ANALYSIS OF COURTYARD HOUSES"
	"ANALYSIS OF RESIDENTIAL ARCHITECTURE (SINGLE-HOUSING)"
USER PROFILE ANALYSIS	"ANALYSIS OF USERS' NEEDS"
CONTEXT ANALYSIS	"VISUALIZING THE CONTEXT"
NEW DESIGN PROPOSALS	"INITIAL DESIGN PROPOSALS"
	"COURTYARD HOUSE PROJECT"

TABLE 1. Tasks implemented during the spring semester 2013–2014 and winter semester 2014–2015 (white colour, ETSA-UPV; pink, AF BELGRADE; and light pink, UCY)

first semester, the participating schools had the opportunity to reflect on the learning experience and identify the activities and tasks that could be shared as well as to think of new tasks that could be introduced in the second implementation phase in the spring semester 2014–2015.

Following a year of collaboration, ETSA-UPV and UCY were able to create a joint learning structure that reflected the pedagogic objectives of both institutions concerning housing design studio teaching and learning. The learning structure enabled organizing LAs and TKs in open sequences which could be carried out synchronously or asynchronously by students from the participating schools, from various courses and levels (from first to third year).

Step 2: Creating a Collaborative Learning Space

After the experience of the first implementation phase, a simplified and more flexible learning structure was developed for the second phase (Table 2). The number of LAs was reduced from six to five, and the TKs from fifteen to seven.

Within each LA, TKs could then be added, removed and/or be revised to adapt to each school's educational and cultural context. The agreed tasks were formulated in a generic manner, so as to facilitate their integration with the

LEARNING ACTIVITIES	TASKS
RECOGNIZING SPACE	"WHAT IS A HOUSE?"
PRECEDENT ANALYSIS	"ANALYSIS OF RESIDENTIAL ARCHITECTURE (SINGLE-HOUSING)"
	"ANALYSIS OF RESIDENTIAL ARCHITECTURE (COLLECTIVE-HOUSING)"
USERS PROFILE ANALYSIS	"ANALYSIS OF USERS' NEEDS"
CONTEXT ANALYSIS	"VISUALIZING THE CONTEXT"
NEW DESIGN PROPOSALS	"INITIAL DESIGN PROPOSALS"
	"COURTYARD HOUSING PROJECT"

TABLE 2. Revised learning structure. Learning activities and tasks implemented during the spring semester 2014–2015

LEARNING ACTIVITIES	TASKS
RECOGNIZING SPACE	"WHAT IS A HOUSE?"
	"EXPERIENCING THE HOUSE"
PRECEDENT ANALYSIS	"ANALYSIS OF RESIDENTIAL ARCHITECTURE"
USERS' NEEDS	"ANALYSIS OF POTENTIAL USERS"
CONTEXT ANALYSIS	"FIRST IMPRESSIONS"
	"SITE ANALYSIS"
	"VISUAL MAPPING OF THE CONTEXT"
DESIGN PROPOSALS	"INITIAL DESIGN PROPOSALS"
	"COLLECTIVE HOUSING PROJECT"

TABLE 3. Tasks implemented during the autumn semester 2015–2016 (dark pink, tasks introduced by ITU and GTU)

curricula of each school. These tasks offered students an opportunity to integrate theoretical subjects with the design studio work, and to use a variety of representation techniques (verbal, textual, and visual; in digital and analogue formats) in order to effectively conceive and communicate design ideas. At the same time, students were expected to develop team-working skills and the ability to criticize their own work and that of others. This cyclical process of development, implementation and critical evaluation of the learning activities and outcomes facilitated an improved subsequent edition of the learning space.

Step 3: New Contributors Enrich the Learning Space

The open learning structure implemented in the second phase revealed the potential of a collaborative learning process which could develop asynchronously, in a non-linear manner, thus making it possible to overcome the restrictions imposed by the timetable of each school. This encouraged three new schools to participate in the collaborative learning space: Istanbul Technical University (ITU) and Gebze Technical University (GTU), from Turkey, and the University Institute of Lisbon (ISCTE-IUL), from Portugal. Under the guidance of ETSA-UPV staff, tutors from the three schools familiarized themselves with the pedagogic objectives of the learning space and with OIKODOMOS Workspaces well before the start of the learning activities. The curricula and learning objectives of the three new schools were discussed with the rest of the participants and new tasks were consequently added within the existing framework of learning activities (Table 3).

CONSOLIDATING THE LEARNING SPACE

The last edition of the learning space in the autumn semester 2015–2016 encompassed five LAs (Recognizing Space, Precedent Analysis, Identifying Users' Needs, Context Analysis and Design Proposals) and their respective TKs which are summarized next.

LA "Recognizing Space"

The aim of this activity is to introduce students to the ways of understanding, perceiving and representing the spaces we inhabit. Students can develop this capacity through analysis and observation. The tasks focus on the analysis of domestic spaces.

TK "WHAT IS A HOUSE?"

It aims at developing an understanding of the concepts of home and house. Students are expected to reflect on these two concepts and present their ideas in an A3 document utilizing a variety of media and techniques (texts, drawings, photographs).

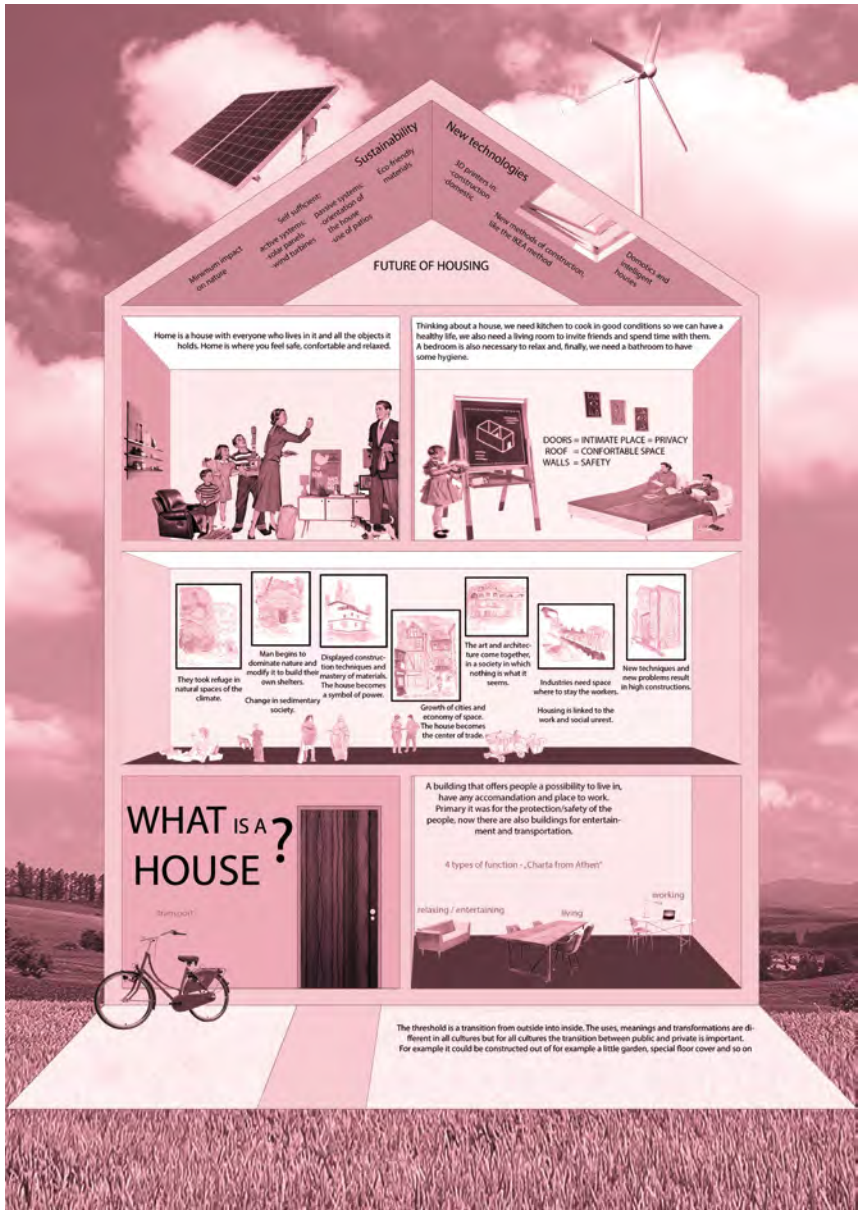


FIGURE 1.
Task "What is a house?". Students: Miguel Beltrán, Miriam Feshe, Celia Vanaclocha, from ETSA-UPV

TK "EXPERIENCING THE HOUSE"

To produce a short film which represents their everyday experience in a house.

LA "Precedent Analysis"

The purpose of this activity is to learn from precedents, to understand the factors that influence residential architecture, to identify solutions derived from previous designs and to apply them to new ones.

TK "ANALYSIS OF RESIDENTIAL ARCHITECTURE"

Analysis of examples of residential architecture, single and collective housing (site, users, social and economic environment).

LA "Users' Needs"

In the design of a house it is necessary to consider the practicalities of everyday life while responding at the same time to the owner's idiosyncrasies, personality and aspirations.

TK "ANALYSIS OF POTENTIAL USERS"

To describe the personality, hobbies, daily activities and needs of a dweller at home.

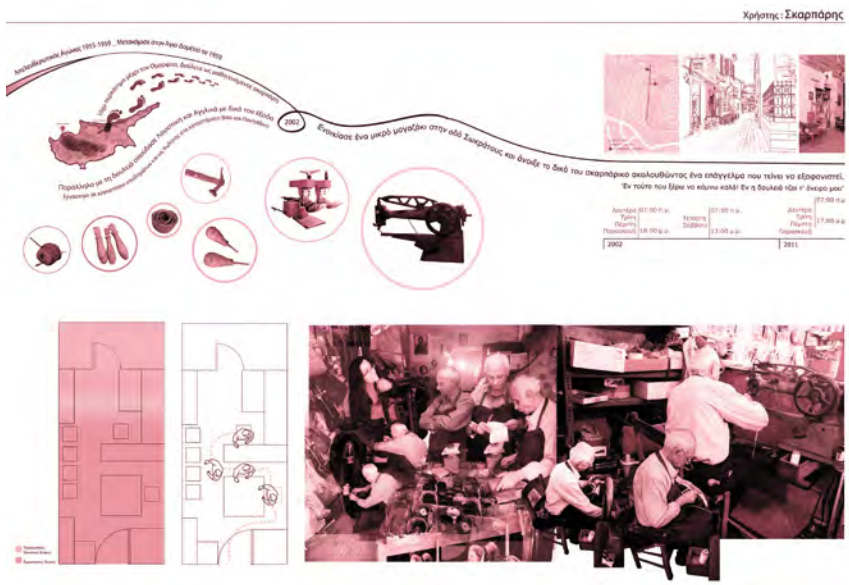


FIGURE 2.
Task "Analysis of potential users". Student: Anastasia Demetriou, from UCY

LA "Context Analysis"

Following a visit to a residential building, the characteristics of the site and the context are explained and depicted in an A3 poster.

TK "FIRST IMPRESSIONS"

The students visit the site and express their impressions by means of a poster in A3 format.

TK "SITE ANALYSIS"

To survey and analyse the building (terrain, surroundings, orientation, among others).

TK "VISUAL MAPPING OF THE CONTEXT"

To analyse the cultural, social, and environmental conditions of the residential building and represent them graphically.

LA "Design Proposals"

Once the preceding tasks have been completed, students design a house in a specific context taking into account the local conditions, the practicalities of everyday living and the personality and desires of the future residents. Understanding the relationships between the spatial structure of domestic space and the social milieu—in our increasingly fragmented societies—is one of the main goals of this learning activity.

TK "INITIAL DESIGN PROPOSALS"

To develop a schematic design proposal for a multifamily residential building.

TK "COLLECTIVE HOUSING PROJECT"

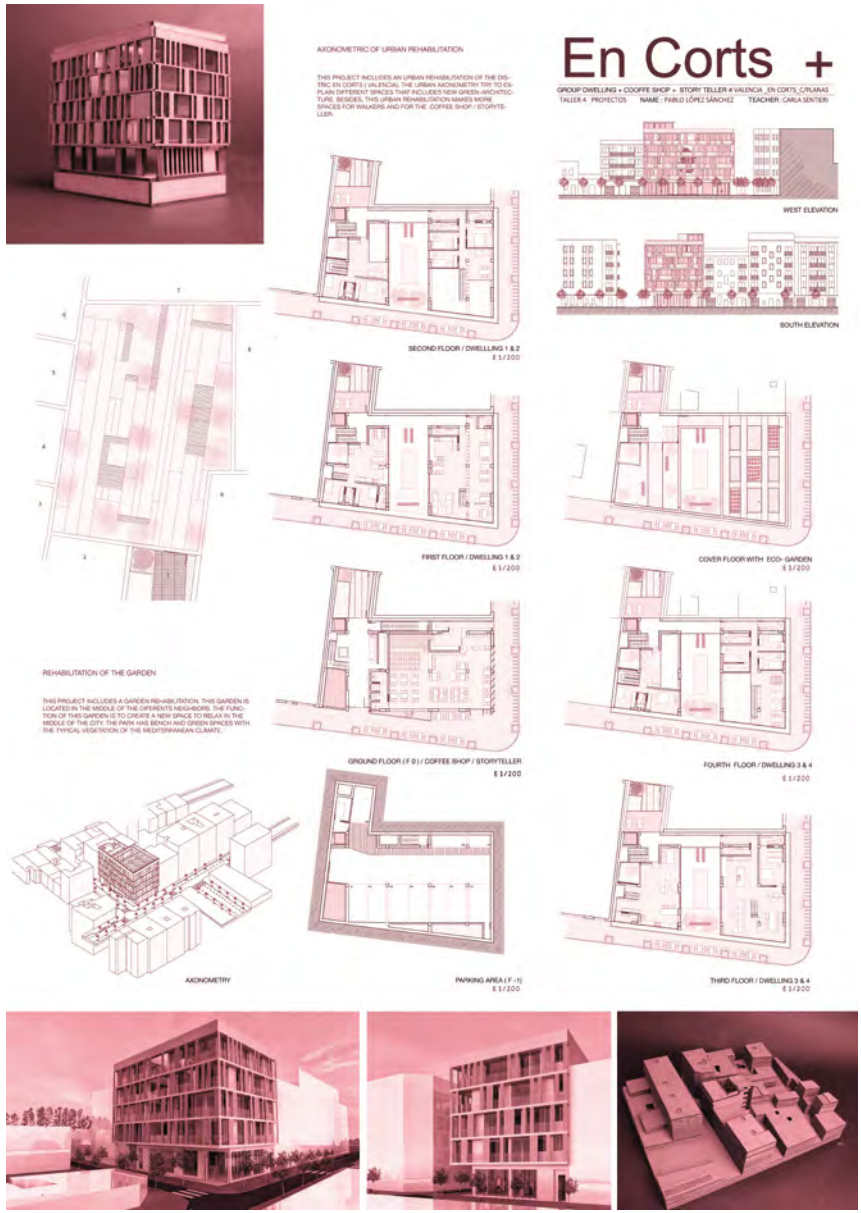
To make a design proposal for a multifamily residential building in a given context and for specific users.

CONCLUSIONS

The design, development and implementation of the collaborative learning space *Introduction to Housing* has had important implications for both students and tutors from the participating schools.

The learning space enabled students to share their work with students from other schools, to comment and to participate in peer evaluations across institutional boundaries, to attend on-line lectures, to access and to share learning resources through the web-based learning environment. Evaluations of the learning activities conducted through on-line questionnaires given to the students, revealed that they had high expectations

FIGURE 3.
Task "Collective housing project". Student: Pablo López Sánchez, from ETSA-UPV



regarding this networking and sharing. They also stated that their participation in the joint learning space had changed or refined their approach to design and that it was particularly useful for communicating with others, as well as for sharing projects, ideas and learning resources.

The whole process of developing and implementing a shared learning structure gave tutors the opportunity to collaborate with other universities, to get to know diverse teaching methods as well as the work done by students from other schools, to attend and also deliver on-line lectures and to share learning resources through a number of platforms (including OIKODOMOS Workspaces, blogs, Skype, and Google+).

The first implementation of the learning space proved that more time and better planning was required in order to make full use of its potential. A persistent problem was the difficulty in reconciling the collaborative learning activities carried out in the learning spaces with partners' regular activities at their institutions. Differences in schedules and learning approaches often hindered the harmonization of collaborative activities. The possibility of combining learning activities (both face-to-face and on-line) in synchronous and asynchronous ways was further explored. Thus, learning activities and tasks were sometimes carried out at different times and places and used various learning resources. Furthermore, it became clear that asynchronous cooperation can only be successful if there is constant communication throughout the period of activity of the learning space and if tutors are aware well in advance of each school's submission.

For both teachers and students an important challenge, as well as an opportunity, was to experience the potential of blended-learning (Garrison & Vaughan, 2008). The learning activities carried out in *Introduction to Housing* foster students' critical and creative thinking through a parallel use of digital modes of delivery, teaching methods and styles of learning (Madrazo, Sentieri, & Charalambous, 2016). Students had the opportunity to share comments about their work both in the classroom and on-line and to be exposed to different types of teaching and learning. Teachers have incorporated new teaching methods and styles, resources and subject-matters into their teaching. The blended-learning model represents a challenge to both students and teachers. Students are expected to adopt a more active role and to interact effectively within a new and often unfamiliar learning context (tutors from different schools, contents from different programmes, on-line environments) while tutors need to develop their skills as learning designers in order to deliver novel learning plans and strategies to exploit the potential of the new pedagogic model.

FIGURE 4. ETSA-UPV design studio classroom

References

Dorst, K. (2008). Design research: A revolution-waiting-to-happen. *Design Studies, 29*(1), 4–11.

European Commission. (2010). *Europe 2020 strategy*. Retrieved from ec.europa.eu/europe2020/documents/related-document-type/index_en.htm

Fokkema, T., & Liefbroer, A. C. (2008). Trends in living arrangements in Europe: Convergence or divergence? *Demographic Research, 19*(36), 1351–1418. Retrieved from demographic-research.org/volumes/vol19/36/19-36.pdf

Garrison, D. R., & Vaughan, N. (2008) *Blended learning in higher education: Framework, principles, and guidelines*. San Francisco, CA: Jossey-Bass.

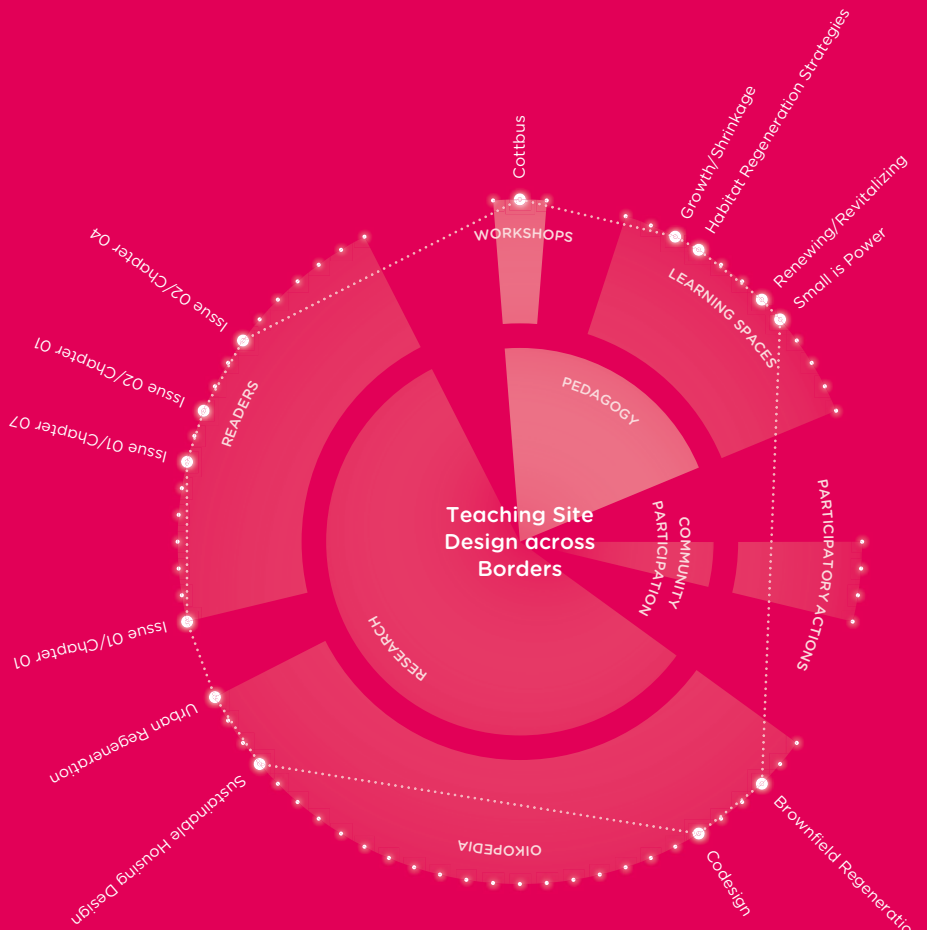
Hanson, J. (2000). Urban transformations: A history of design Ideas. *Urban Design International, 5*(2), 97–122. Retrieved from joss.bartlett.ucl.ac.uk/journal/index.php/joss/article/view/123

Madrazo, L. (Ed.). (2011). *OIKODOMOS Compendium*. Retrieved from www.oikodomos.org/resources/compendium.pdf

Madrazo, L. (2012). OIKODOMOS technological platform. In L. Madrazo, J. Verbeke, T. Ooms & P. Riddy (Eds.), *OIKODOMOS. Innovating Housing Learning*. Gent: Sint Lucas School of Architecture.

Madrazo, L., Sentieri, C., & Charalambous, N. (2017). Applying a blended-learning methodology to the study of housing. In M. J. Rodrigues Couceiro da Costa, F. Roseta, J. Pestana Lages, & S. Couceiro da Costa (Eds.), *Proceedings of the EAAE ARCC 10th International Conference (EAAE ARCC 2016) (*Vol. II, pp. 1051–1058). CRC Press, Taylor and Francis Group.

UN Habitat. (2013). *State of the World's cities 2012/2013. Prosperity of cities*. UN Habitat/Routledge, USA. Retrieved from mirror.unhabitat.org/pmss/getElectronicVersion.aspx?nr=3387&alt=1


Teaching Site Design across Borders
WORKSHOPS
LEARNING SPACES
PEDAGOGY
COMMUNITY PARTICIPATION
PARTICIPATORY ACTIONS
RESEARCH
OIKOPEDIA
READERS
Cottbus
Growth/Shrinkage
Habitat Regeneration Strategies
Renewing/Revitalizing
Small is Power
Issue 02/Chapter 04
Issue 02/Chapter 01
Issue 01/Chapter 07
Issue 01/Chapter 01
Urban Regeneration
Sustainable Housing Design
Codesign
Brownfield Regeneration

Teaching Site Design across Scales and Borders: On-Site and On-Line

Nicolai Steinø

INTRODUCTION

Academic programmes of schools of architecture and planning are strongly influenced by the professional and cultural aspects of the environment in which they take place. When programmes from various schools and countries are integrated, students can benefit from a cross-cultural exchange. Similar problems may be approached from multiple perspectives, and the same body of theory may be understood and applied in different ways, leading to different solutions and conclusions. This may be more true in architecture and urban design than in other professional studies. Architecture and urban design relate to the physical world and the built environment. As a matter of fact, both must respond to the specificities of the locale in which their learning and practice are rooted. And this inevitably feeds back into the theoretical underpinnings of architecture and urban design education.

Architectural education has its own peculiarities which stem from a long-standing academic tradition. Most architecture programmes draw to some extent on the legacy of the *Beaux-Arts* tradition of the atelier—or studio—where a master architect taught the students, typically by way of precedents, having them develop designs. Yet, the most fundamental element of the architectural education is the design studio, in which students develop projects through various media, ranging from hand sketches and physical scale models, to computer-aided design applications.

As well as design studio teaching, another important component of architectural education is site visits, which give students the opportunity to gain first-hand experience of architectural examples, on a scale 1:1, thus experiencing their spatial, tactile and contextual aspects. Unsurprisingly, the notion of learning by doing (Dewey, 1974) is well-known to most architecture students. While studying architectural theory and methods from texts is not alien to them, reading and writing typically play a much less prominent role than learning by doing in their education.

INTEGRATING URBAN AND BUILDING DESIGN PROGRAMMES

During the spring semester of the academic year 2014–2015, Aalborg University (AAU) in Denmark and the Brandenburg Technical University (BTU), Germany, carried out a programme of collaborative learning activities with the purpose of creating a novel learning space by overcoming cultural, geographical and disciplinary boundaries. The two programmes were based on the same design studio model, although they differ on a number of other accounts. The AAU programme focused on urban design, a discipline at the intersection between architecture and urban planning, in which learning is partly based on reading and writing texts. The BTU programme focused on architecture and is based almost entirely on design work. The purpose of bringing the students of both programmes together in a set of collaborative learning activities was to expand their respective

understandings of site design across scales, locations and theoretical approaches. While architectural design extends from the scale of the building to the scale of the site, urban design spans from the scale of the site to the scale of the city.

Although Denmark and Germany are neighbouring nations, they do not share the same professional culture with regard to the framing and understanding of architecture and urban design. And while much can be learned and understood from designing and reading/writing respectively, a richer perspective is likely to emerge when the learning mechanisms are exposed to each other. Therefore, a blended-learning format, which combines on-site and on-line learning activities, is likely to enhance student learning.

Working across borders raises the issue of distance—physical and cultural—and how to overcome it. Building physical and social presence is fundamental for the success of a blended-learning environment. Social presence can be described as the level of psychological connectedness, which is present in the relation between students and their peers and instructors (So & Brush, 2008). The emotional climate is important for the effectiveness of learning (Wu, Tennyson, & Hsia, 2010) and creating a sense of intimacy and immediacy is important for the success of collaborative learning (So & Brush, 2008). Since in this short shared learning experience physical presence was limited, it became crucial to construct a social presence with the involvement of students and teachers from the two institutions. Face-to-face encounters rather than on-line exchanges established a social contact which, in turn, became important for the students to emotionally engage in the shared work (short theoretical essays and conceptual site designs).

LEARNING PROCESS

Setting up a collaborative learning space involving students from two countries encompasses both didactical and practical challenges. Differences in educational traditions mean that local practices should be taken into account. Therefore, a didactical common ground must be established for the collaboration to be meaningful for everyone involved. The AAU studio focused on urban design and the BTU studio on architecture. Site design is a shared subject in both studios. However, while the theoretical foundations for site design are general, their articulation is subject to local cultures. Hence, a shared learning activity between Danish and German students fosters intercultural learning.

The goal of the collaborative activities was to improve the students' site design skills in architecture and urban design by exposing them to a shared curriculum of four related subjects: Brownfield redevelopment, waterfront development, cohousing, and new forms of transportation. Students were expected to apply their knowledge about these four topics to site design.

This was done through interdisciplinary and intercultural learning in the form of joint study activities.

The collaborative learning activities were the following. First, the preparation of a joint reader covering the four proposed topics. Second, site visits in Berlin to see architectural and urban examples. Third, a face-to-face meeting held in Berlin gave Danish and German students the opportunity to discuss site design strategies. Fourth, short theoretical essays (AAU) and conceptual designs (BTU) were formulated and shared. Finally, an on-line student conference was organised to discuss the works carried out by each school.

The shared learning activities formed a logical sequence, building up knowledge, skills and competencies. Hence, the reader provided a shared theoretical basis, while the site visits and the joint meeting gave the students the opportunity to situate their theoretical knowledge as well as to harness it in discussions. Ultimately, the theoretical essays and the conceptual designs enabled the students to train their competencies in applying the theoretical concepts in design and design reflection.

While both AAU and BTU students were familiar with site visits and joint discussions, BTU students were less used to dealing with theoretical writings (as presented in the shared reader) than the AAU students, who—on the other hand—were less skilled in designing than the BTU students. Similarly, interacting in the format of an on-line conference—with papers, presenters and discussion panels—was a new experience for both groups of students, even though this was similar in format to a studio crit, in the case of the conceptual design presentations of the BTU students.

LEARNING DESIGN

Setting up an international collaboration between two universities can be a tedious and time-consuming undertaking. Curricula and calendars must be aligned, joint learning material must be prepared, and joint learning activities must be planned. Besides, technological platforms must be set up to support distance collaboration and various forms of on-line communication.

There is no doubt that shared literature and lectures can be valuable and form a common base for cooperation. And it may be expedient to share such learning resources—which would have to be prepared anyway—among a larger group of students. But first and foremost, the added value which international collaboration may bring, as compared to other learning formats, is the possibility for students to interact and exchange views and understandings which are likely to differ across cultural, disciplinary and institutional borders.

In the AAU/BTU collaborative learning activities presented here, a number of overlaps made the cooperation possible:

- TIME. The calendar of the AAU studio was weeks 6–20, while the calendar of the BTU studio was weeks 15–26, offering a six week overlap between weeks 15–20.
- CURRICULUM. While the topic of the AAU studio was site (housing) design on a harbour front brownfield area, the topic of the BTU studio was housing design on a riverfront brownfield site. Even though there were differences in the size, scale, and detail in the assignment of each course, both studios dealt with cohousing, waterfront and brownfield redevelopment. In addition, the AAU studio also addressed new forms of transportation, which could be integrated into the BTU syllabus.
- RESOURCES. The AAU studio had funding for a six-day study tour. The BTU studio, on the other hand, did not have funding for travelling, but they were able to provide the valuable resource of working spaces on the BTU campus where all students gathered for a mini-workshop.
- LOCATION. As Aalborg is some 700 km away from Berlin, it was feasible to plan a study tour to Berlin. And as Cottbus is 80 km from Berlin, it was feasible to ask the BTU students to come to Berlin (where in fact many of them lived). Thus, it was possible to organise joint site visits in Berlin, as well as a joint student workshop in Cottbus, all within the time frame of the AAU study tour.

A reader covering the four topics was prepared in time to be shared at the beginning of the learning process in week 6 for AAU students and in week 15 for BTU students. The AAU study tour was planned for week 16 in order for the AAU and BTU students to meet in Berlin and Cottbus. Sharing of short theoretical essays and conceptual site designs was scheduled one week after the completion of the AAU study tour. The AAU students wrote short theoretical essays addressing the shared topics, while the BTU students created conceptual designs for their studio assignment. In week 18, an on-line student conference was organized for the students to present their work to each other.

On the AAU side, the alignment with other activities was achieved partly through incorporating the joint site visits and workshop into the study tour, and partly by asking the students to integrate the theoretical essays that were submitted to the on-line student conference as part of their studio project reports. On the BTU side, the joint activities in Berlin and Cottbus were meant to function as a jump start for their studio work (as it was only one week into their studio), while the on-line student conference was aligned to function as an (early) studio crit.

In this way, it was possible to establish cooperation within the given overlaps, in a way that enabled the interaction between AAU and BTU in terms of (a) the physical presence through joint site visits and a subsequent joint discussion, (b) the interaction with works of other students by sharing theoretical essays and conceptual designs, as well as (c) the distant interaction taking place in the on-line student conference.

IMPLEMENTATION

FIGURE 1. Mixed groups of AAU and BTU students on-site visit to a waterfront development on the river Spree. Source: Nicolai Steinø

The first joint activity of the AAU and BTU students was to participate in one of four site visits in Berlin (Figure 1). All the site visits were scheduled on the same afternoon. After a general introduction to urban planning and development in Berlin by the Senate Department for Urban Development and the Environment, the students carried out site visits related to the four subjects of study: Cohousing, waterfront development, brownfield redevelopment and new forms of transportation. Professionals—architects and planners—took mixed groups of students to three different locations in Berlin to see a cohousing project organised as a *building group* (Baugruppe), a large waterfront development scheme along the river Spree, and a brownfield redevelopment in the form of a public park on a former railway terrain. A fourth group of students attended a presentation about current issues concerning urban transportation in Berlin.

While the didactical purpose of these activities was to see real-life projects and planning examples related to the four areas of study, the social purpose was to enable the students across the two universities to get to know each other. Therefore, a short personal introduction event was arranged upon their first meeting. The students were also urged to mingle during the site visits and not just to stick to their own groups.

The next day, the students met again on the BTU campus in Cottbus south of Berlin (Figure 2). Here the mixed groups of students participated in a half-day brainstorming workshop on the topics they had been studying in the site visits the day before. At the end of the workshop, the students were asked to make a visual presentation of their findings, and to comment on each other's work. This completed the joint activities where the students of the two universities worked together on-site.

Two weeks later, all the students uploaded their work to a shared on-line platform (Google+): Short theoretical essays written by the AAU students, and conceptual design proposals from the BTU students. Based on the submitted material, an on-line student conference was organised. It was structured according to the four shared topics. Before the conference, students studied the work submitted by their peers so that they could formulate comments and questions about them during the sessions.

FIGURE 2. AAU and BTU students attending presentations of workshop results on the BTU campus. Source: Nicolai Steinø

The on-line conference took place in the course of two consecutive afternoons. Each group of students was physically located at their home university, in both cases in a seminar room with two projection screens. On one screen, the students saw a live video of the students on the other place, with presenters at the front and the audience in the back of the video image. And on the other screen, both groups saw the presentation in real time (Figure 3). In each session, the presentations from one group were first presented in sequence, each followed

FIGURE 3. AAU and BTU students attending the on-line student conference. Source: Nicolai Steinø

by comments and questions from a panel on the other side. Once all the presentations from one group were finished, the stage changed and the same procedure was followed the other way around.

DIDACTICAL CONSIDERATIONS

A potentially challenging aspect of the collaboration was the on-line student conference. Typically, live interaction through video conferencing is much less engaging than face-to-face interaction in a room. This is particularly true when there are technical limitations (for example, those concerning the bandwidth speed and the performance of microphones, cameras, loudspeakers and video projectors) and when participants have not had the opportunity to meet physically before.

Hence, the joint site visits and joint workshop in Berlin were not only important learning events; they also played an important role in establishing a feeling of belonging and of being connected, which were fundamental to establishing social presence during the on-line conference (So & Brush, 2008). In other words, it was important that the students knew each other, not only for the on-line conference event to be engaging, but also to awake interest in the study of the materials submitted by their peers.

The collaboration superseded the students' preconceptions about learning in a number of ways. First, they were asked to interact with other students from other fields in a foreign language (English). Second, they had to share their work in progress with these other students and to have them commenting on it. And third, they were exposed to different learning cultures: The AAU students had to deal with the BTU students' strong design orientation while the BTU students were exposed to the AAU students' focus on theory and reading and writing.

PRACTICAL IMPLICATIONS

The quality of any learning activity is highly dependent on a successful implementation which, in turn, may falter due to details which at the outset appear to be of little importance. This is particularly the case for collaborative learning activities between higher education institutions. The organisation and implementation of such collaborations can easily become very time consuming, and the effort required to deal with even minor practical issues may prove burdensome for institutions.

While both time and communication went into organising the joint activities, they were made possible due to the extended use of already available resources and facilities and thanks to the support of student volunteers. This way, extra efforts on behalf of the two collaboration partners were kept at a minimum.

With respect to the students' perception of the added value of the collaboration, it was important that the workload assigned to them was aligned with the demands of their respective curricula, or kept within reasonable boundaries in relation to the requirements of other courses. Otherwise, they would have been unlikely to commit to the collaborative activities.

An important task is to explain the scope, content, and expectations of collaborative activities to students, as well as what they might gain from them in terms of learning which might not be obtained otherwise. In addition, it was important to incorporate the collaborative work into the workflow of the two studios which together constituted the framework for the collaboration.

CONCLUSIONS

The design of collaborative learning activities involving institutions from different countries faces both didactical and practical challenges. In this collaborative learning experience, it was possible to take full advantage of a number of synergies which, along with a moderate extra effort, made the collaboration feasible.

Joint learning activities were carefully aligned with both didactical and practical demands. Thus, the activities were organised using available resources (study tour, school facilities) so as to cater for the students' immediate learning (site visits and joint session) as well as to foster the social presence required for subsequent activities (shared theoretical essays and conceptual designs, as well as the on-line conference).

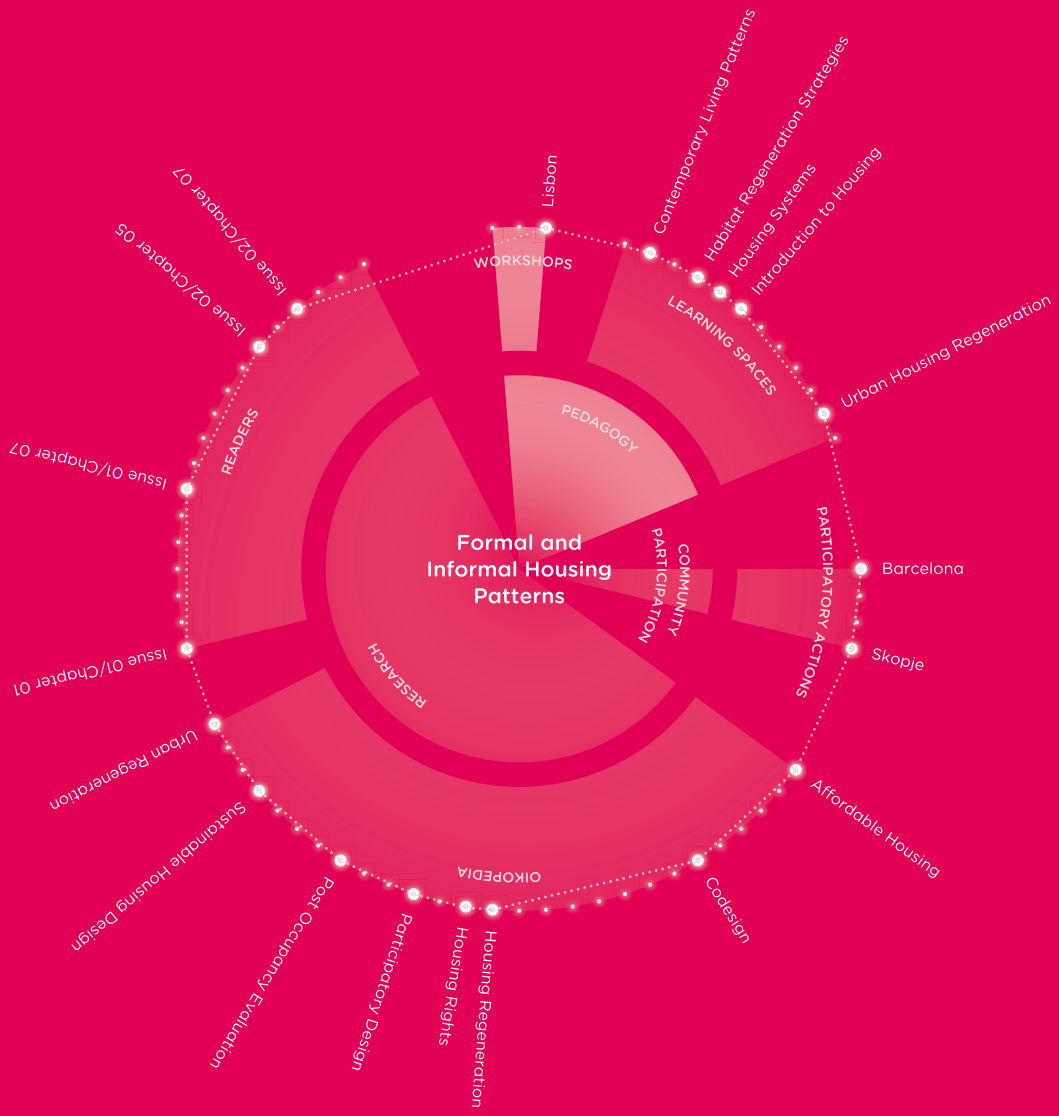
Due to curricular and cultural differences between the two programmes involved, students were introduced to new ways of approaching familiar problems, both through physical and virtual peer-to-peer interaction, and through engaging with each other's written reflections and conceptual designs. These activities posed a challenge to the students who had to address differences in scale (architecture vs. urban design), location (an Aalborg harbour front site vs. a Berlin riverfront site), and approach (theory-based vs. design-based), as well as those intangible differences stemming from the diverse cultural and professional backgrounds in Denmark and Germany.

References

Dewey, J. (Ed.). (1974). *Erfaring og opdragelse* [Experience and education]. Copenhagen: Christian Ejlers Forlag.

So, H., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended-learning environment: Relationships and critical factors. *Computers & Education*, *51*(1), 318–336.

Wu, J., Tennyson, R. D., & Hsia, T. (2010). A study of student satisfaction in a blended e-learning system environment. *Computers & Education, 55*(1), 155.


Formal and Informal Housing Patterns
PEDAGOGY
COMMUNITY PARTICIPATION
RESEARCH
WORKSHOPS
LEARNING SPACES
PARTICIPATORY ACTIONS
OIKOPEDIA
READERS
Lisbon
Contemporary Living Patterns
Habitat Regeneration Strategies
Housing Systems
Introduction to Housing
Urban Housing Regeneration
Barcelona
Skopje
Affordable Housing
Codesign
Housing Regeneration
Housing Rights
Participatory Design
Post Occupancy Evaluation
Sustainable Housing Design
Urban Regeneration
Issue 01/Chapter 01
Issue 01/Chapter 07
Issue 02/Chapter 05
Issue 02/Chapter 07

Lisbon Workshop: Contemporary Living Patterns in Mass Housing in Europe

Alexandra Paio, Sandra Marques Pereira, António Brito Guterres, Vasco Moreira Rato

INTRODUCTION

The goal of the first OIKONET International Workshop which took place at ISCTE-IUL, in Lisbon, from July 14 to 19, 2014, was to examine the suitability of existing housing for current social and individual needs. The learning activities focused on two neighbourhoods in Lisbon, each one representing a housing pattern, formal and informal: Portela de Sacavém, a housing estate designed by Fernando Silva and built in the 1960s and 70s which then became a model for other housing estates; and Bairro da Liberdade, a self-constructed settlement which emerged around the same period.

The coexistence of informal and formal architecture is a global phenomenon manifested in many cities around the world. Informal settlements arise as survival mechanisms to answer the housing shortage and are built by the occupants themselves. On the other hand, the housing estates built during the twentieth century attempted to solve the housing shortage with the uniform repetition of standardized housing units for standard families. However, the subsequent social and economic developments have made these standardized solutions obsolete. Consequently, mass housing programmes based on the principles of modern architecture fell into disrepute and began to decline. In contrast, informal mass housing is now seen as a good model for living because it fosters diversity and it facilitates a bigger sense of appropriation and identification of the dwellers with their living place (Hernández, Kellett, & Allen, 2010).

A comparative study of these two housing patterns might help to reveal the advantages and the drawbacks of each one. Thus, it would then be possible to develop structured ways of cross-influencing both patterns in order to promote new housing design solutions. The contemporary social, economic and technological transformations in Europe demand more flexible housing design strategies that consider dwelling as a process, rather than a mass-produced object (Hamdi, 2011). In this context, user-designed housing methods seem more capable of providing the flexibility and greater sense of appropriation and identification that dwellers demand (Donath & González, 2006). The complexity that underlies contemporary housing and the current economic restrictions call for new approaches. Advances in design and production using digital technologies can help to face these challenges. Building components can now be mass-customized to respond to local conditions (Kolarevic, 2005). Computer-assisted design-to-fabrication workflows have emerged as a possible solution to produce sustainable buildings at a global scale. Today, versatile customized modular construction systems—which are socially, economically and environmentally sustainable—are possible thanks to the digital fabrication process. Computer Numerical Control (CNC) machinery makes it possible to design and build a house adapted to the demands of the occupants.

Considering these current trends in housing, the Lisbon Workshop aimed at providing answers to these two main questions: Do architects need to learn from informal housing? And, do we need to make a more social-oriented use of the technologies at our disposal? To address these questions, it is necessary to cut across specific disciplinary boundaries to address the problem of housing from a multidisciplinary perspective which integrates architecture, sociology, and technology. Furthermore, new architectural design methods and learning strategies are necessary to foster collaborative processes which bring together multiple actors and disciplines.

By putting together all of these issues underlying contemporary housing—demands for greater participation of dwellers, exploitation of available digital technologies to create mass customized houses—the Lisbon Workshop offered an opportunity to carry out a pedagogic experiment on global housing.

LEARNING DESIGN

Through the workshop activities, learners were confronted with a complex set of issues which determine contemporary housing and living patterns, structured in four themes: Participatory Processes, Home and Social Change, Energy Efficiency and Construction Materials, and Computational Design (CAD/CAM tools).

- *Participatory Processes* play a key role in today's democratic societies. Since the 1960s there has been an increasing demand to involve inhabitants in the process of shaping their physical environment. Today, it is widely acknowledged that housing design needs to include users' experiences in the decision-making process. Fostering the relationship between inhabitants and their built environment is fundamental to create a sense of belonging. According to Sanoff:

> **All designers who are concerned with improving the quality of their efforts and the quality of everyday life should consider participation through user involvement. (...) Participatory design is advantageous in that it increases people's awareness of the consequences of the decisions that are taken. (Sanoff, 1985)**

In practice, participation implies to move away from a traditional client-centred process to one focusing on the dweller's needs and aspirations.

- *Home and Social Change* looks at the social transformations and changes which occurred during the twentieth and early twenty-first centuries that are bringing about new ways of living. Family structures and living patterns are embedded in housing forms and spaces. According to Eleb:

> **More and more it becomes necessary to work on the distribution in order to propose spaces better adapted to the new forms of**

> domestic groups (cohabitation for example), to the modes of interaction between people that are evolving. One must reflect as well, on adapting the home to the present-day rhythms of daily life, on the forms of relaxing, of work and of consuming in mutation. (Eleb, 1996, p. 46)

- *Energy Efficiency and Construction Materials* strongly influence the environmental sustainability of housing buildings. As Schlueter and Thesseling state:

> Due to the increased awareness of energy consumption and related CO_2 emissions, building regulations such as the European Buildings Directive in Europe, Minergie in Switzerland, or programs such as LEED in the USA have been established over the last years. Architects and planners are increasingly forced to consider energy consumption and the environmental impact of their building designs. (...) It is widely acclaimed that the most important design decisions concerning building sustainability have to be made in the early design stages. (...) In common architectural practice however, performance analysis to support design decision-making is only used for the few buildings facing engineering challenges or explicitly focussing on sustainability. The lack of integration into the design leads to extensive modifications afterwards to meet performance criteria. (Schlueter & Thesseling, 2009, p. 153)

- *Computational Design* techniques, such as parametric design and rapid prototyping, can provide novel housing design and construction solutions. The increasing availability of advanced computer modelling programs and digital fabrication machines enables the design and construction of housing units adapted to a specific programme (site, materials and budget).

These four themes were intertwined in the design process carried out during the workshop. The process started with an exercise in participatory design involving residents and ended with the construction of housing prototypes using digital fabrication techniques and wooden panels. In this design-through-production process, participants were challenged to rethink the concepts of living in interaction with the inhabitants (Paio, 2014).

LEARNING IMPLEMENTATION

Following a pedagogic methodology previously developed in the OIKODOMOS project (Madrazo, 2011), before the beginning of the workshop, participating students and teachers carried out some preparatory activities to acquaint themselves with the topics to be addressed during the workshop and with the study areas. This preparatory work was done using the on-line learning

environment OIKODOMOS Workspaces.[1] The preparatory learning activities encompassed the various themes of the workshop programme. By means of recorded video lectures, maps, plans and photographs, students were able to understand the historical, sociological and morphological characteristics of the two sites. Then, the students presented the outcomes of the preparatory activities at the start of the workshop in Lisbon.

The activities carried out in the one-week workshop included site visits and meetings with residents, lectures by experts and local representatives, field studies, and design studio work including the construction of a full-scale housing prototype with digital fabrication techniques. Students met with citizens and visited the two housing developments which had to be upgraded and adapted to current needs. Introductory lectures on the four thematic blocks—Participatory Processes, Home and Social Change, Energy Efficiency and Construction Materials, and Computational Design—gave students the basic theoretical background. They were followed by thematic studios dedicated to each of the four themes:

- In "Participatory Processes" the studio objective was to analyse relationship between physical and social dimensions in the two housing areas. In the field work, students identified users' needs, talked about their everyday living experiences and analysed how these could be part of the design process.
- In the theme "Home and Social Change" the objective was to understand the influence of social dynamics on residential architecture. Housing organization and form change over time, reflecting the evolution of prevailing social perceptions and values regarding the concepts of family and private life (Pereira, 2013). Since the beginning of the twentieth century, two main ideal family types can be sequentially distinguished in western societies (Roussel, 1992): A traditional model characterized by hierarchy, roles, gender division anchored in male power, formality and institutionalism; and a modern one, characterized by the deepening of the democratic relations among its members, the growth of informality and individualization as well as the reducing influence of the institutions in the individual behaviour. Likewise, the evolution of housing patterns confirms that family types can be better understood through the changes of dwelling configuration. In fact, it may be contended that modern housing is the formalized expression of a modern family ideal. However, it should be noted that the evolution of family types as well as of dwellings is quite complex, and that the transition from tradition to modernity is not shaped by rupture. At present, two of the main problems of Portela are the ageing of the original residents and the need to attract new inhabitants. How to adapt the existing housing to the new reality was the purpose of the exercise developed by the students.

1. See www.oikodomos.org/workspaces/contemporary_living_patterns

- "Energy and Construction Materials" are essential to achieve energy efficiency on residential buildings. Students received training to calculate the embodied energy and the carbon footprint of construction components in order to evaluate their environmental impact. For this purpose, they used the University of Bath's Inventory of Carbon and Energy (Hammond & Jones, 2008) and a spreadsheet-based calculation tool developed at ISCTE-IUL. This methodology is not as detailed as other Life Cycle Assessment (LCA) methods and tools but it provides a simple and effective way of estimating environmental sustainability of construction elements (Ashby, Ball, & Bream, 2011; Ashby, Miller, Rutter, Seymour, & Wegst, 2012).
- "Computational Design" thematic studio gave students an overview of the new challenges raised by the digital revolution (Kolarevic, 2005). Digital manufacturing processes and fabrication technologies were presented and the advantages and disadvantages of the CAD/CAM technologies in providing socially and economically sustainable customized solutions were discussed. The application of CAD/CAM techniques and physical computing processes, from the conceptualization phase (sketch and 3D modelling with generative and parametric parameters) to digital fabrication, implementation and product assembly, were introduced. CAD technologies (Rhinoceros and Grasshopper plug-in) were used to generate design variations. The students fabricated a small section of a full-scale prototype to learn how to use subtractive procedures in a CNC milling machine.

The knowledge acquired in the four thematic studios was incorporated into the design studio work. Students developed solutions with customized prefabricated wooden panels to upgrade the housing in the two neighbourhoods, Portela and Liberdade. At this stage, the work was done by teams made of students from different schools to foster the exchange across countries, cultures and educational programmes. Teachers from OIKONET institutions followed the assignments, supervised the evolution of the design proposals and acted as design critics in the final presentation of the studio work. The students were frequently asked to evaluate whether their design proposal would be flexible and adaptable in order to suit several distinct household demands.

During the workshop, all the results of the tasks carried out were posted on an on-line public platform[2] and in OIKODOMOS Workspaces. Hence, these materials were available to the participants as a knowledge resource.

Students' Proposals

The proposals presented by the students at the end of the workshop exemplify the interweaving of the four topics introduced in the workshop. Diverse housing solutions were proposed and partially materialized in the

2. See oikonet-lisbonworkshop.blogspot.pt

full-scale prototype, all of them based on the same modular construction system, which was adapted to the specific conditions of the programme.

PORTELA DE SACÁVEM: RENOVATION PROPOSALS

The Portela housing estate is located in the northeast of Lisbon. It houses 4,500 dwellings in less than 1 square kilometre, with building blocks of a few types organized around a central core where a shopping centre and other public facilities are located. The majority of Portela's buildings were completed between 1973 and 1979. The housing units were designed for the first occupants who arrived at that time: Rising middle-class families coming either from the ex-colonies or from the city of Lisbon. Since then, the profile of the inhabitants has changed.

At present, two of the main problems of Portela are the ageing of the original residents and the need to attract new inhabitants.

How to adapt the existing housing to the new reality was the purpose of the exercise carried out by the students. Their proposals aimed at providing answers to problems such as an ageing community, the lack of common spaces, and the transformation of the dwellings over time. The four projects that they developed explored customized housing solutions adapted to the needs of today's dwellers:

- *Adaptable Living* aims at making the existing apartments attractive to younger dwellers. The structural components of the existing dwellings, the external walls and the location of wet areas are preserved. With this fixed structure, rooms and services can be placed in different ways. A kitchen can be easily replaced by a bathroom by removing panels. A one-bed apartment can be transformed into a three-bed one. Semi-private spaces can be added to the facade to expand the inner spaces and provide a place which can be used as a playground or as a terrace, thus promoting social interaction (Figure 1).
- *S.I. Box* proposes to separate the existing layouts in three zones: A central one for shared spaces, a semi-private one for services and a private one for the bedrooms. Modular units are embedded in the existing blocks to expand the dwellings with new spaces which can be used as shared kitchens and terraces. In this way the project aims at solving some of the problems of the blocks: The dark staircases, and the small rooms within large apartments (Figure 2).
- *A Contemporary Solution for a Modern Design* proposes to remove all the partitions and walls to have a free space which can be filled in with modular houses placed over a grid. The leftover spaces in between the units function as shared spaces. Each module provides a dwelling for different types of residents: An elderly woman living alone, an exchange student, a young couple and a family of 3 to 4 members (Figure 3).

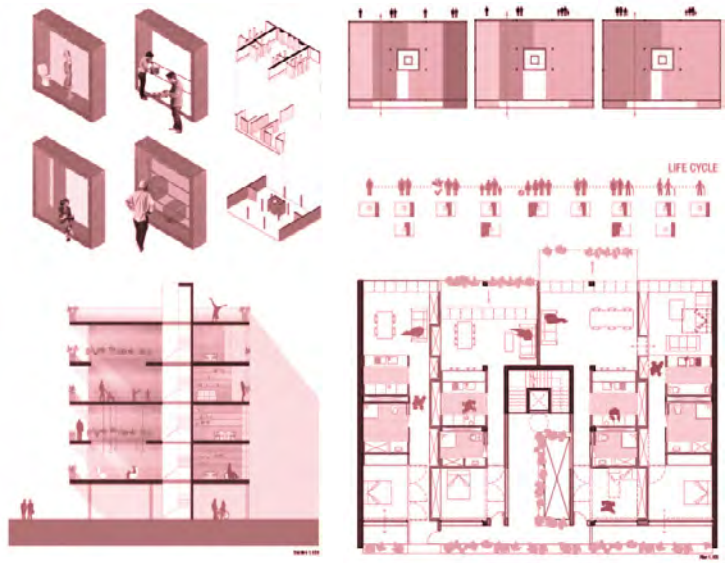


FIGURE 1. Portela: *Adaptable Living*. Students: Ilze Antonova, Clàudia Carreras, Frederik Peter Kæmsgaard, Yasemin Kilic, Nele Santy, Ana Sofia Simões

FIGURE 2. Portela: *S.I. Box*. Students: Mónica Cardoso, Izabela Grotowicz, Dede Guclu, Leonie Hagen, Andronikos Kalli, Jan Wyszkowski

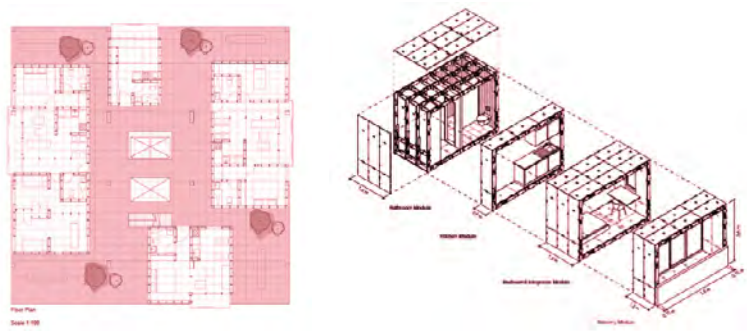


FIGURE 3. Portela: *A Contemporary Solution for a Modern Design*. Students: Milos Jelisavcic, Lukas Kolb, Carlos Ochando Seva, Afonso Patinhas, Evi Stavraki, Bruno Trabut

- *One Floor, One Family* proposes the transformation of the inner spaces by means of a do-it-yourself modular system to build furniture pieces in multiple ways. The system is based on two modules, vertical and horizontal. By combining the pieces, it is possible to create tables, wardrobes, drawers, shelves and empty spaces (Figure 4).

FIGURE 4. Portela: *One floor, One Family.* Students: Francisco Alves, Rémi Avril, Shilan Gharanfoli, Karol Görner, Chrysa Pierrakou, Inger Kirstin Rahbek, Héctor Ruiz

LIBERDADE: RENOVATION PROPOSALS

The "Bairro da Liberdade" is located between a protected green area and two adjacent transport lines, a highway and a railroad. It was built between 1969 and 1980 by immigrants from rural areas who came and built their own dwellings. Currently, the city is discussing strategies to redevelop the area, which combine the preservation of some of the characteristic patterns with the construction of social housing.

After meeting the neighbours and finding out about their needs, students' elaborated four proposals with the aim of preserving some of the distinctive features:

- *Creating Patterns of Improvement* considered three scenarios: A house for a family, a house for an old lady, and a shared space. The design solutions were the result of the dialogue that students had with the residents as well as of a morphological analysis of the development patterns of the informal housing. The modular system is used in various ways: Embedded inside the units, and

as extension of the inner spaces into the patio. The patios are also enhanced to reinforce their function as common spaces (Figure 5).

- *Garden of Eden* plans to demolish an abandoned unit to provide more room for shared, common spaces. A modular prefabricated unit will fill in the empty space, providing a seating area and a trellis for growing plants. Besides, the roofs of the dwellings will be replaced by new ones which will collect rain water and will be accessible through new staircases located in place of the toilets (Figure 6).
- *The Roofbox* seeks to give solutions to the problems students identified through their talks with a family living in one of the units, a couple with two boys. They found out that there was a doorway on the staircase, no shade in the terrace, no place to dry clothes, the bathroom was too small and an extra bedroom was needed. A solution to all of these problems is to build a new room on the roof which casts shadow on the patio, to change the position of the staircase to enable a new access, and to move the bathroom to another place (Figure 7).

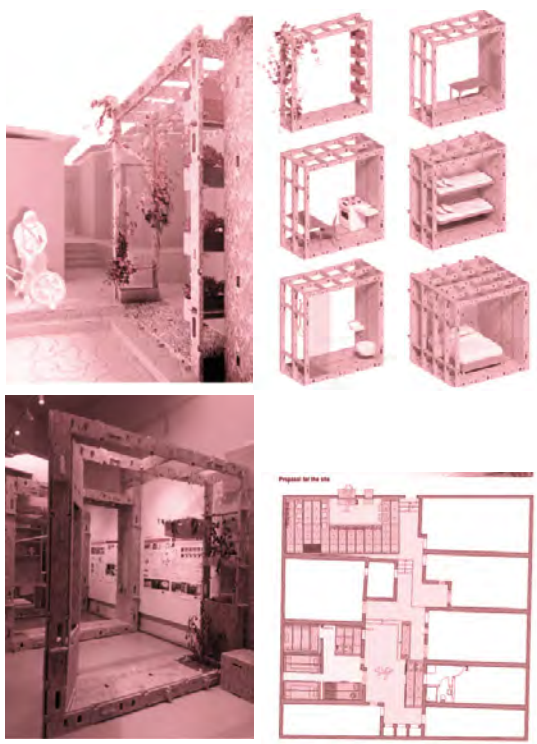


FIGURE 5.
Liberdade: *Creating Patterns of Improvement*. Students: Marina Clusella, Aleksander Cosic, Orhan Kemik, Caroline Melders, Georgia Papasozomenou, Marek Sipko

FIGURE 6.
Liberdade: *Garden of Eden*. Students: Serdar Aktan, Andrew Cleary, Alina Dimitroulopoulou, Pavol Dobšinský, Diana Gabão, Anton Kunau, Ana Lopes

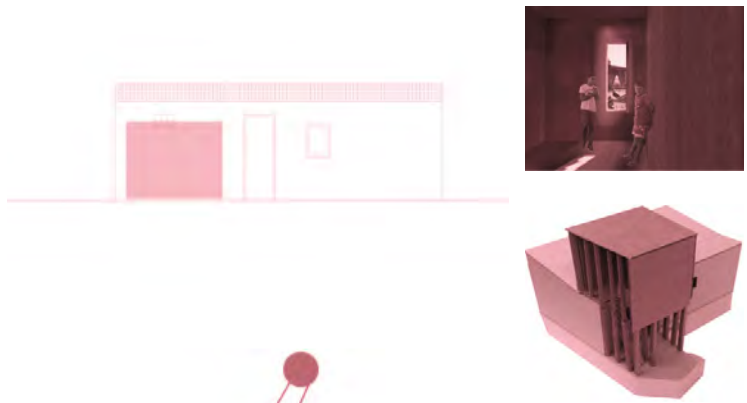


FIGURE 7.
Liberdade: *The Roofbox*. Students: Emmily Delbare, Léa Garcia, José Luis León Lora, Raquel Martins, Christopher O'Keeffe, Vasco Reis

FIGURE 8.
Liberdade: *House 1*. Students: Catarina Alvares, Eva Andrasova, Troels Broch, Malgorzata Budlewska, Tugba Cavusolglu, Gorkem Varlik

- *House 1* plans to rearrange the rooms by placing the entrance at the centre. The position of the staircase is changed to gain an extra room built with the modular system which is placed on the top of the roof (Figure 8).

CONCLUSIONS

In the short span of six days, students were able to integrate the inputs they received from lectures, contacts with residents, and critiques from tutors, into their designs of the housing prototypes. The four proposed themes—Participatory Processes, Home and Social Change, Energy Efficiency and Construction Materials, and Computational Design—were integrated in a greater or lesser extent in the designs produced by the students. Furthermore, in the final presentation each team was able to deliver a full-scale model fabricated with digital prototyping techniques, together with a poster of the design proposal. The quality of the results produced, in a short time and working in an international context, suggests that the pedagogic approach could be replicated and even expanded to other pedagogic contexts, such as design studio within the undergraduate programme, or a one-year postgraduate course.

FIGURE 9. Lisbon Workshop: final presentation of design proposals, with posters and full-scale housing prototypes. Source: OIKONET

References

Ashby, M., Ball, N., & Bream, C. (2011). *The CES edupack eco audit tool—A white paper*. Cambridge: Granta Design.

Ashby, M., Miller, A., Rutter, F., Seymour, C., & Wegst, U. (2012). *CES edupack for eco design—A white paper*. Cambridge: Granta Design.

Donath, D., & González, L. F. (2006). Constraint-based design in participatory housing planning. *International Journal of architectural computing*, *1*(6), 96–117.

Eleb, M. (1996). Emerging modes of living and habitat. In *New ways of housing* (pp. 45–55). Valencia: COACV.

Hamdi, N. (2011). *The placemaker's guide to building community*. London: Earthscan.

Hammond, G. P., & Jones, C. I. (2008). Embodied energy and carbon in construction materials. *Proceedings of the Institution of Civil Engineers*, *161*(2), 87–98.

Hernández, F., Kellet, P. W., & Allen, L. K. (2010). *Rethinking the informal city: Critical perspectives from Latin America*. Oxford: Berghahn Books.

Kolarevic, B. (2005). *Architecture in the digital age. Design and manufacturing*. New York, NY: Taylor & Francis.

Madrazo, L. (Ed.). (2011). *OIKODOMOS Compendium*. Retrieved from www.oikodomos.org/index.php/resources/compendium.pdf

Paio, A. (2014). Contemporary living patterns in mass housing in Europe: From collaborative design to digital fabrication. In L. Madrazo (Ed.), *Proceedings of the First OIKONET International Conference* (pp. 121–134). Barcelona: School of Architecture La Salle, Ramon Llull University.

Pereira, S. M. (2013). *Casa e mudança social. Uma leitura da transformações da sociedade portuguesa a partir da casa*. Lisbon: Caleidoscópio.

Roussel, L. (1992). La Famille en Europe occidentale: Divergences et convergences. *Population I, 47*(1), 133–152.

Sanoff, H. (1985). The application of participatory methods in design and evaluation. *Design Studies*, 6(4), 178–180.

Schlueter, A., & Thesseling, F. (2009). Building information model based energy/exergy performance assessment in early design stages. *Automation in Construction, 18*(2), 153–163.