



mayankuna

growing together with design

Gabriela Corral Maldonado

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Abstract

On the 16th of April, 2016 an earthquake with a magnitude of 7.8 on the Richter scale damaged a large swath of the coast of Ecuador; the provinces of Manabí and Esmeraldas were the most affected. A total of 673 people died, and around twelve hundred were injured. The natural disaster caused damages of over three billion dollars and devastatingly affected the lives of these people.

Mayankuna believes that design has power for social change and that is why the target are people, who for a long time have been forgotten through the mechanisms of global capitalism. The goal of *mayankuna* is to give empowerment to developing communities through design and creativity, with the belief that all can be creative through practice, effort and support, and, through this support, to begin to solve their local problems. Therefore, a prototype based on the Tabuga community (a community located on the coast of Ecuador) was designed. The main focus of this project is to co-create with developing communities in an project adapted to the culture and the environment, as this proposal seeks to approach the people both amicably and respectfully. The long-term goal of the project is the independence of the community from the design process, and, because of that, the children of the community, the future generation, play a big role in developing and leading the community's creativity.

This project seeks to grow together with design and to make an exchange with empathy, where all learn from each other.

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Dedicated to Enrique & Lorena

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My inspiration

Mayankuna means together, and “growing together with design” gives an opportunity to us, as designers to be part of a better world, a world of sharing and empathy between people.

Creativity is one of the most incredible human capabilities; it can improve our everyday life and help us to solve a multitude of problems. *Mayankuna* intends to give a chance of a better future to people who have momentarily lost their hope for a better way forward.

I come from a small city called Cuenca, located in the highlands of Ecuador. I grew up in quite the creative environment, my parent’s enterprise and atelier, surrounded by materials and full permission to experiment and play as I wished. In school, I felt the support of my teachers, and I loved to express my creativity in one of my favorite classes: Art. Years later, in 2013, I graduated as a Graphic Designer from the University of Azuay.

I am one of the millions of people who wants to improve this world with design. Why are we here if not to make a better place to live using our capabilities and our energies?

Ecuador is unknown to a lot of foreigners; plus, for some, thanks to the media, it is just another third world country far, far away with little to offer. For others, it’s no more than exotica. As a woman who grew up there and has traveled it to a great extent, it’s a magical place full of life, nature and amazing people (who are always improving themselves and enjoying life), a land with a lot of potential and a lot to offer.

In 2015 I started to work towards my Master in Creative Direction at the University of Pforzheim. On April of 2016 the MACD, guided by the Professor Robert Eikmeyer, visited *Grizelade Arts*.

Grizelade Arts is an organization directed by Adam Sutherland that brings creative thinking and working into everyday life, developing and enhancing social and economic enterprises through the promotion of art. A collective of people draw the organization together to design and implement a broad range of local and international projects.¹ The organization is located in the Lake District of England, a beautiful place, full of mountains, lakes and poor cellphone signal.

We had an inspiring week getting to know all these projects and participating in some. The ones I liked the most were projects where artists and communities worked together, like *The Honest Shop*, designed by Harry Blackett and Robin Kirkham, a place where people from the village can sell

1 Inquiry into the Civic Role of Arts Organisations, “Adam Sutherland.”

their products like meat from local farms, cakes, and their crafts. It works on a self-service basis where all the items have a price tag, and the honest customer pays in a little box placed at the entrance of the shop. This helps to create a sense of community and an opportunity to gain extra money.² This idea made me think about my future as a designer and in which direction I want to apply my profession.

After four days of being in the UK, we flew back to Germany. In the airport, where I finally had a signal again, my cellphone frantically began to vibrate. There was an Earthquake with a magnitude of 7.8 grads on the Richter scale which had damaged a large swath of the coast of Ecuador (Manabí being the epicenter, a place where my aunt and her family happen to live). A message from my mother arrived telling me that they were alright, but a big part of the city was destroyed. I remember this feeling as if it were yesterday, my heart moving so fast and the impotence of being so far away and being unable to do anything.

It was incredible to see the amount of help that the affected people of the coast received from the other cities: tons of food, water, clothes and other first aid items were sent to the coast; people of all ages, professions, and even companies took a pause from their activities and dedicated their time to those in need. In 2016, Ecuador ranked as the most empathic country in the world, in an article written by the Journal of Cross-Cultural Psychology. They indicated that, "Higher empathy countries also have higher levels of collectivism, agreeableness, conscientiousness, self-esteem, emotionality, subjective well-being, and prosocial behavior."³ And maybe that is why this earthquake affected me so much, as an Ecuadorian, and why I felt like part of my family needed my help. The situation has improved since then. The economy dropped a tad, and the taxes have been raised by two percent. The government is taking care of the situation, but it is a slow process. People still need help, and they will need to redesign their lives.

This is one of my biggest inspirations for this thesis. The Ecuadorian earthquake has affected the lives of thousands of people living in poverty, how can the design-world intervene in a third world community that has suffered from an earthquake to help to solve the problems within their communities?

I would like to set the focus of this thesis onto this specific problem, yet, at the same time, keeping in mind and hoping that this idea could work as an inspiration and as a base to other community projects in the world, where

2 Grizedale Arts, "The Honest Shop."

3 J.Chopik, O'Brien, and Konrath, "Differences in Empathic Concerns and Perspective Taking Across 63 Countries."

mayankuna can be redesigned to fit into their specific environment and culture. I inspire to this global-mindset as 90% of the world's population cannot afford basic products and services and almost half of them do not have food, shelter or clean water⁴ (with half of the world's population living with less than \$2.50 a day)⁵.

With this thesis, I would like to give a wider view of what design is capable of, because, in the past, most of the professional designers have worked just with the 10% of the world's population that can afford their goods and services. This has changed in the new millennium where designers, architect, engineers, NGOs, and philanthropist have dedicated the focus of their work also to people with limited resources, collaborating across sectors to find solutions, and utilizing emerging technology.⁶

Victor Papanek has the belief that, "Poverty is the mother of innovation,"⁷ and Alberto Cairo believes that people need a chance to prove how capable they are.⁸ I think both statements are true and this is why I would like to make this proposal.

The short-term goal of this project is that the community has a first approach to the design process with the guidance of designers and that the community can, through this, discover the power of creativity. It is also important to test the *mayankuna* prototype project and to make adjustments as needed.

The long-term goal is that the community learns the design process and develops their creativity in order to be able to solve problems by themselves, come together as a community and that *mayankuna* works as an example and as a base for other third world community projects.

This investigation will journey through communities, creativity, co-design, design thinking, culture and context. Let's start the trip!

4 Rawsthorn, "Alice Rawsthorn on Design for the Unwealthiest 90 Percent."

5 Smith, *Design with the Other 90%: CITIES*.

6 Ibid.

7 Papanek, *Design for the Real World*.

8 Cairo, "Transcript of 'There Are No Scraps of Men.'"

Introduction

What happens if a developing community has the support of professionals that believe in their capacities and guide them to improve their current situation? Projects like the *Honest Shop*, *Granby Workshop*, *Pachuca*, *Suspiro Taller*, *Olga Fish* and the *Greening of Detroit* happen.

In June 2016 Assemble and Grizedale guided a workshop in the Pforzheim University, School of Design “The Creative Everyday” that focused on specific challenges of urban problems and conflicts that cities and communities are currently facing.⁹ *Assemble* was founded in 2010 and is based in London. It is a multidisciplinary collective working across the fields of architecture, design, and art, who use collaborative practices within their projects. They try to continually involve the public as a participant and collaborator in the realization of their work. One of their biggest projects is located in Granby Four Streets, and it’s called the Granby Workshop.

Granby Four Streets is located in the center of Liverpool, which is a racially and ethnically diverse thriving community. After the demolition of four of Granby’s streets by the 70s¹⁰ from of “regeneration,” the neighborhood became scattered and sparsely populated. To reclaim their streets a group of residents worked over twenty years planting, painting and campaigning Granby. Since 2011 Assemble, with the help of Granby Four Streets CLT and Steinbeck Studios, has participated in presenting a sustainable and incremental vision for the area, presenting projects to push forward the refurbishment of housing, public space and with the hope of providing new work and enterprise opportunities. They celebrate the value of Granby architectural and cultural heritage, supporting public involvement and partnership work, offering local training and employment opportunities.¹¹ As part of the ongoing work in the zone, *The Granby Workshop*, set by Assemble, is a social enterprise which makes experimental handmade products for homes using experimental manufacturing processes. GW has embraced the chance, improvisation, and resourcefulness, making unique products that support the program in this area, a place that engages young people of the area in creative and practical projects with training and employment. With this project they won the Turner Prize 2015 of £25,000.¹²

The Granby Workshop is the perfect example of how creativity transforms a place that some thought was lost, into an opportunity for local people to

9 Hochschule Pforzheim, “The Creative Everyday.”

10 Granby Four Streets CLT, “History.”

11 Hochschule Pforzheim, “The Creative Everyday.”

12 Assemble, “Granby Workshop.”

raise their place in society.

Some years ago *Pachuca*, an art project made in 'Las Palmitas' neighborhood in central México started a social change. The neighborhood used to have a gritty environment, people were afraid to be out at night or talk to each other. The Government Ministry wanted to promote community integration and change the negative image of the neighborhood. In 2015 the 'Germen Crew' a group of artists working hand-in-hand with residents created a giant mural using as canvas the cement houses, painting a full-color atmosphere of 20,000 square meters, a total of 209 houses, where 452 families and 1808 persons live. People are changing, and they are growing the community's spirit. The feedback has been so positive, that there are other projects coming through.¹³

Olga Fish and *Suspiro Taller* work hand-and-hand with Ecuadorian artisans. *Olga Fish* is an iconic design brand born in 1942 that works with Ecuadorian crafts persons. It began with the wish to preserve the traditional identity of the arts and crafts from Ecuador and empower the artisans, using sustainability and fair trade, giving them the possibility to make a living with their crafts and helping them to distribute their products with a fair price.¹⁴

Suspiro Taller, founded in 2012 is an independent and socially conscious design workshop which creates textiles and bags with Andean identity using natural materials and traditional crafting techniques.

They work directly with people of the Cotopaxi community, located in the south of Ecuador's capital Quito. Workshops of weaving and dyes classes are offered for free to the artisans and people of the community, creating the opportunity to empower artisans to expand their skills and be able to have a fair wage without the necessity to travel to big cities and preserving their traditions and local economy alive, and give the weavers the chance to stay close to their families.¹⁵

The Greening of Detroit started in 1989 with Elizabeth Gordon Sachs who devoted herself to reforesting the city. Detroit, which for a long time has been an urban center, is becoming tomorrow's model of a greener and cleaner city with trees, green spaces, food, education training and job opportunities. They adapt Detroiters in the process through community engagement, providing economic, environmental and social benefits to the community.¹⁶

13 The Guardian, "Pachuca."

14 Olga Fisch Folklore, "Community Empowerment."

15 Buitrón, *Interview Verónica Buitrón*.

16 Greening Of Detroit, "About Us."

All these examples show how support in a community can make a difference, can improve people's lives and give them a chance at having a better way of life.

Creativity

What is creativity

There isn't one definition of creativity, in fact, the definition has been debated for years. Professor in Educational Innovations Keith Sawyer, wrote in his article called 'Explaining creativity' (2011), "The individualist definition is based on one of the oldest theories in psychology: associationism. Well over 100 years ago, psychologist Alexander Bain (1828-1903) first argued that "new combinations grow out of elements already in the possession of the mind";¹⁷ he also gives another definition: "Creativity is a combination. All thoughts and concepts are combinations of existing thoughts and concepts. The mind is an immense web of symbolic material; most of it has been previously mastered, and simply recalling from memory isn't creative. Creativity involves a combination of two or more thoughts or concepts that have never been combined before by the individual."¹⁸

Sawyer's definition is similar to Elisabeth Sanders and Pieter Jan Stappers, authors of 'Convivial Toolbox' (2016) where they explain that, "Every creative act involves bisociation, a process that brings together and combines previously unrelated ideas";¹⁹ they also say that, "A quite general definition in the area of problem solving is that an idea is regarded as creative if it is both new and an appropriate solution to the problem."²⁰

According to David Kelley and Tom Kelley, founder, and partner of IDEO creativity comes into play wherever you have the opportunity to generate new ideas, solutions, or approaches."²¹

In conclusion, creativity should be defined as the result of the fusion of unrelated ideas, that, in combination, bring together a new one.

17 Sawyer, *Explaining Creativity*.

18 Ibid.

19 Sanders and Stappers, *Convivial Toolbox*, 38.

20 Ibid, 37.

21 Kelley and Kelley, *Creative Confidence*.

The importance of creativity

Creativity is gaining everyday more and more importance, in 2016 a survey called “State of create” conducted by Adobe asked globally 5,026 adults from the US, UK, Germany, France and Japan about creativity.

The global respondents believe that being creative is valuable to society and the economy, it helps make people better leaders, workers, student and parents, but just the 41% describe themselves as creative and 31% report living up to their creative potential.

Compared to older generations, younger generations, Gen Z and Millennials²² are more likely to describe themselves as creative and want others to see them like that.

Respondents globally said that businesses that invest in creativity could increase employee productivity, satisfy customers, provide a better experience, foster innovation and be financially successful, but most of them feel pressure to be productive rather than creative at work. Regardless of that, the half said there is an increasing expectation to think creatively at work. Being creative at work makes them feel happy, fulfilled, energized and successful. Technology helps to overcome their creative limitations and makes it easier to express their creative ideas. People that consider themselves as someone that creates describes themselves as innovative, confident, problem solvers and happy with a believe that creating allows them to make a difference.

Government and schools have a creativity imperative; the respondents perceived that a government that invests in creativity is more likely to foster innovation, increase productivity, be competitive and have happier citizens. 76% of the respondents believe that, but 74% feel their countries are not living up to their creative potential.

65% think their educational system is stifling creativity. To foster creativity, respondents believe that schools should prioritize learning by doing, putting creativity over memorization and developing a broad range of student skills.²³

In the business world creativity manifests in innovation and most businesses today use innovation to grow and, more and more, to survive.²⁴

This information proves that creativity is gaining more importance every day in society and in the economy. Mayankuna won't focus on creativity in business or within the economy, the focus will rather be on creativity as

22 Gen Z, now between 18 and 20 years old Millennials, now between 21 and 35 years old

23 Adobe, “State of Create Study Global Benchmark Study on Attitudes and Beliefs about Creativity at Work, School and Home.”

24 Kelley and Kelley, *Creative Confidence*.

a mindset of making a difference, to make people feel happy, energized, successful, fulfilled, innovative and confident to solve problems, having in mind that, nowadays, the youth think highly of creativity.

Who is creative?

A lot of myths about creativity say that the ability to create comes just from a minority, people that usually have a relationship with the field of arts and design, but creativity is a natural part of human thinking and behavior that can be strengthened and nurtured with effort and experience.²⁵ David Kelley and Tom Kelley, after working together for thirty years at the forefront of innovation said, “In our experience, everybody is the creative type. We know that if we can get individuals to stick with the methodology a while, they will end up doing amazing things. They come up with breakthrough ideas or suggestions and work creatively with a team to develop something truly innovative. They surprise themselves with the realization that they are a lot more creative than they had thought. That early success shakes up how they see themselves and makes them eager to do more.”²⁶

Elisabeth Sanders and Pieter Jan Stappers think that, “Everyone is creative. In fact, people are particularly creative with regard to experiences that they are passionate about such as living, playing, learning and working. But many people do not engage in creative activities in their everyday lives. They see creativity as something that is meant for children, not adults. Or they believe that only certain people such as artist, musicians or designers are capable of being truly creative. Since many adults in our society don’t engage their creative activities regularly, they may not see themselves as being creative.”²⁷

Ken Robinson believes that, “All people are capable of creative achievement in some area of activity, provided that the conditions are right and they have acquired the relevant knowledge and skills.”

Teresa Amabile, writer of ‘Growing up creative’ (1992), said, “As long as they have that spark, everyone can be creative. Creativity is not the sole province of ‘gifted’ and ‘talented’ people, although they may have greater potential that be used in creative ways. Creativity can and should be a part of the daily life of all children and adults.”

So why do some people show more creativity than others? Sometimes creative blocks interfere and, as a result, a lack of creative confidence and/

25 Ibid, 5.

26 Ibid.

27 Sanders and Stappers, *Convivial Toolbox*, 15.

or absence of creative practice.

Creative blocks could be perceptual, emotional, associational, cultural, professional, intellectual or environmental blocks.²⁸ Even if young children are known to be creative, with a natural tendency towards fantasy, experimentation and exploring their environment, this is not necessarily maintained; one study showed that this declined when they entered Kindergarten at five or six.²⁹ Evaluation, external rewards, a teacher's attitude and pressure³⁰ are some examples of creative blocks. The result of this creative blocks create in some individuals doubts in their creative capacity, seeing themselves as non-creative and they stop engaging themselves with their creative-sides.

Creativity in adults is the result of the skills developed and their motivation for creativity as children, all children are born curious, and creativity can be nurtured if they grow up in an environment where their creativity can blossom. To support children's creativity, they should have freedom, be respected as individuals, be moderately close emotionally, and parents should put more emphasis on moral values rather than specific rules. Parents should let them experiment, try new things, allow them to make mistakes and improve upon their creative efforts giving them confidence and supporting them in their individual abilities.³¹ Children are more motivated by intrinsic motivations rather than external ones that focus on factors and rewards. The intrinsic motivation is influenced by the degree of interest, competence, and self-determination that the child has with their creative activities.

A paper called 'Developing young children's creativity: what can we learn from research?' (2004) written by Caroline Sharp for the National Foundation for Educational Research bring some interesting facts about creativity: Creativity and intelligence are distinct. The concept of the multiple bits of intelligence of the psychologist and Professor of Cognition and Education Howard Gardner suggests that people have different kinds of potential in any given field. Talent refers when a person has a high aptitude and skill in a particular area, but not necessarily to a high degree or with much originality.

In order to adapt this notion of creativity to young children the suggestion is to put emphasis on the creative process, rather than just of the quality of their products.

28 Papanek, *Design for the Real World*.

29 Sharp, "Developing Young Children's Creativity: What Can We Learn from Research? | National Foundation for Educational Research."

30 Amabile, *Growing Up Creative*.

31 Ibid.

The children's environments and the happenchance of life influence to a great degree the development of certain traits and talents at different rates. Creativity and psychological processes evolve into personal traits such as self-confidence, tolerance to ambiguity, curiosity and motivation, an emotional process like fantasy in play, pleasure in challenge, involvement in tasks and tolerance of anxiety and cognitive abilities, like divergent thinking, sensitivity in problems, breadth of knowledge and judgment. When children have a combination of these attributes they feel free to express creativity, the ones that haven't may need help, encouragement and skill development to engage in creative activity. Some children need self-confidence and the ability to be able to trust in their capabilities, and some are anxious to make choices, but an adult through observation and conversation can identify what is causing this problem and help them.³² Suggestions for furthering young children's creativity could be to develop a creative environment, creative programs and creative teachers and ways of teaching. A creative environment lets children play, and play has been linked with creativity. The physical environment can stimulate creativity, the size, and layout of the classroom, the outdoor space, the quality of equipment, materials, and access to new environments, and time to develop their creative processes. Many types of research show that creative teachers and creative teaching foster creativity; they are the ones who should balance structure and expression of children like asking open-ended questions, tolerating ambiguity, modeling creative thinking and behavior, encouraging experimentation and persistence and praising children who provide unexpected answers. The best conditions for developing creativity seem to be linked to daily experiences, with interactions with adults and with classmates, as interpersonal exchange is the most favorable situation for creativity to flourish.³³

It is important to show interest in the creative potential of children and encourage them to construct their personal interpretation of knowledge and events, like standing for their ideas, even if they are different from the rest of the group, but it is also important for them to be able to understand when it is good to agree with the others.

Adults must be a support and coach for children, believe in them, their potential, and their interest as individuals. "Children need stimulation and creative problems to solve."³⁴ Creativity in childhood can flourish with a creative environment, where they can develop their skills as individuals through play. It could be a good idea as well to work together with creative

32 Sharp, "Developing Young Children's Creativity: What Can We Learn from Research?" | National Foundation for Educational Research."

33 Ibid

34 Ibid.

adults and artists. A creative space like an Atelier is the perfect place for experimentation, as it is filled with materials, tools, and people with professional competencies that can help to guide children

As a summary we can say that humans are born creative, and creativity can be nurtured with effort, experience, and support. Creativity within adults is the result of skills development and motivation for creativity as children, but, if an adult would like to overcome what they see as a lack of creativity, they can identify their creative blocks and start to practice creative activities, which will also be capable of improving their creativity.

Creativity comes hand in hand with passions such as living, playing, learning and working.

To grow up creative, kids should be respected for their individual abilities, have freedom to express themselves and to play, and be supported in all things in order to gain confidence.

Adults must encourage them to try and let them know that mistakes are part of learning and support them to search for their answers and personal interpretations of knowledge, balancing structure and expression, their parents through observation and conversation can detect some interfering artistic blocks and help to encourage them.

Creativity can increase in an environment where people can feel free to experiment and play with artistic equipment and materials. Contact with creative adults and artists can also improve their potential. The most important thing is to give importance to the creative process, rather than just the quality of their products because this will help them to keep trying and to grow up creatively and believing in themselves.

Types of creativity

According to Margaret Bode, there are two types of creativity: H-Creativity and P-Creativity.

H-Creativity is when someone comes-up with a concept or idea that no one has thought of before. P-Creativity can be referred to as '*everyday creativity*'; this is when we take someone's idea and place it into another context.³⁵

There are also four levels of everyday creativity. *Doing*, *adapting*, *making* and *creating*. The most basic level of creativity is *doing*, and productivity motivates it; the purpose is to get something finished, like, for example, organizing the closet. *Adapting* is the second level and it happens when we personalize a product or service based-upon on our individual needs. *Making* is when we create something that didn't exist before, but with guidance, like, for example, utilizing a recipe for a favorite dish. Finally, the

35 Sanders and Stappers, *Convivial Toolbox*, 38.

most highly advanced level of creativity is *creating*, which is the basis for innovation and is best described as the creation of something new without any guidance. “Truly creative efforts are fueled by passion and guided by a high level of experience.” It uses raw material and no patterns.³⁶ People use all these different levels of creativity depending on which activity they are doing, but only in their hobbies, or in activities they feel a great deal of interest and/or passion is where *creating* actually appears. There isn’t a fixed order to go from one level to another, but to be able to go from a lower level up to the next one, it is necessary to expend a large amount of time and garner a good bit of experience. For each lever, it is important as well to have support.³⁷

In applying this knowledge of levels of creativity to supporting developing communities, it is important to keep in mind some suggestions: to lead people that are in the *doing* level, to guide people who are in the *adapting* level, and to bring the tools that support and serve the people’s need for creative expression in the *making* level and in the *creating* level, as well as to offer them a clean surface to create from scratch.³⁸ This means it is important that the community feels passion about the topic that will be worked on in *mayankuna*; and, secondly, it is important to bring support to any level of creativity, to lead, to guide, and to support them, and, as well, to give them the tools and materials to express their creativity and with time encourage them to make an effort to make their own tools.

Individual creativity

Individual creativity is in the *head*, the *heart*, the *body*, and the *environment*. Emotion with creativity finds its way through the heart, through activity and motion the body itself is evoked, and, as well, creativity is influenced by places and spaces through props and materials in our *environments*.³⁹

The ideas inside a person’s *head* can be defined as in the dictionary or as a cloud of associations connected to each other; usually this association depends on the personal stories of the creator, and how this idea has been used or what has been done with that thought before. These associations are different depending on the person. These clouds can have different sizes and can easily be triggered. *Priming* is the phenomenon that happens when a cloud is remembered or triggered, and the nearby clouds will be

36 Ibid, 38-39.

37 Ibid, 40.

38 Ibid, 40.

39 Ibid, 41.

remembered too.⁴⁰ It is also easier to remember something if the information was presented previously.⁴¹ Practice makes this lists longer, and the bigger the list is, the more ideas a person will have. It is automatic, but it takes time to develop.⁴²

Ideas connect between each other with *association*, *bisociation*, and *metaphor*. *Association* connects similar ideas, *bisociation* lets unconnected ideas come together, and *metaphor* is when an idea positions itself against another idea and the fit between the two is explored.⁴³

As said before, creativity of the *heart* involves emotion. Emotion and cognition cannot be separated, according to much psychological research. Emotion, in fact, drives cognition. Our thinking, acts, and feelings are influenced by our emotional states, including our ability to be creative. Positive emotions increase the number of ideas available for association and/or bisociation, the breadth of ideas that are relevant to the problem and cognitive flexibility, make it more likely that the ideas will connect. A casual and familiar atmosphere will help this along.⁴⁴ Psychology has shown that an individual's beliefs system affects their actions, goals, and perceptions. This is referred to as '*self-efficacy*'. People with high *self-efficacy* believe that they can effect change in their lives, and are more likely to accomplish what they proposed to do and to try harder, persevere longer, and show more resistance to failure.⁴⁵

Creativity in the *body* conducted by motion has just begun to be researched.⁴⁶ But the book '*Make Space*,' for example, suggests to find ways to get the body moving, as with the selection of open spaces or non-prescriptive seating that introduces opportunities for communication through body language.⁴⁷

The creativity in the *environment* takes place in spaces, places, and around things such as materials and tools. A place that fosters creativity must be flexible, with furniture that can be rearranged, walls to post and interact with the material, and it must permit a wide variety of behaviors: quiet, active, collaborative, etc. It should, as well, provide space for individuals and group activities, and encourage many moods: playful, stimulating, and informality. In the physical environment, the materials available will help to stimulate creative thinking and innovative solutions. So the design of Tool-

40 Ibid, 42-43.

41 Ibid, 51.

42 Ibid, 42-43.

43 Ibid, 46.

44 Ibid, 47.

45 Kelley and Kelley, *Creative Confidence*, 9.

46 Sanders and Stappers, *Convivial Toolbox*, 49.

47 Doorley and Witthoft, *Make Space*, 23.

kits will facilitate, support and provoke creative thinking.⁴⁸

In conclusion, individual creativity is inside our heads, hearts, bodies and our environments. Doing exercises where participants are primed correctly will help them to develop creative-ways of thinking. It is important that people work with positive emotions, and a casual and a familiar atmosphere will help to supply this, making them feel supported, and, as a consequence, believe that they can accomplish their goals. *Creative Confidence* is about believing in your creative capacity and having the courage to bring new ideas into action.⁴⁹ Creativity in the body has just begun to be explored, but, in order to captivate the energy of the participants, it would be interesting to have activities that involve their bodies like for example acting, that will also develop empathy within the group.

To develop creativity in the environment, the previous suggestions will be adapted depending on the community's infrastructure, materials, and spaces, with the development of a Toolkit (more information in the next chapters) that will help the participants express their ideas within the group.

Collective creativity

Collective creativity began to be explored around 1990.⁵⁰ As some problems are too complex to solve as individuals; instead people elect to solve them in groups with a team of people from different backgrounds who work together and bring to the table their differing perspectives. This process is called *Design Thinking* and is used to solve a wide variety of personal issues, business challenges, and social problems. This method was developed in the 70s and 80s in Palo Alto at the Stanford University.(Uebernickel et al. 2015) One of the pioneers of Design Thinking is IDEO, a process that they use for creativity and innovation.

The following sections present a broader view of how collective creativity works.

48 Ibid, 56-57.

49 Kelley and Kelley, *Creative Confidence*, 21.

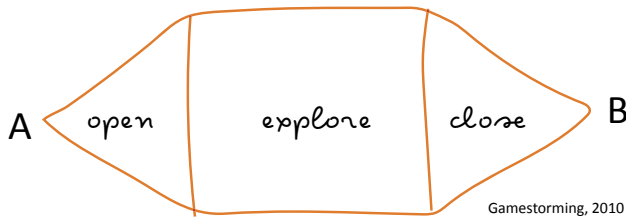
50 Sanders and Stappers, *Convivial Toolbox*, 58.

The design process

There does not exist a methodology that fits all projects. The design process must adapt to the specific challenge that need to be solved: the team, the environment, the location, etc. It usually starts with the analysis of a problem, which is then followed by divergent, emergent and convergent thinking, followed by prototyping, and, at the end, often a solution that is tested and adjusted. The process is not static, and it can be changed, repeated and adapted according to the necessities involved in particular situations.

IDEO, for example, adapt and evolve their methodology continuously, but they usually always include a variation of these steps: inspiration, synthesis, ideation/experimentation, and implementation. According to their experience, in order to be able to innovate, a new idea might cycle through many iterations before the process is complete.⁵¹

In *Gamestorming* a book by Dave Gray, Sunni Brown and James Macanufo the design process is compared with a game world. A game is a space where the rules of ordinary life are suspended temporarily and replaced by the ones in the game. Where a group of people respect boundaries of time and space, rules of interaction (where physical artifacts help people communicate), and a goal must be achieved to end the game. The participants prepare according to the rules, and when all the participants are ready to start, a games takes place. A game is composed of three acts: open, explore, and close.



The *open* stage will pave the way, the participants will be introduced, the information will be presented, and the first ideas and themes will be developed. It is important that people feel welcome and comfortable with the environment in order to be able to open their minds and explore new possibilities. The opening is a divergent process, a moment to collect as many ideas as possible.

Explore is the moment to examine, explore and experiment with themes

developed in act one, this is an emergent process; it is important to create conditions that allow creativity to emerge.

Close is the third act, where the conclusions, decisions, and actions will serve as input for what is to come after.⁵²

In designing a workshop, it is important to know that the activities must happen in harmony with creativity, reflective thinking, energy and decision making. There is not a one-and-only possible way to do a workshop; it needs to adapt to the culture and context of the place it will be held. The opening, exploration, and close will help to develop a flow and get the best outcomes from a group. A typically daylong workshop uses games linked to each other in an infinite variety of ways. They can be played in series, where the result of one game can be the beginning of the next one, where the outcome of each game serves as the input for the next one. When the group is large, it makes sense to pursue multiple goals, the variation of opening and closing being called *break out/report back* is, as well, a fundamental concept in game designing. A large group divides into smaller groups, they play a game or two, and then they all come back together reporting their outcomes in the larger group. This is a good way to keep the groups small and dynamic and increase the variety of ideas by playing multiple games in parallel.⁵³

In order to allow people a chance to reflect, a quiet time is also important; this can be given by breakouts or breaks, and as well with individual activities, where, at the end, they can share their ideas with the group. Artifacts help to make knowledge and information tangible, as well as a part of the environment. More is stored in them, and the participants will engage more because they can interact with the situation.⁵⁴

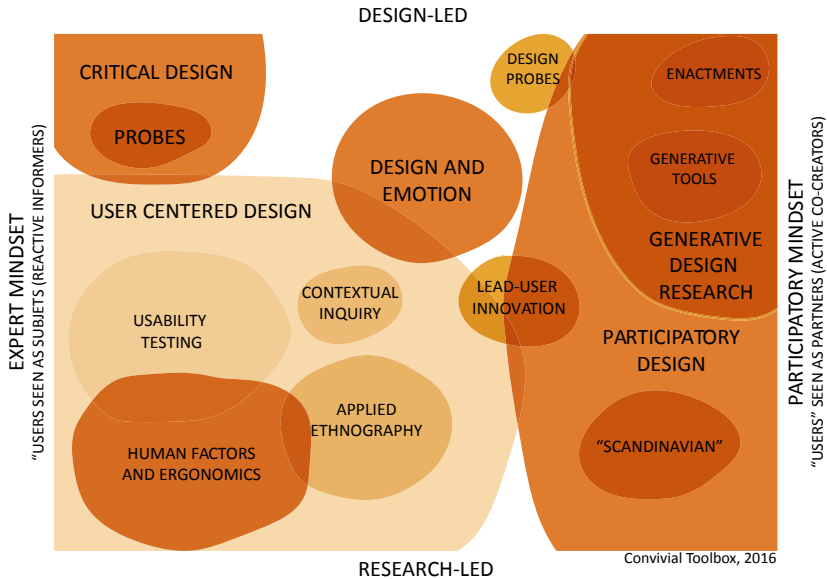
In summary, the design process is not rigid; it adapts depending on the situation. In *mayankuna*, in order to be able to have a flow in a big group, it is important to separate into smaller ones and then report back their ideas to the team at large. Activities with opening, exploring, and closing will be part of the *mayankuna* design process to innovate and bring solutions to real world situations. It will be important to maintain harmony and good energy in the group to bring out the best in all participants.

52 Gray, Brown, and Macanufo, *Gamestorming*.

53 Gray, Brown, and Macanufo, *Gamestorming*.

54 Gray, Brown, and Macanufo, *Gamestorming*.

Generative Design Research



The following map presents the emerging landscape of design research approaches and methods published in the book 'Convivial Toolbox' (2016). The left part of the map shows an expert mindset, where the users are seen as subjects (reactive informers). In the right part of the map is a participatory mindset, where the "users" are seen as partners and active co-creators.⁵⁵

Participatory Design is an approach to design which involves the 'final users' in the design process to ensure that the designed product or service meets their needs. The use of physical artifacts as thinking tools throughout the process is a key characteristic.⁵⁶

"Generative design (in the top right corner) empowers everyday people to generate and promote alternatives to the current situation...The name 'generative tools' refers to the creation of a shared design language that designers/researchers and other stakeholders use to communicate visually and directly with each other. The design language is generative in the sense that with it, people can express an infinite number of ideas through a limited set of stimulus items. Thus, the generative tools approach is a way to explore ideas, dreams, and insights of the people who will be served

⁵⁵ Sanders and Stappers, *Convivial Toolbox*, 19.

⁵⁶ Ibid, 19.

through design.”⁵⁷

Generative design thinking came as an option to solve collectively wicked problems with fuzzy pathways through collective forms of creativity.⁵⁸

It is important to differentiate what co-creation and co-design are. *Co-creation* refers to any act of collective creativity, with two or more people and is a very broad term. *Co-design* refers to collective creativity as it is applied across the whole span of a design development process.⁵⁹

Co-creation is used in many situations. We can find co-creation within communities, inside companies and organizations, between companies and their business partners or other companies, and between companies and the people they serve.⁶⁰

In a co-design process, the roles of the *user*, *researcher* and *designer* change. The final *user* instead of being passive, such as providing data to the researchers (user centered design) becomes an active participant in the design process; they are considered experts from their experiences. Co-design is designing with the user, not for them. The *researcher* (who may be the designer) goes from being a translator between the designer and user to becoming a *facilitator*, and they will also need to bring along with them theories in ways that can be addressed by the co-design team in the applicable domain. The role of the *designer* won't be replaced because they are the ones trained and experienced in design, visual thinking, conducting creative process, and finding missing information; designers can take decisions in the absence of complete information, and are experts prototypers and prototype facilitators, which means that the designers will support the co-design team with their expertise. The *designer* is also in charge of designing material that allows the users to express themselves and their desires from the project.⁶¹

In order to co-create, it is necessary then to properly utilizing tools and techniques. The best way to organize the tools and techniques is through people-centered design, focusing on the activities of the participants, rather than on the data. A tool, for example, can be a workbook, which can be used in different manners, like sending it with exercises to the participants, where they have to send their responses back on the design-products, or, as well, with filling out the workbook to prepare them for future activities. Making-use of tools and techniques should not be something solely utilized in isolation and must have *Say*, *Do* and *Make* activities.⁶² *Say* activities are for example questionnaires and interviews. *Do* techniques are through ob-

57 Ibid, 20.

58 Ibid, 22.

59 Ibid, 25.

60 Ibid, 25.

61 Ibid, 23-24.

62 Ibid, 66.

servation of people like by way of their activities and the objects they use. *Make* activities are the ones people utilize to build or craft objects to express their thoughts and feelings.⁶³ Toolkits of expression are an important part of generative techniques, the ones that are developed by the research team to support the participants in activities like recalling memories, making interpretations and connections, seeing and explaining feelings, or imagining future experiences. The instruction and support of the participant are equally important as the physical toolkit itself.⁶⁴

“In creating artifacts by engaging in an act of design, we are forced to take into account competing ideas and to resolve ambiguities to make a good enough single, embodied, solution. This is a powerful manner of reasoning, which forces confronting all the steps in a problem, and choosing (even if only temporarily) an idea for a solution, and making explicit statements on all its complications. It prevents us from hiding in abstractions, and forces us to commit to an idea. In this making process, important insights arise, which can make explicit in the presentation that generally follow the creative process.”⁶⁵

Trigger sets, backgrounds, and supplies form a *toolkit*. There are many factors to be considered in creating a toolkit, such as the time and budget available, the location of use, topic of the study, comfort level, and what the goal is. The size is also important, it shouldn't be overwhelming with too many choices, or it will confuse the participants. When a toolkit is created for group use, the elements must be larger in order to be able to handle many people at the same time, but also be able to maintain ease of interaction.⁶⁶

Trigger sets are designed depending on their purpose, they can use a realm of materials such as photos, words, symbolic shapes, cartoon-like expressions, systematic sets, puppets, Velcro-covered 3D shapes, raw collection of scrap materials, Legos or a plethora of other construction materials. The objective of a trigger set is to trigger associations and/or memories.⁶⁷ A trigger set leaves freedom to let the participant express and choose which elements to use.⁶⁸

The composition of a Trigger should be varied in content, varied in abstraction, varied in levels of ambiguity and open to letting the participant decide which materials to use; as well as it being varied in aesthetics and varied in form.⁶⁹ To have success it is important to design a toolkit that fits

63 Ibid, 66.

64 Ibid, 70.

65 Ibid, 70.

66 Ibid, 72.

67 Ibid, 71.

68 Ibid, 70.

69 Ibid, 72.

the needs of the participants, as well as instructing them and supporting them.⁷⁰

People cannot just be automatically creative from one day to another. They need time for immersion and for spreading activation of their creativity, in order to be able to utilize their creative powers from youth, into adulthood, and towards the future. They might need a sensitizing process (that is that the participant has been thoroughly involved in the problem or situation for some time)⁷¹ to have a deeper understanding and involvement in the design-problem or situation for some period of time. Providing ordinary people with experiences and creation tools, and, of course, respecting their latent creativity, will, with some time, promote their creativity and allow them be able to join in on the design process.⁷²

In *Mayancuna*, the goal is to work together with the community; that is why the mindset will have to be co-creation. The people of the community that are at the same time the 'final users' will participate together with the designers and facilitators in a co-design process. The communication with each other and exchange of ideas will be possible with tools and techniques designed based-upon the participation of the participants and the environment where the process will take place. Being aware that people cannot be creative from one day to another, it is important to have a sensitizing process to let the community understand the problem or situation well-in advance.

70 Ibid, 70.

71 Ibid, 55.

72 Ibid, 61.

Working with a community

Organizations, enterprises, universities, non-profit organizations and start-ups show interest in projects that work together with communities and that strive to overcome social issues.

For example, IDEO.org designs services, products, and experiences to improve the lives of people in poor and vulnerable communities using human-centered design. Human centered design is a creative approach to problem-solving, where the primary focus is to understand the people one designs for and to use this information in a processing compound of inspiration, ideation, and implementation; the result being a tailored solution based on the needs of the individuals they design for.⁷³ 'Open Ideo,' brings design thinking into an open innovation platform where designers and creatives from around the world exchange and collaborate with each other's ideas to address social issues. The challenges usually last around three to five months, giving space for all the members to give feedback and work together using the design thinking methodology. In the end, the best idea becomes a real project.⁷⁴

IDEO also created the 'Design Kit'⁷⁵ a 192-page book of a Field Guide to Human-Centered Design that teaches the tools, practices, and promises of a human-centered design with the social sector. It includes fifty-seven design methods and field mindsets of IDEO. This book can be downloaded for free, with the purpose of helping designers to better understand the people they are designing for.⁷⁶

In 2012 Frog developed the Collective Action Toolkit (CAT), after fieldwork in Africa with the Nike Foundation, because they saw a necessity for a universal framework that empowers communities of all sizes and shapes to find and design their solutions to any problem. It is easy to understand, with simple vocabulary and concrete insights on how to build a team, carry out research, and develop solutions. It promotes dynamic problem solving with a 72-page non-linear booklet of activities.⁷⁷

CAT is too general, though, for the specific problems facing the Ecuadorian coast. It was not made to take into account the environment, context, or culture of individual communities; this is where *mayankuna* comes in.

73 IDEO.org, "Our Approach."

74 Ideo, "OpenIDEO."

75 Download the 'Design Kit' for free here: <http://www.designkit.org/resources/1>

76 Ideo, "Design Kit: The Human-Centered Design Toolkit."

77 Frog, "Collective Action Toolkit."

Mayankuna is a long-term project, the community must have support at the beginning to get an introduction of what design and creativity are to be able to work later on their own.

To design a proposal for *mayankuna* it is necessary then to examine the experiences of organizations that have worked, and some that keep working, together with underprivileged communities. They have learned and collected knowledge of what works and what does not. Being abroad, it is not possible to visit the field, but thanks to interviews with people who have worked in IDDS, Chulha Stoves project, Suspiro Taller, and especially Techo, who is present right now in the earthquake zone, lays the groundwork for the organization of *mayankuna*.

IDIN, the International Development Innovation Network enables a global community of change makers to design, develop and disseminate innovation that improves the lives of people living in poverty. The IDIN is a network with more than 800 dynamic innovators from around the world who have all attended the International Development Design Summit IDDS to create technologies in developing countries. After a design summit, the members of the network pursue innovative projects that come from the summit or their own creations. The prototypes become real products because they have access to funding, training, mentorship, and a workshop space. They involve student participation and believe that the core that makes them unique is the diversity of their collaborators because they pull together scientists, farmers, doctors, students, teachers, and more all to work together for a common goal. They work hand-and-hand with communities, using co-creation and they believe that anyone can create technology.⁷⁸

The IDDS (International Development Design Summits) is an intense collaborative, hands-on design experience that takes place every year and brings together individuals from different parts of the world, disciplines, and backgrounds. They create practical innovations with low-costs, seeking to improve the lives of people living in poverty. During the summit, the participants work in teams together with community members between two to four weeks using co-creation, and it takes place usually within the developing country they will then go out and work in. They learn the design cycle, to identify problems, solutions, and test prototypes. The two-week summit explores a specific topic such as urban waste systems and develops innovative ideas and proposals, while in a month-long summit they typically address broad issues like agriculture, health, and education; this resulting

78 IDIN, "About IDIN | International Development Innovation Network."

in viable prototypes to deal with these issues. After a summit is over, the participants become a part of the IDIN network.⁷⁹

After a summit, they evaluate their work and analyze what has worked and what could be better. What follows is a summary of the most important points to be aware of while making a summit along these lines. All the information provided was from the “Lessons Learned” document from IDDS:

⁸⁰ A group should have diverse and motivated people because it is important to maintain a sense of community and belonging. Two or three visits in the area where the summit will take place beforehand are essential.

Distributing information to the participant before the summit starts will prepare them for their future tasks and to get involved in the culture and context of the host country.

Once the summit begins, it is important to mentor and train the group, define expectations and deadlines in an organizational calendar. Assignments and responsibilities will be given depending on the skills of the participant, and it is important to be aware of the other roles.

It might be necessary that field staff help in any organizational tasks.

Supplemental learning material is useful. They suggest lectures in the morning and hands-on activities in the afternoon, with a balance between both.

It is necessary to use the same terms in all the places where the information will be transmitted like in the theory sessions, Design Notebook, and verbal guidance. Feedback from the community, designers and volunteers will keep improving each session.

On Tuesday, the 8th of November, 2016 I had an interview with Pedro Reynolds Cuellar, originally from Colombia, who currently co-teaches in the D-Lab Education and D-Lab Waste (The MIT D-Lab is a building global network of innovators to design and disseminate technologies that meaningfully improve the lives of people in poverty.”).⁸¹ Prof. Cuellar advances D-Lab’s partnerships in Peru and supports the D.Labs Youth program. Cuellar discussed with me his experiences of working with a developing community, together with IDDS and volunteers.

To start a project, he suggests first approaching the community and working together with the community leaders, to gain the trust of the people. They usually create a little workshop just with the community to inform them what is going to happen in the IDDS summit.

The goal in a summit is to have an exchange of ideas, and that is why a multicultural team with different viewpoints and contexts makes this a rich

79 IDDS, “Our Approach | International Development Innovation Network.”

80 IDDS, “IDDS Lessons Learned | International Development Innovation Network.”

81 D-Lab, “About.”

experience.

When there is a problem, a facilitator can guide the participants and remind them of the goal they want to achieve. The organizers must be prepared for any situation at any summit.

The Creative Capacity Building Design Workbook help the participants have information about the design process. It is a 109-page book with guided material, and blank papers to fill with the present projects, as well as material prepared specifically for each summit.

After the summit all the participants share the copyright and a manual of the process of the prototypes. They can decide if they want to continue the project or not. If yes, IDDS offers support.

Pedro says that the biggest amount of the budget usually goes to lodging, food, security and transport.

On the 9th of November, 2016, in a conversation with Verónica Buitrón, originally from Ecuador and owner of Suspiro Taller, she spoke about her experience while working with the community around Cotopaxi.

Veronica said that it was crucial to gain the trust of the community, to approach to them as a friend, with humility, in a natural and authentic way, and to get them involved so that you could gain their trust, and, lastly, to always have in mind that we, as outreach-workers, are just an option for the peoples of the communities we work within.

Listening to the people, she added, is the first step to learning a lot about their situation and their lives.

She also said that a community leader will always be the key to connecting with the group and to supporting the process.

At the end of her two workshops, each participant had a sample of the new material next to cards that explain step by step the process, so they can repeat what they have learned and be independent.

On the 27th of October, 2016 the Master of Creative Direction students of the University of Pforzheim visited Philips High Tech Campus located in the Netherlands. Bas Griffioen, Program Manager at Philips Design, guided the tour and explained the design process of Philips: 'People-centric Thinking,' where designers, experts in their fields, and end users work together in harmony.

The Chulha low-smoke stove is a project made in the "Philanthropy by design" program in 2005. It was designed to combat the health problems of a community in India because of the quantity of smoke produced by traditional cooking stoves without a chimney placed in houses without good ventilation.

Philips Design community worked with local stakeholder and the end-users

together, and they redesigned the Chulha. After some prototypes, feedback and improvements the new design is finally ready. It is modular, easy to transport, maintain and install, simple to repair and consumes 60 to 70% less fuel than traditional stoves.

The first target of the Chulha was India, but thanks to the support of many NGOs the design was also adapted to communities in countries in Africa and Latin America based upon traditional fuels and manners of cooking (including positioning and cooking times: adjustments were made to accommodate local culinary habits).

The Chula costs about 20 dollars. The price then is usually divided, with half paid by an NGO and the other half by the family. Griffioen explains that when the communities put effort into paying for the stoves, it tends to make them appreciate it and use it more.

The marketing tools to sell the stove consisted of inviting families to have a meal with the producers (cooked on the Chulha), and there, the producers, would introduce the new Chulha. The village people were usually interested in acquiring it because it is a new product or sometimes because their neighbors already had one (the improvement in their health wasn't usually the main reason).

In November, 2016, I had a conversation with Bas Griffioen to ask him more details about this project and his experience in working with co-creation and with guiding teams:

Griffioen suggests that it is important to be introduced by a local or an NGO.

After his years of experience of working at Philips, to get the participant involved, he suggests working in small groups between six to eight people with one or two designers or facilitators in each group, in order to keep the teams motivated.

After hearing the first ideas for the *Mayancuna* workshop (that consists of the majority of participation from the community), he thinks it is a good idea for two reasons. First, the communities won't feel threatened; and, second, they will have to solve their own problems, ensuring they will be proud in utilizing the solutions they come up with.

To co-create, Philips uses a Toolkit that helps people to express their ideas in an easy and fast way. Griffioen also suggests to bring materials like cardboard, scissors, tape and markers to give them the possibility to design their own prototypes.

The Chulha project is a great example of how design can improve a living situation. One of the most interesting characteristics of the Chulha project is that it has been implemented in differing continents, but adapted based-upon their culture.

Culture is an interesting concept. According to the Cambridge dictionary

culture is “the way of life, especially the general customs and beliefs, of a particular group of people at a particular time”.⁸²

As Victor Papanek said “it is not possible to just move objects, tools, or artifacts from one culture to another and then expect them to work.”⁸³ that is why *Mayancuna* is very specific and focuses on proposing an alternative to solving community problems according to the culture and context of a place, like for example in the coast of Ecuador.

To be able to work within this community, it is important to get to know and understand their culture, their realities, how the family is integrated within their society, what are the main leisure activities, how is the climate, their typical food, etc. That is why the last GNO who I take as a counterpart is TECHO.

TECHO is a non-profit organization present in Latin America and the Caribbean which co-works with youth volunteers for and with families in extreme poverty seeking to overcome poverty in their communities. TECHO believes that it is important to talk about inequality, because Latin America is the continent with the highest level of inequality in the world; with over 104 million people not having direct access to the cities; 9% of the population has absolute analphabetism; and 1 in 4 habitants in the urban zone live in slums with difficulty in accessing basic services.⁸⁴

In 2016, TECHO worked with 940178 volunteers with 634 communities in 9 countries.

After the Ecuadorian earthquake in 2016 they worked day and night collecting information on the affected communities and creating extra projects to provide help to the disaster areas, mostly Jama and Tabuga. After a survey made for 2,780 homes, 81% indicate that their homes suffered large structural damages. By the end of the year, 224 emergency houses were built in Tabuga, canton of Jama, in the Manabí province.⁸⁵

I am familiar with TECHO-Ecuador, who has always been a very active organization within Ecuador, working hand-in-hand with schools, universities, and privately-held companies.

My first experience with TECHO was in of March 2014, where I participated as a volunteer in a post-construction project in Simiatug, Bolivar. Then, in August of the same year, in a construction project in Montecristi, Manabí. And, finally, the last project I worked on with TECHO was in August of 2015

82 Cambridge English Dictionary, “Culture Meaning.”

83 Papanek, *Design for the Real World*, 18.

84 TECHO, “La Transparencia de La Información Es Fundamental Para La Reducción de La Desigualdad.”

85 TECHO, “Informe de Actividades TECHO 2016.”

in the 8th Km in Bahía de Caraquez, Manabí. I could see with my own eyes the reality of thousands of families living in extreme poverty in Ecuador, and was able to talk, live together with, and work with them for some days. It was one of the most rewarding experiences in my life.

Techo post-constructions and constructions bring together volunteers from all over Ecuador who travel to the target place in a bus. The new and old volunteers meet each other in a friendly environment with songs, jokes and a lot of conversation. All the volunteers arrive at the destination and the teams come together to first talk with the organizers who give instructions and the rules of the project. We divide into teams, with a group chief in each group. The goal of Techo is that each participant has an experience as close as possible to the realities of the community where we are going to work: the lodging, the food, and the general experience. The lodging is usually in schools where all the volunteers bring their sleeping bags. The food is served three times a day, and the lunch is eaten together with the family. Each team has the goal to transport the materials, prepare the piece of land and construct the house. Usually, members of the family take part in the process, and they also have the role of preparing lunch for the group. We often bring rice and beans, and it is surprising how, even if some families have extremely low incomes, they usually offer fish or extra food. When after one or two days the house is ready, a little celebration takes place to give them the keys to their new homes. Even if the houses are made out of wood, they represent a significant change in the families' lives.

After a conversation in September 2016, at the beginning of the project, in November 2016, I had another interview with Juan Pablo Arguello about his experience working with developing communities. He works in the Insertion and Diagnostic Address in TECHO and has been in contact with the earthquake zone. He told me that the first approach between the neighborhood and TECHO is a formal letter, where the community describes their interest in working with them (once they have already talked for one or two times with TECHO representatives), which is a crucial step because a community that does not show interest is difficult to motivate. The goal of TECHO is to work with the community hand and hand and to make them the owners of the community improvement process. TECHO and the volunteers are an additional support, but the goal is that the community gains independence.

The first step in starting with a project is to understand the situation by asking the families questions and having them fill-in settlement cards. In the next step, a leader or a community member helps in the process of integration by presenting TECHO to the community. They organize a work proposal

with the assistance of usually 50% of TECHO's members and the other half of the community's representatives.

TECHO presents the information collected in the interviews to the community, this data helps them to know their situation and be aware of the central problems for the community (as for example coverage of basic services, work, and health). These statistics also represent a tool that helps them to have a better dialog with the authorities of the city.

They make a participative diagnosis after the analysis of information with the community; then, with a brainstorming session, they identify the problems that exist in the neighborhood, and which are the ones that they consider the most important and their causes.

They then create a 'problems and an objectives tree' with a network map to see the actors that link together with the problems, and they try to identify where could be an opportunity.

In the participative diagnosis dynamic of the community there are a lot of activities that could be incorporated, as for example, the social map, where they have to draw the community and see the problems and the opportunities available to improve them. Another activity is the golden dream: a methodology to imagine your ideal neighborhood and let you see the horizon of the community.

Jama and Tabuga are two rural zones located in the coast of Ecuador.

Tabuga is a place that suffered a lot of destruction, and that is why they are putting more attention into this zone (a place where the main activities are fishing, agriculture and where they work as farmhands during the harvesting period).

Housing was a big problem after the earthquake, but, thanks to Techo, a big part is already recovered. Another issue that inhabitants of Tabuga suffer is the lack of access to water; where, even if there is a water system, some of the people do not want to pay for it, and, as consequence, there is also a lack of proper drainage. In Tabuga there is no sewer system, that is why some families have a septic tank. The main problem according to the head of the community is that youth are going to the cities because there are no opportunities for employment and education.

I asked Arguello his opinion about where *mayankuna* could take place and if he could relay to me some of his experienced tips from working in the field. He said Tabuga could be a good place to work because TECHO has been working there and the community is open and cheerful. On the week-ends families are together, and they have some free time. There is a school and a college with some classrooms in acceptable conditions (where it could be possible to work with up to 20 or 30 people). To begin an activity,

they usually start with a warm up and some games; this helps to create a good atmosphere.

The community is not that big, but some places are a bit far from each other; that is why the suggestion is to start with the center of Tabuga, where they have already worked the most and have a good relationship with the community. It is also important to be aware in Tabuga that there is no Wifi or cellphone signal.

After the information of how all these counterparts have worked together within communities, the conclusions to starting *mayankuna* are:

- Two or three visits in the area where the project will take place, before and after, are essential.
- It is important to have a first approach with the community in a very friendly way, being aware that *mayankuna* is just an option. They are the ones that will decide if they want to join or not. This approach could be supported by an NGO or the community leader, who already have the trust of the people.
- The project will take place in the community if they show an interest and motivation.
- It is important to explain the goals and expectations before starting a project.
- It is important to prepare the participants before the project starts.
- A motivated group will keep the sense of community and belonging and working in small groups may keep the energy of the participants; the suggestion is to keep groups between 6 to 8 people. A group with people from different backgrounds will allow an exchange of ideas from differing perspectives.
- Local staff will be in support to cover any necessity during the project.
- Supplemental material can be useful.
- The *Mayankuna* prototype project can take place in the Tabuga center, where the community is open to implementing new projects as they have already had contact with TECHO.

Welcome to
Ecuador



The Jungle, ©Alejandro Arteaga



Cuenca city (located in the Andes mountain range), © Gabriel Yanza



Guayaquil city (located in the Coast), © Isabel Maldonado



Galapagos Islands, © Enrique Corral



© Danilo Tacuri



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welcome to the Coast of Ecuador



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Tabuga



© Techo volunteers



© Techo volunteers



© Techo volunteers



© Techo volunteers

Ecuador's earthquake



© El nuevo pais Zeta



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mayankuna

growing together with design

On the 16th of April, 2016 an earthquake with a magnitude of 7.8 grads on the Richter scale damaged a large swath of the coast of Ecuador, the provinces of Manabí and Esmeraldas were the most affected. A total of 673 people died, and around twelve hundred were injured. The natural disaster caused damages of over three thousand million dollars.⁸⁶

Delia Vera, a 58 year old woman, and habitant of Pedernales Manabí said that after the earthquake nothing is the same, and that people are still very much nervous from the aftershocks.⁸⁷

Families have lost their relatives, their houses and their goods. How can the design-world intervene in a third world community that has suffered from an earthquake to help to solve the problems within their communities? By using the energies and capabilities of all these differing groups of locals, volunteers, and design-works to transform the community's problems to opportunities and, in that, to design a better life.

"It is important to believe that learning and growth are possible, something called a 'growth mindset.' Individuals with a growth mindset, believe that a person's true potential is unknown, that it's possible to foresee what can be accomplished with years of passion, toil and training. Regardless of our initial talent, aptitude, or even IQ, we can expand our capabilities through effort and experience."⁸⁸

The short-term goal of this project is that the community has a first approach to the design process with the guidance of designers and that the community can, through this, discover the power of creativity. It is also important to test the *mayankuna* prototype project and to make adjustments as needed.

The long-term goal is that the community learns the design process and develops their creativity in order to be able to solve problems by themselves, come together as a community and that *mayankuna* works as an example and as a base for other third world community projects.

Mayankuna wants to make a proposal, a prototype project of how the de-

86 El Comercio, "Terremoto En Ecuador, Entre Las Principales Catástrofes Del 2016."

87 El Comercio, "Una Temporada Atípica Para Los Comerciantes Manabitas."

88 Kelley and Kelley, *Creative Confidence*.

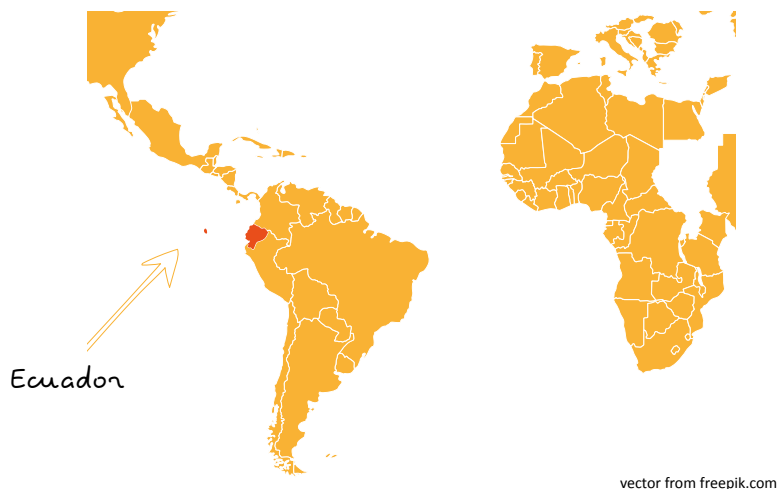
sign-word can intervene, in a community that has suffered from an earthquake, through design and creatively empower the community to solve their own problems. At the same time this proposal could be adapted to other developing communities based-upon their own culture and context.

Where *mayankuna* will be applied?

Tabuga center, located in the Jama district, province of Manabí in Ecuador as TECHO has already worked in this zone and collected data that will help to better target the prototype project.

Culture and Context

To have a deeper understanding of the culture and the context where *mayankuna* will take place, here is some information about Ecuador and the Coast of Ecuador.



Ecuador is located in north-western South America, bordering at the north with Colombia, at the south and east with Peru and to the west with the Pacific Ocean. Ecuador has an area of 293,561 km² and a population of 16,080,778 people (July 2016 est.)⁸⁹ The capital is Quito. In relation to its size, Ecuador is the most biodiverse country in the world, with around 8% of all earth amphibians and 16% of its bird species with 140 different hummingbird species.⁹⁰

89 Central Intelligence Agency, "The World Factbook, South America, Ecuador:"

90 "Documenting Biodiversity in Ecuador."

Ecuador has a variety of Ethnic groups, mestizos being the biggest one with 71.9% of the population, following with the Montubio at 7.4%, Amerindian at 7%, white at 6.1%, Afro-ecuadorian at 4.3%, mulato at 1.9%, black 1%, and other at 0.4% (2010 est.). Spanish is the main official language, then Quechua and other indigenous and foreign languages. Ecuador by majority is a religious country, with 74% of the population being Roman Catholic, while just 7.9% are atheist and 0.1% identify as agnostic.

Ecuador has four regions, the Coast, the Andes mountain range, the Amazonian Jungle and the Galapagos Islands. In the Coast the climate is hot and humid, it has white sand beaches, lush green mangrove forests and fishing villages.⁹¹ The special dishes of the zone usually use seafood and some dishes are characterized by a mix of green plantains and peanuts. The Andes mountain range has a cool and sometimes incredibly cold climate, it is easy to find fields of corn, wheat and quinoa. Quito is located in the mountains and is one of the highest capitals in the world, being 2,850 m above sea level. Many of the typical dishes in the Andes are based on corn. The Amazonian Jungle is tropical, wet and is the main habitat for a large part of Ecuador's biodiversity. It is a place full of life, waterfalls, rivers and waterfalls, and where it's possible to do extreme sports like rafting and kayaking. The Galapagos Islands are usually the most known part of Ecuador for tourists; they became famous thanks to Charles Darwin, who developed his theory of 'evolution by natural selection' after observing the different kinds of finches in the Galapagos Islands. It is place that combines biodiversity with amazing beaches and weather.

Tabuga is a community located in the Jama district in the province of Manabí. Manabí, has an area of 18,940 km², and is located in the coast of Ecuador. The elevations don't exceed 500 meters above sea level. The population of Manabí is mostly in their youth. The birth rate is high, and despite the fast growth of the urban population, the rural-area is still the larger section of the population, even though it contains less essential services. The weather oscillates between subtropical dry and tropical wet. Winter begins in December and ends in May when it turns hotter. The summer goes from June until December, when becomes less warm because of the influence of the cold Humboldt current. The temperature isn't uniform in all the province, the average in Portoviejo, the capital, is about 25 Celsius.⁹² Jama has beautiful beaches and high cliffs. It has virgin forests that are semi-wet, and there is a wide variety in fauna and in hydrography where the aquatic activity is carried out. The gastronomy is diverse, from seafood,

91 Ecuador.com, "Pacific Coast of Ecuador, Costa Region | By Ecuador Channel."
92 Gobierno Provincial de Manabí Ecuador, "Datos Geográficos."

freshwater fish, all the way to creole chicken soup and milk products thanks to their stockbreeding activities.

Jama is a potentially wealthy district, that has been a pioneer in the cultivation of shrimp. Based on a research of archaeologists in the University of Pittsburgh, Jama is the most ancient and advanced culture in Latin America. Some of the principal economic activities are agriculture, fishing, stockbreeding and aquaculture.⁹³

Tabuga is located in the Jama district, so they share the same culture and have the same contextual knowledge. There is not any official specific information about Tabuga, but thanks to TECHO it is known that the main activities are fishing, agriculture and farmhands during the harvesting period. In general, people from the coast are described as people full of joy, positivism, usually extroverted, generous and the partying-type. The life in a small community and the weather makes it that the people have a calm life, usually without the level-of-stress that is so known in the cities; in fact, people are usually relaxed, and as consequence it is important to not hope that they follow the rules to the letter. It could be that they are not so disciplined like other parts of the world; that they speak during the workshops; or that they do not take the time too seriously, one minute more, one minute less, it's the same. As said in the introduction, Ecuadorian people are very empathetic; they usually like to help others (something that is easy to see when working with the people).

The following information about Tabuga is provided by TECHO, based on the surveys made two weeks after the earthquake, some numbers could have a bit of variation.

Tabuga is a rural community and has an estimate of 157 families. The roads are mostly dirt and in poor condition.

Within the community exists a school/college with covered space, a kitchen, bathrooms, and a large meeting hall. The nearest health center is around 15km away.

The community does not have good cellphone signal nor internet.

The TECHO members saw that the people are hard workers and very honorable, the majority happen to be youth, with 80% under 28 years old, but they are fleeing in droves because there are no opportunities for growth. The distribution gender in Tabuga is 121 men, representing 51% of the population, to 116 women, 49%.

There are two big groups of age distribution, with 33% of the population being 5 to 17 years old, a total of 78 people, and 50% of the population being 18 – 64 years old, a total of 119 people. Lastly, in a minority, there

are 28 people younger than five years old, which is 12% of the population, and just 12 people older than 65 years old, which accounts for another 5% of the population.

Conclusions to design *mayankuna*

All the information below is based on the research and interviews made during the creation of this thesis. To make a final product, it is important to test first this prototype and make adjustments based on the feedback of the participants.

After the investigation and the interviews, these are the conclusions to start *mayankuna*:

The goal of *mayankuna* is to give empowerment to the community through design and creativity, giving an alternative to solving problems in developing communities by empowering the community to take creative action. As we have seen in the last few sections, creativity is within all human beings, but it needs to be groomed through effort and practice. Creativity can also be blocked because of different factors, making people believe they are not capable of being creative. *Mayankuna* will try to regain this creative confidence back from the community and support them with methodologies and tools in order to make this possible.

To begin the project, it will be important to have the first approach with the community in a very friendly manner and, if it is possible, with the support of an NGO or the community leader that already has the trust of the community. The project will be introduced next to its advantages, goals and expectations. It is important that the community show interest and feel motivated, otherwise it might be difficult to work with; a little workshop might help to show an example of how creativity works, and to clarify first doubts that can appear. After that, they are the ones that will decide if they want to join or not. It is important that all the participants are aware that is going to be a shared process, an exchange, where all the participants will learn from each other.

Beliefs

All people are capable of unleashing their inner-creativity with guidance, support and practice.

The team

The team will be composed of designers, people from the community and experts on the field-in-question. Depending on the task, the support of an NGO or a local leader will be important.

Having different perspectives and points of views will give richness to the project, so if the issue is complex and it is hasn't been solved in the country, the support of participants from other parts of the world may be necessary. If it's a topic, though, that is possible to deal with by only utilizing nationals, then foreigners won't be necessary, though everybody is welcome.

A designer will guide the workshop. The participants in each workshop will be around 20 to 30 people, divided into smaller groups with 6 to 8 community members, and a designer in each group. Small groups permit a good flow and dynamic. The experts on the field will participate in some parts of the process. If the community has a lot of people interested, different workshops could take place simultaneously.

The designers that participate should as well have experience with creative direction. The role of the designer will be to facilitate, and to design the workshop. The workshop will be composed with the help of specific methodologies and tools and based-upon the community's culture. During the workshop the people who showed more interest could be trained by the designers to be in charge of the future leadership and tool design.

The experts will bring the knowledge necessary depending on the problem. The community will participate in the design process. In *mayankuna* the long-term goal is that the community learn the design process, and, with time, nurture their creativity to solve local problems (this is why a large percentage of the crew will be people from the community, around 80%). Adult creativity is the result of the skills developed and the motivation for creativity as children. That is why in *mayankuna* we will try something new, but totally logical, which is the participation also of the kids of the community. Developing communities usually have a large birth rate, that means that the big part of the population is young, just like in Tabuga.

Kids are born creative and represent the future of the community. In a long-term project, the development and support of their creativity will form a creativity community. That is why kids represent an important role in the process of raising-up developing communities.

To take a closer look at how kids in the Coast of Ecuador are, on the 6th of December, 2016, I talked to María Elisa Proaño, who works in the Behavioral Modification Center LUX DEI in Ecuador, and has experience working with the at-risk youth and vulnerable communities from the Andean highlands and from the coast of Ecuador (some of those that she has helped

being refugees from the earthquake). She said that these children had faced a lot of challenges during their lives, and that they show remarkable creativity every day. Like, for example, fixing and repairing their toys or solving their daily problems. Proaño told me that the children from the cost are open, cheerful, extroverted and collaborative. She suggests working with kids from 6 years of age and up.

To have a project working in harmony she recommends to have some rules during the process. To begin the activities, it is important to have empathic activities that create a link between the facilitator and the kid.

Children's creative development also has different phases. Kids between six and eight years have an imagination stage, where the sense of the inner subjective-self develops for the first time, and it is alive with images taken from the outer world. This imagination serves as a source of creative inspiration in later life. Between nine and eleven years old is the ingenuity phase, where they acquire a broad range of social and technical skills that let them have amazing strategies and inventive solutions for dealing with the increasing pressures that society places on them. The ingenuity principle lives on in the part of ourselves that forever seeks-out new ways to solve practical problems and cope with everyday responsibilities.⁹⁴

In Tabuga the exact amount of young people from 5 to 17 years old is 78. According to previous research it could be interesting to work with children from 6 and up, also variety of perspectives bring variety of ideas, that means that mixing younger and older children could be an option, but if it doesn't work, they could be separated in kids and in teenagers.

The mindset

In *Mayancuna*, the goal is to work together with the community; that is why the mindset will have to be co-creation. The people of the community that are at the same time the 'final users' will participate together with the designers and facilitators in a co-design process. The communication with each other and exchange of ideas will be possible thanks to the tools and techniques designed based-upon the participation of the participants and the environment where the process will take place. As said before, always looking for apprentices in the community to play this role in the future. Being aware that people cannot be creative from one day to another, it is important to have a sensitizing process to let the community understand the problem or situation well-in advance.

94 Armstrong, "Stages of Life."

Problems to solve

To know which are the problems that are affecting the community, a first workshop will take place that will define the most relevant issues occurring in the neighborhood and choose one that is the most important to start with.

In the Tabuga community, thanks to TECHO, we already have this information. The main problems are: access to clean water, drainage, no sewer system, and the main problem according to the head of the community is that young people are going to the cities in droves because there are no opportunities for employment and education in their hometowns. In this stage, it is important to select problems that can be solved by the community, not ones that would depend on intermediaries.

Motivation

To have success in this project it is important that the participants have motivation, for that, some suggestions from IDEO are: to maintain a good flow within the group: give all ideas fair consideration, maintain optimism, do not critique ideas too early, craft the team in advance, know each other's strengths, have fun and work with empathy. According to the Oxford dictionary empathy is "the ability to understand and share the feelings of another."⁹⁵ In *Mayancuna* empathy will be essential to gain trust, to create a friendly environment and to collaborate with each other.

Activities

The people from the Coast of Ecuador are usually full of energy. That is why the workshop will attempt to contain activities that utilize their vitality. "Play is the strongest motivator for sustained behavioral changes."⁹⁶ (Asap Science 2016) That means, if the workshop incorporates play activities, the participants will keep motivated for a longer period of time. To extract the best from a large group of diverse people it is important to have different activities that can elicit from each individual their best individual creative powers. Susan Cain, writer and lecturer, speaks in her Ted Talk about 'The power of introverts' and the importance of having a space where extroverts, introverts and ambiverts (the ones who have a bit of both) can find the best within themselves. A third to a half of the population are introverts and, in our times, a lot of schools and offices have

95 Oxford Dictionaries, "Definition of Empathy in English."

96 AsapSCIENCE, *The Science Of Motivation*.

focused their attention on collective activities and spaces, but introverts tend to work better and show their capacity more within a quieter environment.⁹⁷

Besides that, it is important to understand the two parts of the brain that affect people and to be able to have a good balance of the two channels in preparing an activity where they can work together. The left brain has skills in dealing with numbers, logic, words and sequences. The right side of the brain contains skills that deal with color, rhythm, Gestalt, visualization and graphical composition.⁹⁸

The activities that will take place in *Mayancuna* should be varied, in order to bring-out the best of each participant's individual creative potential.

The vocabulary in the workshop should be easy to understand, that means, instead of using the word 'toolkit' within the workshop, substitute this 'serious' word for more familiar ones, like '*los juguetes*' (the toys) or instead of '*the design process*' '*el ceviche*' (a traditional seafood dish from the coast that is usually a mix of shrimp, lemon juice, onions, tomato and cilantro), a funny and familiar name that can be used as a metaphor to make it easier to understand, for example: the shrimp are the participants; the onion, the problems that make you cry; the preparation will be the process, etc. With a vocabulary easy to remember and familiar, the participants will have a better understanding and approach.

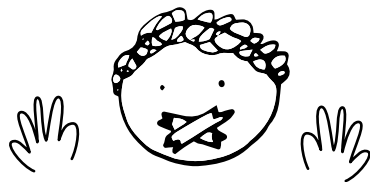
A typically daylong workshop is composed of many different games linked to each in a way that creates flow and keeps up the energy of the participants. The activities must be selected carefully and combined with each other so the outcome of one game is the beginning of the next one. The games can be from sources like the 'Gamestorming' book or designed by the designers, but always selected based off the community personality. As we have said, people from the coast are extroverted, open and the life of the party. That means that these characteristics should be taken into account in the selection of the games. The explanation of how each game works should also be clear and easy to understand. Integration and empathy activities will settle the stage to start the work, opening activities being there to collect many ideas, exploring activities to develop them and closing activities will help to choose the best ideas to run with.

Activities for integration and empathy

The activities for integration and empathy will help participants to get to know each other and to feel more confident in sharing ideas. Based-upon the Tabuga people's characteristics, as follows, here are some game examples especially crafted to engage them:

97 Cain, "Transcript of 'The Power of Introverts.'"

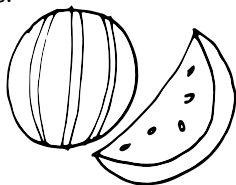
98 Sanders and Stappers, *Convivial Toolbox*, 59.



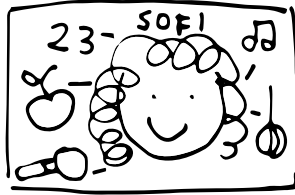
“Act who you are” in Tabuga -- ‘Yo mudo’: Each participant has 1 minute to present through miming. (motion)



Dance Presentation in Tabuga -- ‘Presentación bailando’: (in Ecuador all the parties involve dancing, and people usually dance in couples) This game will be like a speedy presentation but with dance; participants will be divided into two circles, one inside the other, and they will have to make a presentation of themselves in 30 seconds and then pass, dancing to the other participants until everybody knows each other. This activity could break the ice and create some laughs.



Watermelon presentation in Tabuga -- ‘Presentación Sandía’: Pass a watermelon through the group placed in a circle; the one that has the watermelon has to present in front of the group. The watermelon grows in the coast, so it will be easy to acquire, and will be used the same way a ball would, yet plays into the cultural of Tabuga, and, because of the heavy weight, it will for sure create some laughs.



Trading Card in Tabuga -- 'Cédula': Each participant draws a card of themselves and their characteristics and presents in front of the group. Source: Gamestorming 2010.

Activities for opening

The opening activities will help to have a big amount of ideas. For example:



3-12-3 Brainstorm in Tabuga -- '3-12-3 Lluvia de ideas': This activity starts with a question, then the participants make a brainstorm where each group has 3 minutes for bringing as many ideas as possible in post-its, after that they have 12 minutes to combine them into rough concepts and 3 minutes to present them to all the participants. This should last between 20-30 minutes depending on the number of participants. **Characteristics:** left brain(words), group activity. Gamestorming 2010.



Draw the problem in Tabuga -- 'Dibuja el problema': Draw and write all the factors that create the problem to have a better understanding and to represent it as compelling enough to make people care about solving it. It lasts between 20-30 minutes. On a piece of paper each participant makes a list that explains the problem, they flip-over the piece of paper and draw

and write little texts explaining their ideas, then each participant presents to the rest of the group.

Characteristics: left brain (words), right brain (graphical composition), individual activity

Source: Gamestorming 2010.

Activities for exploring

The exploring activities will help to better develop the community's ideas.

For example:

5?

'The 5 Whys' in Tabuga -- 'Los 5 ¿por qué?': The problem will be written in front of the whole group so that it is visible to everybody. Then post-its are distributed through the group of participants and they are asked: Why is this a problem? The result of that will be confronted by another 'why' and this step will be repeated for a total of 5 times, getting to the root of the problem, then they will discuss with the group and write a consensus for each step.

Characteristics: left brain (words), group and individual activity



'Flip It' in Tabuga -- 'Dale la vuelta': This game changes the perspectives; it sees challenges as opportunities. Draw a horizontal line dividing a big sheet of paper in two, then write '*Esperanza*' (hope) in the top left corner, '*Miedo*' (fear) on the bottom left and flip it at the top right. The participants have to write all their concerns in '*Miedo*' and then flip all the fears into '*Esperanza*'. The group will select the best ideas and develop them into a second big sheet of paper called '*Tracción*' (Traction). This game will flip the negative to positive and make the positive more tangible.

Characteristics: left brain (words), group and individual activity **Source:** Gamestorming 2010.

Activities for closing

Closing activities will help in selecting ideas, for example:



‘\$100 Test’ in Tabuga -- ‘Prueba de \$100’: Sometimes it is very hard to make decisions and to know how to evaluate an idea, that is why if the participants compare their ideas with money, it will be more familiar and easier to handle. This is a closing game that will use the ideas of an exploring game written on a large piece of paper, one under the other. In the right part of each idea is the price of each, everyone knowing that the total amount that the group has is \$100, and on the right of each amount is why the idea would be a good investment. This will help decide which idea is the best.

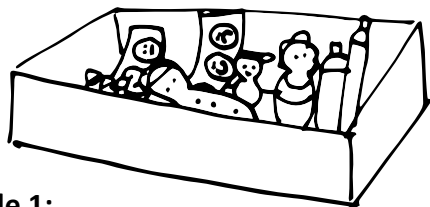
Characteristics: left brain (words and numbers), group activity **Source:** Gamestorming 2010.

Because it is a co-creative process it is necessary to also implement Say, Do and Make activities:

The communication between the participants will be possible thanks to tools and techniques, that will be designed based on the activities of the participants and the use of Say, Do and Make activities. Toolkits of expression will be developed to permit the exchange of ideas with the help of instruction and support.

For the Make activities the participants can use toolkits that will be designed depending on the problem.

A toolkit is composed with trigger sets, backgrounds and supplies. The toolkits will be designed based on the budget and the activities. The elements, must be large if there are going to be used in group activities. Materials like photos and words from magazines or newspapers, puppets, construction material and raw collection of scrap materials could be more accessible to the community than other materials used in other places in the world in similar projects.



Toolkit example 1:

Bad relationship between the community

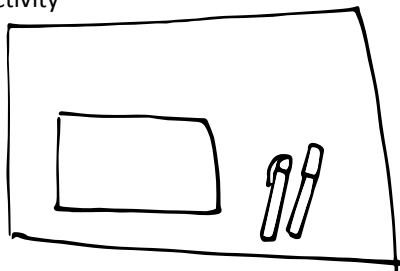
Goal: Identify where the problems in the relationship of the community is towards themselves.

Materials:

- Draws from all the actors in a community, such as children, adults, police officers, politicians, and community leaders made-from cardboard and cut-out.
- Happy, sad and neutral face stickers
- Big sheet of paper
- Markers

Instructions: The participants have to paste the actors along the paper and link with the emoticon stickers between the relationship of the actors and then write why. Each participant should explain to the rest of the group. The community will select the biggest problem and use '*Dale la vuelta*' (Flip it) to make the problems opportunities.

Characteristics: left brain (words), right brain (graphical composition), individual and collective activity



Toolkit example 2:

What does the community need to create businesses?

Goal: To collect ideas of products and services that the community could produce in order to give an opportunity to the locals and the youth that are fleeing to the cities.

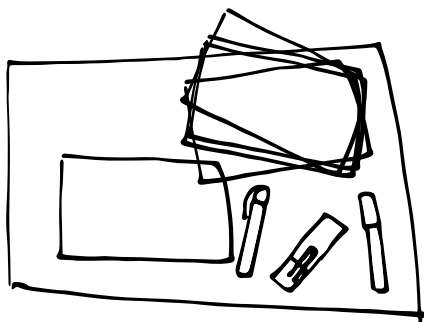
Materials:

- Big sheet of paper
- A4 sheet
- markers

Instructions: Each participant makes a list of products or services that they

can offer on an A4 sheet, then they present in front of the group and on the big sheet of paper there will be three categories: products, food and services. All the ideas from the paper will be collected. Then the participants should make a list of which materials or instructions would they need in order to take their products or services into the market. The best ideas will be selected.

Characteristics: left brain (words), individual and collective activity



Toolkit example 3:

How do I see myself in 10 years?

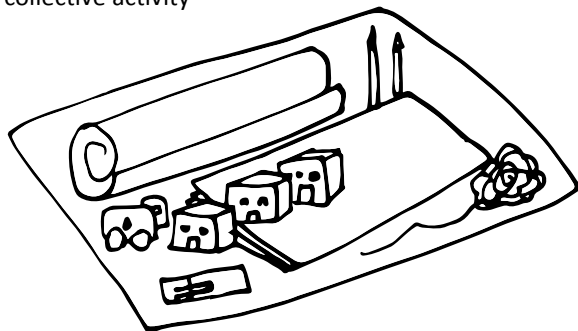
Goal: Get to know the expectations of the community for the future.

Materials:

- A4 sheet
- magazines, newspapers, markers
- big sheet of paper

Instructions: Each participant should write, draw or make a collage of their expectations for the community in 10 years and show it to the rest of participants. The participants will vote with a like sign on the collage or a drawing of the persons they agree with. On a big sheet of paper, the participants have to write the most popular idea and make a '**3-12-3 Lluvia de ideas**' on how to accomplish it.

Characteristics: left brain (words), right brain (graphical composition), individual and collective activity



Toolkit example 4:

Distribution of water in Tabuga

Goal: Organize the community on how to supply clear water

Materials:

- map of the community
- wood houses
- car toy (a small water tank usually provides Ecuadorian coast communities with water)
- thread
- big sheet of paper
- A4 paper, markers and scissors

Instructions: Make a list with the participants of the problems that the community has with water distribution organization; identify them and make a new proposal using the materials given or make their own models, with the supplies. The threat will help to show the new route and solution.

Characteristics: left brain (words), right brain (graphical composition), collective activity

Space

As seen in previous chapter, the environment plays an important role in creativity. In the book 'Make Space' by Scott Doorley and Scott Witthoft says "It seems that creativity is adaptive, like anything else. When a space becomes available, work emerges to fill it."⁹⁹ In seeking to let creativity flow, it is necessary to adapt to the space. Saying that, we know that this community does not have many resources, but places like school and college classrooms can be utilized; there is a blackboard and walls to exchange post-it ideas and the furniture like tables and seats can be arranged in order to permit individual and collective activities.

Materials

Materials will help in the process in communicating its ideas during the prototyping sessions. It is important that these are cheap and easy to find within the community. The goal is that the community expresses their ideas, not so much the quality of the prototype.

How long will *mayankuna* take place?

One of the goals of *mayankuna* is to create a long-term project, where the community can learn to use their creativity to solve their problems in the community. In the past sections, we have seen the importance of having creative confidence, but also the effort that we have to put-in in order to become more creative. We want people to learn how to be creative. Learning is a process that happens in our brain with neuroplasticity. Dr. Lara Boyd researcher in the Canada Research Chair in Neurobiology and Motor Learning of the University of British Columbia explains how neuroplasticity works. Every time you learn a new fact or skill your brain changes, and it could take place in three different ways: in short-term memory there is a chemical transferring, a quick process. For long-term memory, there is a physical change, where the structure of the brain changes, and this takes more time. The third way is by alternating its function, the more you use a brain region, the more excitable it becomes, and the easier it is to use again.

All these processes can happen separately, but they can also work together. Together they support learning, and they take place all the time. Neuroplasticity is different from one person to another, making our ways of learning and how long we take to learn, unique. The best driver of neuroplasticity is our behavior. Nothing is more effective than practice, our brain will always be shaped by what we do or what we don't. We are constantly being shaped by the world around us.¹⁰⁰ That is why *mayankuna* is a long-term project, where people are allowed to try, but also are allowed to repeat the process, so with time they can incorporate creativity into their lives. What it is not possible to establish right now is how long the project will take, because, as said before, neuroplasticity is different from one person to another, that means that for some people it might be easier to learn the design process, and, for others, it will take more time. The only way to see that the long-term goal becomes a reality is observing the development of the community. Training some locals as future workshop leaders might also help the community to gain independence from the project earlier.

Environment

It is important is to create a comfortable and friendly environment where all the participants are confident enough to share their ideas nor have any fear in expressing themselves.

100 TEDx Talks, *After Watching This, Your Brain Will Not Be the Same* | Lara Boyd | TEDxVancouver.

Funding

The funding for the project will be discussed as part of the workshop. A possibility is to search for external funding.

Who will be in charge of *mayankuna*?

A design leader and a community leader.

Who will be in charge of the implementation of the result of the project?

In the last workshop a leader will be selected next to a community group, who will be the one in charge of the organization and implementation of the solution. (more information in *mayankuna* project prototype)

mayankuna project prototype

Location: Tabuga center

Limitation: No Wifi or cellphone signal

Team: designers + community children + community + community leaders + NGO + experts

Space: School/college rooms

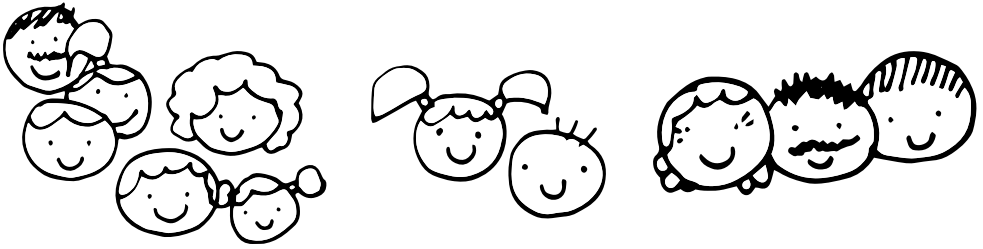
Time of the workshops: It will depend on the community. In Tabuga the best option is to have them take place on the weekends.

Cultural facts about this community: honorable, open, hard-workers, positive and party-types

The project will have 3 steps.

The first one is the selection of the problem that will be solved in the next sessions.

The second step will be a workshop just with the children of the community in order to elicit their own ideas and to begin to get them involved in the process. The result of this workshop will be part of the next one. The third step will be a workshop with the adults of the community. The children's ideas will be presented to the adults, so they can reflect on them, adjust them, change them, combine them and select the best ones. In this stage the solution must be accompanied with who will be in charge and, as well, figuring out how will the funding of the project take place. There will also have to be the organization of a group in charge of implementing the funding plan.



Workshop1: Adults and kids of the community, problem defining, information and sensitization

Workshop2: Kids, first ideas

Workshop3: Adults of the community, final ideas for the community; who is in charge and how to finance it. Final solution and implementation

Workshop1

The call for this workshop to the community might be through the community leader or the GNO

Goal: Define a problem

Team: Community adults & kids + designers + GNO + community leader

Quantity of participants: A large part of the community

Space: College/school courtyard

How long: around ½ day

To start the workshop, the community leader or the GNO will present the design team in front of the community.

Activity for integration and empathy: '*Presentación bailando*' (Dance presentation) this activity will work for a big group because it is a fast way to get to know all the participants.

Once everybody knows each other it will be the time to separate into groups of 8 community adults and children, plus a designer each.

Activity for opening: each group will play '*Dibuja el problema*' (Draw the problem)

Duration: 20-30 minutes

The result of this game will be the input for the next one. They stay in the same groups.

Activity for exploring: '*Los 5 ¿Por qué?*' (The 5 Whys) will help each group to get to the root of the problem and understand it deeply.

Duration: 1 hour

The participants stay in the same groups.

Activity of closing: '*Prueba de \$100*' (\$100 Test) will help the participants decide which problem is the most relevant.

Duration: 1 hour

Each group will present their ideas to the rest of the participants, then,

each participant will have two stickers to select the most relevant problems for them and the one who has the most votes is selected.

Duration: 1 hour

Total duration: around 3 ½ hours

The first workshop takes place one or two weeks before the other ones, to give the people time for sensitization of the problem, where they can search for more information and be prepared to work in the next workshops. In Tabuga, there is no internet, so the participants might have to ask other people from the community for further information. The designer can guide some questions to help them be prepared in this process.

Example of the problem: Lack of opportunities for education and employment make youth flee home

Workshop2

Goal: Identify the expectations of the kids of the community in 10 years

Team: Community Kids + designers

Quantity of participants: 4 groups of approximately 6 kids with a designer in each group

Space: College/school room

How long: ½ day

Activity for integration and empathy: ‘Yo mudo’ (Act who you are) will help kids to know each other presenting themselves without words, just acting.

Duration: 30 minutes

The kids will divide into groups of 6 kids with a designer in each group

Activity for opening: Toolkit 3 “How do I see myself in 10 years?” will help each kid to write, draw or make a collage of their expectations for the community in 10 years, they will also need to answer: in 10 years I will like my community to be...

Duration: 1 hour

All the kids will show their expectations to their group.

Activity for exploring: Each group will discuss and draw on a big piece of paper the development of their ideas, and what they aspire to as a group.

Duration: 1 hour

All the groups come together and present their ideas to the rest.

Activity of closing: All the ideas will be written on the blackboard in categories and each kid will have two votes.

The final tree ideas will be presented in the next workshop.

Duration: 30 minutes

Total duration: around 3 hours

Workshop3

Goal: Identify what should be implemented in the community in order to offer opportunities to their people

Team: Community Adults + designers + experts + community leader

Quantity of participants: 4 groups of approximately 6 adults with a designer in each group

Space: College/school room

How long: 1 day

Activity for integration and empathy: *‘Presentación sandía’* (Watermelon presentation). All the participants have to make a big circle. A watermelon will be passed through the participants. The person who has the watermelon has to say very quickly their name, what they do and something about themselves, and then pass the watermelon to the next person until all have had the chance to present themselves.

Duration: 30 minutes

The big group will divide into 4 groups of 6 adults with a designer each.

Activity for opening: *‘dibuja el problema’* (draw the problem) will help to understand the problem in a deeper way

Duration: 30 minutes

Once they have the result of the first exercise they will stay in groups.

Activity for exploring: *‘Dale la vuelta’* (Flip it) converts fears into hopes and once the participants have the positive part of the problems, they work on it in *‘tracción’* (traction) developing it.

Duration: 1 hour

The participants will discuss and continue their ideas in the group.

Activity for closing: *‘Prueba de \$100’* (\$100 Test) will help the participants decide which problem is the most relevant.

Duration: 30 minutes

Each group will come-up with one idea, and in this stage, the kid’s ideas will also be presented so they have a bigger range of options and take into consideration the expectations of the children at the moment of making a decision.

The participants will have two votes each and the final idea will be selected. At this stage an expert on the field can give his professional opinion about what he sees as more feasible in guiding the participants.

Duration: 1 hour

To decide how to implement and who will be in charge of the project, at the end of the game the community with the leadership of the community head will decide a person responsible for the project and their team.

If the implementation is challenged, another game could be played.

Total duration: depends on the outcomes.

Pauses are important to give the participants a moment to reflect and also a little break. The best moment to have a little break is when the energy is going down, so the designers will decide when is best during the workshops.

The support of a GNO can help primarily in the starting points, where the community does not have full trust yet for the design team.

The time calculated for each workshop is an estimate, but because people of the community usually have the weekends free, it is necessary to use these two days properly. If each workshop takes an entire weekend, the distance between them will make people lose some of the flow and energy collected already in the workshops.

The workshops should be tried and adjusted: What happens if there is music at the beginning? What happens if the whole group gets to know each other while cooking a typical dish? What happens if the adults make their kids' activities? There is a lot of space to experiment.

This mayankuna project prototype is an example of how the short-term goal can work. Where the designers organize and design everything for the community. To make Mayankuna a long-term project, where the community learn the design process, it will be necessary to train locals during the sessions, to guide them, support them, give them materials, information and be their mentors. A book with some design games and methodologies could be a material given at the end of the workshops, so they can repeat the process in other occasion.

To make it really feasible, the constant support of designers will be necessary at the beginning: What if there is an agreement with universities, where as part of their design formation they dedicate one month to the community? There are many possibilities, they just need to be further explored; the aspiration is that creativity is present everyday.

Conclusions

This project started with the wish to give a human value to design, because, for a long time, people in poverty haven't had a voice and have been forgotten through the mechanisms of global capitalism. The earthquake of Ecuador was the inspiration to create a proposal that empowers developing communities through design and creativity. The belief is that all humans are capable of being creative. Creativity is innovation and one of the most powerful human abilities (if it is correctly nurtured). People are born creative, but to maintain this creativity, it is important to practice it. That means that if a community that has suffered from an earthquake has some support in developing their creativity, it will be possible that they can transform their problems into opportunities, this will also empower them, and make them owners of their future.

The project is a proposal that is designed based-off the context and cultural of the community it plans to help; it seeks to present the design knowledge in a simple and amicable way, through a proposal designed according to how people are, and not contrary to it. The result of this thesis is a project designed based-upon the community's location, infrastructure, language, time and personal characteristics.

Co-creation is the mindset to bring the final users, the community members, into the design process themselves; where thanks to the applied methodologies and tools, they will be able to express their ideas and have themselves incorporated into the projects.

Mayankuna differs from other counterparts by incorporating kids into the co-design process. Children are born creative and represent the future of the community. Developing communities, also, usually have a high birth rate (this being another reason why kids are vital in this process).

The short-term goal is that the community has a first approach to the design process with the guidance of designers, and the community can, through this, discover the power of creativity. It is also important to test the *mayankuna* prototype project to make adjustments as needed. External sources of information and investigation were used for the project design because it was not possible to be in the field, but if the designers could spend some time in the community, it will bring for sure a more tailor-made proposal, as it will give a closer view of what could work or could not work.

If the community has a right response to *mayankuna*, it might be necessary to make a long-term proposal, where designers and locals add creative

activities to their schedules and lives; for example, one or two times a month, having a community workshop. To make it more feasible, university students could join the process as part of their formation, organizing with the community a list of activities. The exchange will surely be beneficial in both ways, where all learn from each other, and maybe for the designers, getting out of the usual workspace will bring fresh ideas and force them to go beyond what they thought they could.

The workshops may be the first step, but so that the locals gain creative independence, it will be necessary for the future to train some locals into the role of designers. Materials like a book with the design process and some games explained using familiar vocabulary could provide them with the information to feel comfortable continuing on with the project, while also challenging them to begin doing these types-of-activities on their own.

This project could be explored further, for example, through material made for the community's families, with games that light their creative impulses. Or games for schools that seek to cultivate children's creativity every day, where instead of ready information, tools help them search for their own answers.

The earthquake of Ecuador was an opportunity to design a proposal that could be implemented in other developing situations as well, though, of course, making adjustments based-upon their needs.

My belief is that people just need a chance, a chance to prove how capable they are. If we give people an opportunity, surely the results will be stunning.

"Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime."

Unknown author

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mayankuna

growing together with design

I certify that this work was written by myself

A handwritten signature in black ink, reading "Gabriela Corrales". The signature is written in a cursive, flowing style.

Pforzheim, January 13, 2017

About the author



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Born in Cuenca, Ecuador in 1991. From 2008 until 2013 she worked towards her Bachelor in Graphic Design at the 'Universidad del Azuay' in Ecuador. Since 2013 she has worked as a freelancer next to her personal brand of products called 'Ki.' In 2015 she started a Master of Creative Direction at Pforzheim University, School of Design in Germany seeking to better her design leadership for future social and professional projects. She believes that design is powerful and can make a great impact in the world.

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