Design for Social Sustainability. An educational approach for insular communities

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An educational approach for insular communities

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Abstract: This paper reports the study on three design for social sustainability projects, evolved through action research, and aims to understand and reflect on how to define an educational model able to prepare future designers living in the context of a small and peripheral territory like an island, to be active and entrepreneurial for the good of their society.

Keywords: design education, collaboration, design for social sustainability, insular communities, human centred design

1. Introduction

Madeira archipelago is located in the North Atlantic and is a Portuguese territory. The small volcanic islands have always been a very important economical region for Portugal due to incomes of sugar production and tourism. The good weather conditions all along the year have put Madeira as a privileged site for tourism, along with sugar and wine production. Industry is still strongly connected with local maintenance, like food supplies, wine production, fruits exportation and some craft production are the main economic resources.

The Design Bachelor (BA) was created in 1978, affiliated back then to the Fine Arts institute. For twenty years the design curriculum was dedicated to product design, with a strong component of Arts theory and practice. In 2006 the BA was restructured due to Bologna requests[1]. Back then the coordination team, considered the region conditions and some of other Portuguese programs and established a new curriculum that embraced the fundamentals of product and graphic communication design creating a generic design bachelor program. In 2013 the plan was re-structured once again. Considering international design schools programs, the evolution of the

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theory, practice and design education methods, a new study plan was defined. The new coordination team brought new teaching staff that introduced into courses plans a more contemporary approach mainly focused on collaboration, learning-by-doing, and a full strategy that help students to explore new design opportunities, new design production challenges, new approaches to business, industries and social awareness. In this sense, on the last semester of the third year we decided to introduce the Human Centered Design. The contemporary socio-political and economic context we live in and the threats we see for the future of our societies, economies and well-being assign to Design education the duty to prepare the future generations as active actors of the 'change' toward sustainable world. We understand that future designers should be not only as *problem-solvers*, but also *sense-makers* and *place-makers*. This is relevant when in peripheral territory like the one of an island: "regenerating 'the local' by creating a new ecology of places: an ecosystem in which local culture and production are able to live and regenerate in a balanced relationship between local and global" (Manzini, 2011, p.45). In this way we wanted to understand if these kind of projects truly help students to learn, develop and embrace a:

- More autonomous project management skills;
- Applied contents and syllabus learned through the bachelor;
- A new (in their study plan) methodology and design process;
- To learn to design within large groups and with external entities;
- To create, develop and produce design artefacts that sustain their ideas and purposes;
- To face specific and real conditions that define a design brief;
- To develop and experience empathic relationships increasing their social awareness.

We started in 2014 and three big projects have been done. The educational objectives are the same, but the design brief changed in order to allow us to understand which of three approaches was the most effective.

2. Teaching future designers to foster collaboration and social cohesion in insular communities

2.1 Design education: competencies for social sustainability

One of the objectives of today's design educators is to encourage young adults to design for sustainability to confront present and future challenges in our cities, economies, and societies. In particular, social sustainability is largely neglected in mainstream sustainability debates (Woodcraft et al., 2011, p.15) as in the current sustainable design practice (Tang & Vezzani, 2011). Although this difficulty, societal and human concerns must be included in the education of future designers to see the youth becoming as responsible thinkers and doers.

In order to make the students understand abstract concepts related to social sustainability, as also why and how they can contribute and design for change, it is necessary to propose them practical projects. Through a *learning-by-doing* approach they become aware of their own knowledge, capacities and limitations; they make mistakes and learn from them. By facing real challenges and people they become aware of the importance of societal issues, they give value to human interactions, and design for people's well-being and happiness.

Other skills and capabilities such as critical and holistic thinking, co-operation in co-design projects, multi-disciplinary approach and acceptance diverse cultural backgrounds, and creativity are

fundamental. All these have something in common with those competencies McMahon and Bhamra (2016) suggest as enablers to understand sustainability and design responsibly (figure 1).

COMPETENCIES FOR SUSTAINABILITY IN DESIGN

Responsibility, Humility, Openness, Empathy, Critical thinking, Dialogue, Pragmatism, Decision-making, Listening, Understanding, Reflection, Creativity, Flexibility, Risk-taking, Acceptance of Differences, Compromise, Negotiation, Sharing, Confidence, Reflection, Engagement, Participation, Interaction

Figure 1. Competencies for Sustainability in Design, from McMahon & Bhamra (2016).

The Young Foundation propose social sustainability as:

> "A process for creating sustainable, successful places that promote well-being, by undertaking what people need from the places they live and work. Social sustainability combines design of the physical realm with design of the social world – infrastructure to support social and cultural life, social amenities, systems for citizen engagement and space for people and places to evolve." (Woodcraft, et al., 2011, p.16)

Starting from this definition and looking at the geographical and social context in which we teach Design, it is important to prepare the (local) future designers to contribute to their own insular territory and communities. As sense- and place-maker young designers must be educated to encourage the development of new practices also by building around people's capabilities, to deconstruct cultural schemes, to support social and cultural life able to engage citizens with new sustainable behaviours.

To get there, students must be encouraged to collaborate, share and communicate across several borders, disciplinary, socio-cultural and also geographical.

Considering Madeira conditions, this approach to design ensures that students face complex problems that could be also found in similar territories and contexts all around the world.

2.2 Fostering a culture of collaboration

To face the complexity and fast evolution of today's and future societal, environmental, economic, and political issues, designers must work in team with other types of expertise and disciplines. When dealing with social aspects and working with communities, designers are not only 'facilitators' but also 'therapists' able "to change the perception of things in order to change the emotional and behavioral reaction, ultimately in order to change the understanding of a problem" (Meroni, 2008, p.36). Collaboration allows designers to hear other voices, build on both collective and individual knowledge and develop softer skills (Tang & Vezzani, 2014) during the cyclical process of consultation, negotiation, compromise, decision-making, agreement and reflection (McMahon & Bhamra, 2016; Chiu, 2002). Collaborative learning exists when individuals share, open discussions, create shared knowledge, and are active participants in all this. According to the literature, McMahon & Bhamra (2016) collect the criteria which determine the success or failure of collaboration: interpersonal ties, the role of the individual, compromise, holistic thinking, sharing ideas, and positivity. In addition to these, synergy and communication are considered as key

contributors toward collaboration. Communication is critical in collaboration. It doesn't need to be always positive and successful, because also conflicts and mistakes can teach the team members to improve their own facilitation capacity, or type of language. Collaboration is based on four closely related acts such as coordinating, consulting, communicating and cooperating, and to be effective it must enhance the individuals to create and agree on a shared knowledge and understanding, and purpose (Head, 2003, p. 53).

In a collaborative learning context the teacher is like a coordinator and mediator for the students working in team. By applying this strategy into a class teachers ensure a learning process more enjoyable and fruitful experience. In a higher education environment this approach ensures also that all students are more engaged with the contents, with each other and more motivated to start their professional life.

2.3 Three collaborative projects toward social cohesion and wellbeing

For the last three years we have introduced Design for social sustainability projects as a strategy to understand the learning benefits of this in design students. From a learning perspective to design for "real needs" is more effective for students to understand and deal with the complexity of social sustainability. Lofthouse (2013) identifies five social themes that (student) designers should consider: 1) to encourage health and well-being; 2) to encourage participation and belonging; 3) to encourage empowerment and promote human competence; 4) to enhance social interaction, communication and engagement; 5) to enrich users' lives or increase quality of life for all.

Our students were suggested to consider these themes when designing their interventions in the neighbourhood. For all teams, the 2nd, 4th, and partially the 5th themes were considered as the priority to impact positively in the local social context.

Although the differences in terms of design brief, organisation, number of teams and locations (Figure5), the aims of these three projects remain the same:

- To make the students autonomous during the learning process;
- To make the students face real problems and challenges not only to be realistic but also to build confidence and sense of responsibility;
- To make the students collaborate especially with non-designers, such as inhabitants, institutions and understand stakeholders system.

Social Design" Bairros da Madeira" *(Social Design for Social Housing in Madeira)*
This was the first proposal that introduced the Human Centered Design methodology in the BA. The brief considered the study and analysis of one social housing neighbourhood, understanding their needs, and then to design actions that fosters collaboration and interaction between local agents, inhabitants and students. To conclude the project they should organize a public event to present the final results to the community. Each team chose one from a given list of Madeira social housing neighbourhoods. The big challenge was to understand people's life and needs, considering that these should be solved through a design solution. In June, we had 5 events showing up projects developed in five areas of the island.

Figure 2. Social Design Bairros de Madeira, up at left "Arte de Unir" at Bairro da Nazaré; right up: invitations designed for Bairro da Josefina - "Rede livre"- project; down all the participants in the final event "flower-action" at Bairro da Nogueira. June 2014

Campainha do Bairro *(Neighborhood Bell)*

Students were asked to design the event for the *European Neighbours' Day* in collaboration with the local community and organisations. The class was divided in two big teams and each was asked to select an urban area where to engage and co-design the international event. For this project the teacher gave the students the opportunity to choose the area they wanted to work on. The teams were asked to share at class the results of their research on field as also the one regarding the case studies. Surprisingly they chose poor and problematic social housing quartiers, influenced by previous colleagues projects.

Figure 3. Campainha do Bairro project at Nazaré neighbourhood (May 2015). Inhabitants involved in some social activities in the main square.

Big Lunch

The students were asked to promote social participation and collaborative design by designing the event "Big Lunch". The inspiration came from the same name British project started in 2009. The class was divided again in two big teams and asked to choose a neighbourhood where to design and organise the annual Big Lunch. The teams were asked to take care of all the organisational aspects of an event, starting from local people's needs and expectations.

Figure 4. The Big Lunch event at Bairro Argentina (June 2016)

3. Methods

To reach a more iterative process, understand the development implementation and to evaluate the all process (McMahon and Bhamra) we've choose an *Action Research* methodology to reflect at the end of each project, on learning and potential improvements. In particular, it is intended to reflect on factors that allow students to engage with social issues, develop an interest for design for social innovation, learn by collaborating and finally become autonomous in taking decisions and expanding their own knowledge.

The basic information of the three projects described above are put in comparison in figure 5.

Looking at Figure 5, it shows that the educational objectives remained mostly unvaried. But at the first experience the main priority was to teach the students about the Human Centred Design methodology, then we learnt that is important to make the final year students aware of different design methods and tools (beyond the HCD), and free to explore and choose according to their needs. So that to enhance confidence and autonomy as young designers. "Design education therefore, must stimulate the students into exploring alternative approaches to design, in real and engage way" (McMahon and Bhamra, 2010, p.3)

Other aspects we evolved through *action research* regard:

- The design brief which became more and more specific from the first to the third project;
- The number of neighbourhoods and teams decreased to make it more practical and under control for the teacher;
- The number of team members which increased to make the collaboration within the team more challenging, but at the same time allow the students to deal with more tasks and work on field;
- To provide the students an International event/movement to be part of when designing their intervention. In particular, this change was very important for the students and local communities because they felt connected with the rest of the world;
- Tutoring:. On the first project the teacher gave the timetable in order to guide the students throughout the process. But as a result students were not sufficiently autonomous. Because the main educational interest was the autonomy, in the following projects the students were asked to use Trello online platform to share every step of the process.

Figure 6 shows the structure of the teaching/learning/design process timeline, the methods and tools provided. The reflection phases are part of the learning process too. In fact, informal interviews were made to students after a week from the conclusion of the project (CB, BL), and an online questionnaire more or less after six months (SB, CB, BL). The former to get 'fresh' opinions and feelings from the experience. The latter to understand the actual impact of the projects on design students: in fact most of them have already faced the work world challenges and can give more critical and mature opinions and suggestions.

Figure 6 shows the changes through *action research*, particularly regarding the provided learning support, such as design methods, tools and techniques.

DESIGN FOR FOR SOCIAL SUSTAINABILITY PROJECTS - THE EDUCATIONAL PLAN

	SB	CB	BL
PROJECT NAME	Social Design Bairros da Madeira	Campainha do Bairro	The Big Lunch
DESIGN BRIEF	"Co-design interventions within the neighbourhood which will support social cohesion and enhance well-being."	"Designing the event for the European Neighbours' Day in collaboration with the local community and organisations."	"Promoting social participation and collaborative design by designing the event *Big Lunch*."
EDUCATIONAL OBJECTIVES	- to learn about the HCD methodology and design according to people's needs; - to become sensitive to social issues by interacting with local communities and facing real challenges - to improve collaboration skills and capacities	- to become sensitive to social issues by interacting with local communities and facing real challenges - to improve collaboration skills and capacities - to become autonomous during the design process and build confidence	- to become sensitive to social issues by interacting with local communities and facing real challenges - to improve collaboration skills and capacities - to become autonomous during the design process and build confidence
# LOCATIONS	5 neighbourhoods suggested by the teacher	2 neighbourhoods chosen by the students	2 neighbourhoods chosen by the students
# TEAMS AND # TEAM MEMBERS	5 teams 4 or 5 members for team	2 teams 7 and 12 members for team	2 teams 10 and 15 members for team
EVENT OR MOVEMENT OF REFERENCE	different examples of international public and artistic interventions	The European Neighbours' Day www.european-neighbours-day.com	The Big Lunch Day www.thebiglunch.com
TUTORING	meetings at class and 'concept' presentation	meetings at class, 'concept' presentation and Trello	meetings at class, 'concept' presentation and Trello
PROJECT OUTPUT	Actions that encourage social cohesion and local entrepreneurship and a final event to show the results.	The organization of social activities for the *European Neighbours' Day* event	The *Big Lunch* event and requalifying interventions in a meaningful social space at the neighbourhood.

Figure 5. The educational plan for projects oriented to Design for Social Sustainability. The three projects are here put in comparison showing the evolution of the teaching/learning proposal.

THE TEACHING PROCESS - STEPS, METHODS AND TOOLS

DESIGN BRIEF ANNOUNCEMENT	

SB — *Co-designing interventions within the neighbourhood which will support social cohesion and enhance well-being.*

CB — *Designing the event for the European Neighbours' Day in collaboration with the local community and organisations.*

BL — *Promoting social participation and collaboration by designing the event Big Lunch.*

TEAM FORMING

EXPLORATION and UNDERSTANDING OF THE NEIGHBOURHOOD

METHODS: observation, photo collection, informal interviews to locals, techniques to empathise ● ● ●

TOOLKIT: 'Human Centred Design Toolkit' by IDEO ● ● ●

'Bootleg Bootcamp Toolkit' by d.school ● ●

IDENTIFICATION OF THE LOCAL ACTORS

TOOL: Stakeholders map ● ●

IDENTIFICATION OF THE PROBLEMS AND CHALLENGES IN THE NEIGHBOURHOOD

METHODS: mapping observations, photos, information from interviews ● ● ●

TOOLS: Personas and Customer journey mapping ● ●

IDEATION

METHODS: Brainstorming ● ● ●

'Six Hats Thinking' methodology ●

Research of examples and case studies ● ● ●

Collective mapping of case studies ● ●

SHARING IDEAS WITH LOCALS

CONCEPT DEFINITION

METHOD: Desiderability/Viability/Feasibility ● ● ●

TOOLS: Moodboard ● ● ●

Customer journey mapping ● ●

PREPARATION and IMPLEMENTATION

METHOD: Self-organisation following the previous Desiderability/Viability/Feasibility mapping ● ● ●

FINAL EVENT

● ● ●

REFLECTION #1 a week after the event

METHOD: Closed-ended questions questionnaire ●

Interviews ● ●

REFLECTION #2 six months later

METHOD: Online questionnaire with both open-ended and closed-ended questions ● ● ●

sharing the design process updates on TRELLO platform
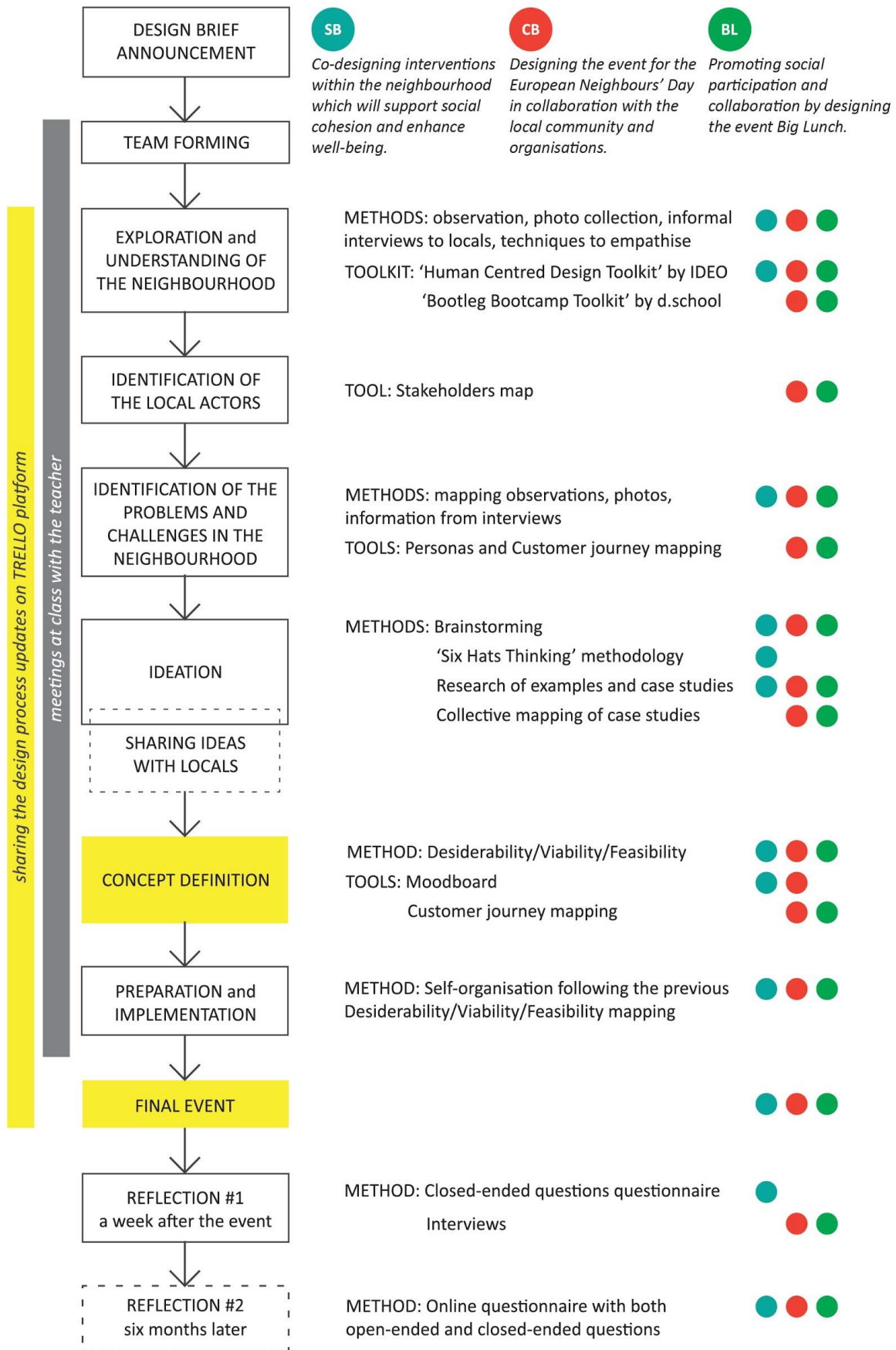
meetings at class with the teacher

Figure 6 The teaching process. Methods and tools provided to the teams in the different projects are visualised through the three colours. In yellow the moments in which the students got evaluations by the teacher. As visible in Figure 5, Trello platform wasn't used in the first project.
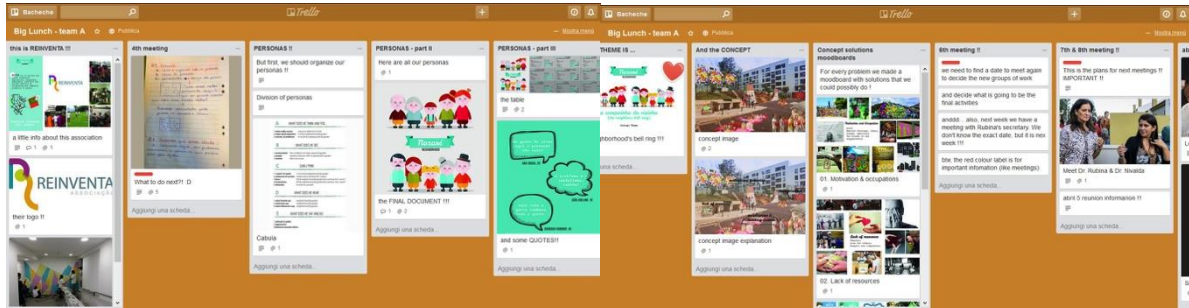

Figure 7 The online platform Trello https://trello.com used by the teams of CB and BL projects to share the design process steps with the teacher.

Figure 8. The informal interview structure.

BY COLLABORATING WITH THE OTHERS I LEARNT THAT...

"A design intervention can impact positively on our society"
Ricardo, Big Lunch

"It is important to create interpersonal relationships within the community but also within the team itself!"
Sara, Big Lunch

"Community means communication and sharing, and people living in this neighbourhood know each other, help each other, they are unite and protect each other!"
Adriana, Big Lunch

"People from this kind of neighbourhoods are more receptive than I thought [...] We students from university can really do something useful to change people's life, also with small interventions like ours! "
Tiago, Big Lunch

"People living in this neighbourhood are all good people, they had a bad reputation for me before this experience. Design can link people and make new friendships start!"
Monica, Big Lunch

"Working on field in contact with people gives much more satisfaction than working closed in a room!"
Francisca, Campainha do Bairro

"To give is to get. It is important to know and feel that we leave a sign in other people's life."
Gloria, Campainha do Bairro

"It is important to step out from our comfort zone sometimes!"
Stefani, Campainha do Bairro

"Being playful and having fun make people free and more flexible!"
Neuza, Campainha do Bairro,

"I can smile to people I have never met before!"
Claudia, Campainha do Bairro

Figure 9 . The most significant answers in the interview.

3.1 Feedback from the local organisations

Our interest was also to understand the impact of these projects on the local communities and organisations. All feedback were very positive. In the beginning it felt strange to social support associations and some governmental organisms that a Design Bachelor approached to develop this kind of collaborative projects. But as the projects where running, psychologists, social security agents inhabitants and all the volunteers were very pleased with the final outcomes. After 1 year and half one association invited us to the official inauguration with the local authorities, city mayor and further personalities. The governmental department in charge of these social associations, invited design students to work on the graphic communications of other two solidary projects.

The project of the big lunch, was so successful that some students were invited by the city-hall of *Camara de Lobos* to idealize and design the graphic concept of an important city event.

The project of the *Campainha do Bairro* had a very impressive media coverage. The artistic intervention and re-qualification of the area attracted the media attention and Governmental attention. The inhabitants still conserve all the infrastructures the students built with them with great warmth.

3.2 The final questionnaire

The online final questionnaire was built according to four parts regarding:
- (1st) what project the student attended and his personal motivation toward working in team and at collaborative projects;

- (2nd) the project itself, that is the design process, its implementation, the personal impact on awareness of the competencies achieved.
- (3rd) the collaboration between the team and the local community.
- (4th) the personal experience within the project.

Generally speaking, all projects had a big positive impact on the students. 83% considered the design brief and the whole experience extremely positive. Of the whole process the aspect the students valued the most was working in team and in direct contact with the local communities.

About the personal experience, the four main things the students learnt through the collaborative project experience were: to listen, to empathise, to communicate better, to take some risk. Then others followed: to engage more with local community, to build trust, to be more patient, to respect the others and their opinion, to work in team, to be more responsible, to become aware of social issues, to deal with local institutions, to be proactive.

From an educator's point of view, some students' comments were relevant. "You don't need to be always in control of your design". "It is important to talk to people and see what they do, how they live": students became aware of the importance of meeting the real context and people; they realised they didn't know almost anything of their problems and challenges. "I learnt how to create a relationship with 'closed' groups like those living in the social housing neighbourhoods"; they had to demystify their beliefs before designing with and for them.

In total the 77% of the students declared that the whole experience changed their interest in social aspects. Then this kind of design experience make the students aware of the importance of societal aspects and human relationships within the design process.

Regarding the design process the easiest part was 'to generate ideas for the project' (61%), 'to explore and discover the neighbourhood' (50%), 'to keep the energy and motivation high all along the process' (44.5%).

On the other hand the hardest part was 'to involve the local community to be active part' (56%), 'to empathise with and be accepted by the community' (50%), 'to get partners and sponsors'.

About the provided methods and tools, the students considered the case studies collection and brainstorming as the most useful methods during the design process (78%), followed by the teachers guidelines (56%). The HCD Toolkit had less impact (only the 22% considered it useful).

The students considered to have acquired or developed the following competences during the design process: empathy (78%); understanding others (61%); creativity skills (61%); ability to dialogue, reflect and accept differences (50%); increase responsibility, sense of sharing and participation (44,4%). The aspects they considered less relevant were: pragmatism and engaging skills (6%); critical thinking (11%); confidence (22%).

At the question about whether they have ever applied something they learnt during the project, the 78% of the students said "yes". This means that the project experience had success in teaching the students something that they could apply later on. From new technical skills to social capabilities.

Regarding the collaboration part, the questions were build referring to the studied literature. We tried to understand which factors are as enablers or obstacles of collaboration. As a result as enablers were considered the need of: 'sharing ideas' (67%), 'clear roles of the team members', 'good synergy' and 'playfulness' (44%). Obstacles regarded moments of 'lack of cooperation to execute any agreed activity' (39%), 'lack of dialogue and communication' and 'lack of synergy' (33%). Interesting to say that playfulness and the heterogeneity of the teams are considered only enablers of collaboration.

At the open-ended question "From a learning point of view, what benefit can a person gain from collaboration?". All students answered positively. Here the main feedback:

- To learn from the others, their life experiences, and learn to see things from different perspectives;
- More sensitivity and curiosity towards the others and their interests;
- To become more responsible and committed toward the others;
- To learn to share ideas, to communicate and take decisions;
- New interpersonal ties (within the team and/or with the local community).

The 94% of the students confirmed that the local communities and organisations learnt something new from the collaboration with them, designers (figure 10).

BY COLLABORATING WITH DESIGNERS THE LOCAL COMMUNITIES AND ORGANISATIONS LEARNT...

"To work together for a common good" ; "To overcome certain problems is beneficial for the whole community" ; "To start a new friendship with the people next door is easy and good".

About the role of Design: "Design is much more than sketches and can bring to big changes" ; "Design can influence positively the daily life of a community" ; "Design can change people's life" ; "The community learnt to think creatively to solve some of the neighbourhood's problems" ; "It is not an easy job, there is a lot of compromising" ; "Our profession can have an impact on a social level".

The projects helped to raise awareness in the community about: "People learnt that they are not separated from society, and that they can engage with people from outside their neighbourhood without being discriminated"; "They weren't alone, and other people know what they struggle for".

Figure 10. The local communities and organisations learning from collaborating with designers.

4. Conclusions

This three year project made us conclude after observation and action research methodology the following considerations.

- Students, who worked with a more specific design brief, found easier to approach the project than those who had to define their own project brief. Moreover it is important to provide the students and local communities an occasion to be part of international movements or events.

- The success of the initiatives depended on the support offered to the students by the local social associations in order to the engage with the inhabitants. Moreover, the presence and direct involvement in the process of local actors,, allowed students to have mediators to gain trust with more reluctant people.
- The importance of feedback from locals and their involvement. Students became aware of gaps and relevance aspects in their projects through people's feedback, enthusiasm and participation during preparation and implementation.

- From a learning perspective the result was more than positive as we saw the importance of the interventions, and real answers to real problems. This is the first step to care about people's well-being and happiness.
- Making things together, such as painting a wall together or redesigning the furniture for the social area together, can impact positively on the quality of collaboration. By doing together students and community got closer, built friendships, empathised and built trust. Moreover, by making an idea becoming tangible thanks to the effort and contribution of many, allows to make the design intervention to be understood by everybody and possibly find new people engaging with the change in the neighbourhood.
- The complexity of this kind of projects gives the students the opportunity to put into practice knowledge, methods and tools got earlier in their studies. Moreover 94% considered this project change their understanding of design practice.
- Beyond what we predicted, most of the students weren't that autonomous in using the provided bibliography and toolkits during the process. They still preferred to follow their teacher's orientations rather than the theoretical support. On other hand, they were autonomous and confident in scheduling meetings and activities, in coordinating teamworks and tasks, in communicating and cooperating with people and organisations, producing design artefacts and communication supports in organizing and managing a public event.
- By observing the class and teamwork, we cannot deny that there is often some competition between the teams. This can contribute positively or negatively on collaboration. On the first case was mandatory to all to participate in all events. On the second and third we decided that participation was free, and the results were not that good. As teachers we understood the friendship between colleagues is fundamental besides all the collaboration environment given. Unfortunately it is difficult to control from an educator perspective.
- From a teaching approach point of view the three teaching models have been defined to give the students all methods and tools to be autonomous , but it is in the Big Lunch model that the teacher is more like a coordinator and mediator. His interventions are more to suggest or inspire the students, on the contrary leaves all the decisions to the teams. This teaching strategy worked very well, although the students were less focused on learning the theoretical support given to them to support the design process.

Including design for social sustainability in Design education programs contributes substantially to prepare young adults and future generations to be active actors of the 'change' toward sustainable world.

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