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Is a PHD candidate in Critical Theory about "Social design experience", currently is studying a certificate in Disability Critical Theory. She has a Master degree in Contemporary art and a Speciality certificate in sculpture, drawing and art in Florence, Italy where she won different prizes as an artist and made individual and group exhibitions.

She had the opportunity to work as a designer in the industry and as a professor in several Universities and cities around Mexico. With experience in the Mexican design industry, government and manufacturing. She also worked in General Electric Energy for 5 years, obtaining different certifications in the meantime about quality and design.

Also, was a Co-founder and organizer for various international conferences, talks and symposiums about art & design. Also was

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Her Design research and development expertise is in esthetics, symbolic meanings, manufacturing process, healthcare, disability, inclusion and sustainability.

Until today she is a writer about philosophy, art and design since 2008 at www.designforsociety.org

Experience design and its relation to “disability”

Lilian González-González

Abstract

The following text shows the process of developing the methodology of "social experience design" with examples of its application with students of industrial design, to generate meaningful, symbolic, metaphorical and instituting¹⁹ objects.

Keywords

Design experience, disability, singularity, symbolic, metaphor

Introduction

From the discipline of Design, how can we improve the quality of life of people in situations of chronic pain due to illness and disability? could these situations be addressed from their distinction, their accentuation, generate empowerment, and generate questions to help develop artistic and creative productions from these different ailments? Design can create devices or products for these users and facilitate experiences that help these living circumstances so that Design can go beyond function and aesthetics in objects to generate unique, meaningful moments that allow new experiences for the common well-being.

¹⁹ *It is that which generates a rupture. See, (Mayer, 2014). "The Constituting is the different, the change, it supposes critical variation on the established. They are productive forces of new ideas and values"*

This approach has been part of a creative process to generate a methodology that helps to address complex issues that are sometimes subjective and unspeakable—that help to create different results from the Design conceptualization.

Disability and the marginal, when treated as something that remains in the waste in the "other," is less important. This minority has been seen as the "sick" part of society that must be corrected and normalized. We can turn this around and see the marginal, those small villages, communities, and organizations that, although they are small and isolated or "marginalized," have the power to "protect," to "improve," and "teach" their forms of resilience, resistance, and survival, through practices that have even been millenary. What happens if we stop seeing the disabled and the marginalized as a failure and see them as potency? What can we learn from these bodies that have creatively solved their needs?

Body of the article

Design of the methodology

For five years in the Industrial Design Academy of Universidad Anáhuac México, we have been developing tools and teaching methodologies based on the "research through design" method applied to undergraduate design students.

During this time, different processes and teaching tools were developed to generate a methodology that helps to "teach the design of meaningful experiences in complex situations", the solution was to add a previous step to the traditional design methodologies, in which mainly only the function, quality, and aesthetics were solved.

In this proposal for the development of the projects that will be shown here, an additional step is added from the review and reference of some theoretical concepts that help to generate creative and conceptual developments. These concepts are:

The singularity

The symbolic

The metaphor

The instituting

Based on the review of these concepts, theoretical sources are suggested and reviewed to encourage the student's critical thinking, mainly through texts on philosophy, sociology, and art criticism, which are analyzed and discussed in the classroom to generate brainstorming, key concepts, which help to sensitize the student to address the issues raised.

Singular object; unique objects, generated for particular situations, objects that are discovered during the interaction with them, generate surprise, even estrangement, particular experiences to the users (Baudrillard and Nouvel, 2007).

Subjective object; it is endowed with a strong charge of meaning, sometimes fetishistic, sometimes magical, the symbolic object is powerful, it generates attachment, memory, even protest and is linked to the object it questions.

Metaphorical object; enables the production inside of the subject to manifest its interiority. Such an object can generate emancipatory

processes; it even has the power to help enunciate, express, and to dislocate what otherness establishes in the individual.

Instituting object; it sustains novelty and rupture, an item that questions the one who interacts with it. The instituting mobilizes the established, generates fractures, breaking points; it is a stroke of change of meaning; it breaks with the norm.

Metaphorical objects; metaphor alludes to the thing, the thing of itself, which is inaccessible without metaphors. Metaphor is the only way to speak of everything that happens that is untellable or indescribable. It is the interface that helps us to reflect on what cannot be seen or heard.

The intention of reflecting on these concepts is to position the student in a different zone to observe the problem and thus look at the problem from another perspective. Theoretical sources, case studies of art, sociology, and philosophy help to have more rhetoricians and discursive resources in relation to the subject that will enrich the student to reach more creative solutions and interfere with the user in a deeper way.

The student enters a different terrain to that of his discipline, which can be uncomfortable and unknown; this helps to generate new solutions to existing problems and think from the singularity and subjectivity. The main objective is that the student can develop singular, symbolic, metaphorical, and questioning design proposals, which are the pillar concepts of the methodology.

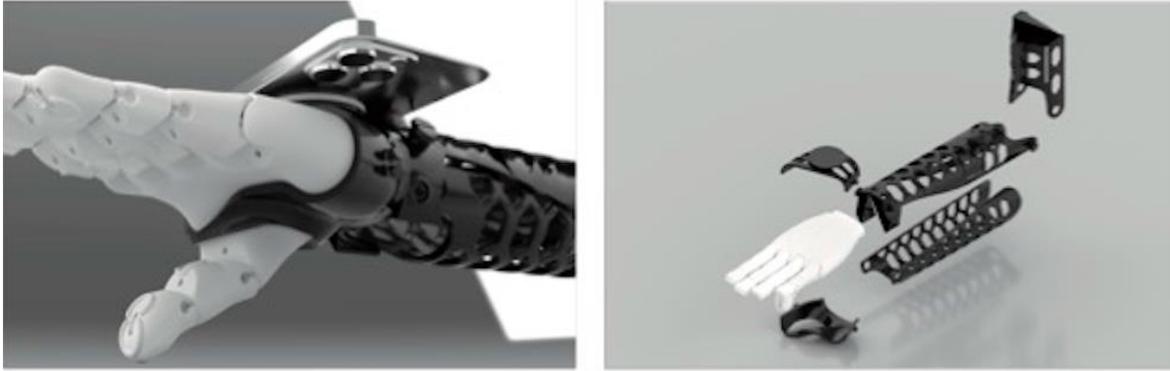


Figure 1, Hand prosthetics with a digital screen adaptor. Students: Andres Reyes y Marianne Robles. (Video)

Another of the objectives of this is to generate opportunities to design "objects or devices" that can propitiate or facilitate the exchange of knowledge, reflection, and provocation through proposals that can stand out for their uniqueness, devices that facilitate meaningful experiences, activators of subjectivation and enunciation, power for people and even aspire to generate objects that can be emancipatory²⁰.

Another critical point is to change the meaning of the residual and place it as the most important and not as what isn't essential or useless; by seeing it as the most important, the supposedly marginalized "minority" is placed in the center and is designed from the marginal.

By placing the different, the residual or in this case, the disability, in the center instead of in the periphery, it helps to generate new possibilities of technological objects and devices that can improve in a different way the quality of life of people, both the "marginalized" and those who have been seen as "normalized", to observe from the

²⁰ **See concept of emancipation in art, Benjamin, W. (2004). *El autor como productor*. (Itaca, Ed., & B. Echeverría, Trad.) México.**

disability other problems for example, sharpens other senses and generates new possibilities.

In the discipline of Design, we must be concerned with the planning of meaningful experiences from the creative process to generate singular, symbolic, metaphorical, and instituting experiences, so that we can be able to generate important changes in culture and society.

The intention is to design "from" disability and not "for" disability. Here Design is seen more as a generator and facilitator of objects that provide empowerment to the user. This helps to give a new meaning to the so-called "inclusive design and universal design", which, although they have been extremely useful tools that have generated a design aware of "the difference, the different", should also evolve to be approached from new perspectives, as has been discussed throughout this article.

The project of prosthesis for children's hands and arms carried out by the design students (see image 1) starts off with the need to generate potentiality in children with amputations, empowerment from the prosthesis, and a device that can accentuate their singularity in a "positive" way. The function has already been previously solved by prosthetist specialists, so it is necessary to think about evolving towards a device that facilitates the enunciation of children with amputations, achieving to have a device of desire and not of rejection or replacement of the loss of the limb.

The simulation of a missing limb, only generates silence, discomfort, shame, pity, etc. Designing an object not as what is missing, but as an object of potency, of interdiction, of institution, of subjectivation,

an object that, in fact, must be differentiated and not fail in the attempt to "emulate".

The result of this exercise was a set of prosthetic hands which were very different from those on the market (see picture 3), with distinct functions, particular accessories, singular and different aesthetics and playful, which can motivate the child to use his prosthesis with dignity, and "desire" to show them instead of embarrassment or discomfort.

The following image shows the five main points that cover the proposed methodology at the end of the research and after a series of validations based on the application of different educational strategies to favor the teaching of social experience design. The methodology is a facilitator to generate critical thinking and thus be able to offer solutions with experience design and social impact.



Imagen 2, Outline of the methodology developed by Lilián González-González in her doctoral thesis: "Social experience design."



Image 3, arm prosthesis with adapters for multiple toys. students: Juan Carlos Alpizar and Ana Sofía Gonzalez.

In image 3 the prosthesis is also a toy that empowers the child in front of the "other" who could judge him for the "lack of a limb", the child in this design drives him to want to talk to play and take him from the motor aspect to the psychomotor aspect (Levin, E. 2012). The possibility of generating, desiring and facing the other not as the "lesser" but as the "other" with different capacities and not only faults, this will make possible the poetization of the body and sublimate it in such a way that it finds itself and places its body as its own.

The interest of having design students work with these singularities is to take them to terrains that are alien to what the discipline is

familiar with, diverse terrains that destabilize them, that lead them to create singular objects and not objects of repetition or refinement, utilitarian objects.

Some design schools are highly focused on aesthetics, others on functionality, others on design engineering, optimization, and sustainability, and others rightly focused on interdisciplinarity, but on many occasions, remain on the surface of the design process or only in the enunciation and rarely in the event, that is, in the real application in the user's experience to generate a significant change. So, in the words of B. Mayer (2014), disability and interpellation could give the University a switch to the traditional teaching processes (Mayer, B., 2014).

The space of design students is not only a creative process in its conceptualization but also a process of creating tangible and pragmatic, singular objects/devices applied to real users and situations. Therefore, they move from abstract and critical thinking to creative and concrete thinking.

In conclusion, the Academy of Industrial Design teaches to design from disability, from the "different", the marginalized, from the not "normalized", from the different issues that do not find solutions in repetition and reproduction, but unique solutions, which although they can be replicable to similar situations, they are born from the difference and the particular ²¹.

²¹ Véase video, *González, Lilián (2019) para más referencias de proyectos de diseño.*

It is the minorities from which we can learn to design in a different way. If minorities are observed, we can find solutions that generate significant changes in the subject and in the culture. Design since the last century has been focused on the plural, on the masses, on the global, on repetition and replication. Why don't we make a turn of meaning and see the problems from the singular, from minorities, for example; from disability, from childhood, from the elderly, from migration, from war, from violence, from peace, from the "residue", (Mayer, B. 2014).

Society hides the differences due to fear of what is distinct, because it does not know what to do with that which does not fit into the canons of normality. This other should be eliminated, silenced because it generates noise; noise is annoying in a culture of pleasure and that only pursues happiness without suffering, without suffering, without feeling.

The society in which we live is patching/hiding the ugly, the strange, trying to beautify everything in its path, the city, the home, everything is susceptible to this fictitious beautification, simulacrum in the words of Jean Baudrillard (2007). It is necessary to exalt the difference, to enhance it so that it is just the point of leverage for its distinction, with pride.

PROJECT OF LEG PROSTHESIS ACCESSORY FOR PARAOLYMPIC ARCHERY ATHLETE

Authors: Adriana Luengas Urquijo / Feryeni González

INTRODUCTION

In this case, it began by focusing on motor disabilities hand in hand with the Sustainable Development Goals of reducing inequalities (SDG 10) and health and well-being (SDG 3). Sustainable Development Goals of reducing inequalities (MDG 10) and health and well-being (MDG 3). By narrowing and the topic through previous research, the theme of congenital limb impairments and amputations in sport and amputations in sport and physical training. We had the opportunity to link the project with the prosthetist Joaquín Oropeza, Joaquín Oropeza, a professor at the Universidad Anáhuac México who specializes in the biomedical area, and user Katya Valdez and the user Katya Valdez, an Olympic archery athlete, who currently has a prosthetic leg and we intend to improve it.

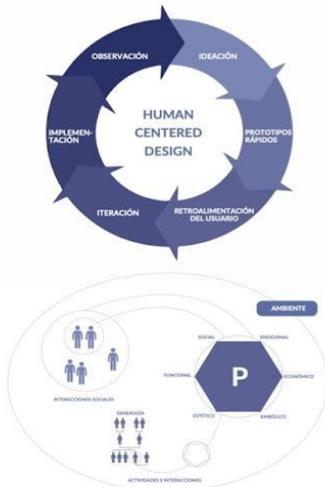
OBJECTIVE

Develop a product or service that gives people with this disability a more comfortable way to do their daily activities and sports and at the same time feel safe and empowered. In addition, this design must be inclusive and carry a user-centered methodology (Human Centered Design).

METODOLOGÍA

Human Centered Design: A creative approach to problem solving that starts with people and ends with innovative solutions that are tailored to their needs.

Forlizzi, Jodi, "The Product Ecology: Understanding social Product Use And supporting Design Culture": A theoretical framework that describes social product use by providing a path for choosing research methods and expands design culture in interaction design by enabling flexible, design-centered research planning and opportunity seeking.



RESULTS

Thanks to the insights from the interviews, problems were detected such as the complexity of daily activities, the costs of medical services and equipment are very high and not very accessible, when exercising, balance is lost, spaces are not adapted, especially gyms, since there is no inclusion.

In the second stage of research, it was detected that for users it is very important to integrate their personality and identity in their prosthesis. They require a prosthesis that is light, comfortable and accessible, since prostheses on the market tend to have very high prices.

Key Learnings

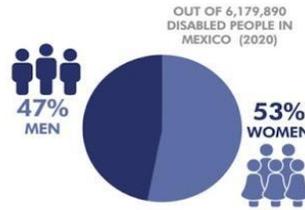
- Areas of need have been identified when performing various exercises in sport.
- The world of prosthesis is very expensive.
- The psychological part in the process of loss and recovery of the limb is very important.
- In the gym there are complications with the machines, since they are not adapted for prostheses.
- Users need a light and comfortable prosthesis.
- There is a need to integrate their personality and identity into the prosthesis and its accessories.
- Users are looking for quality at an affordable price.

SOLUTIONS

Emotional solution: Implement an educational service in which education is provided to transform a society in which there is more empathy with respect to congenital deficiencies or amputations.



Gym accessory: Implement in sports centers an accessory that supports the user when doing squats so that their feet and legs have more balance and can perform the movement better.



FINAL PROPOSAL

As mentioned before, there is a need for a prosthesis that is economical, accessible, lightweight and makes the user feel motivated and empowered. Therefore, a proposal has been generated where the user has the opportunity to choose the design of his prosthesis from a range of different proposals of patterns, colors and volumes along the piece. The prosthesis accessory covers the tibia area and follows the shape of the calf, but with a futuristic look. Also, PLA plastic is proposed as the main material and manufacturing with 3D printing that makes it highly lightweight and its price is accessible to users. It has a fastening system with assemblies that embrace the interior aluminum bracket located inside the accessory, plus a locking assembly where the two pieces are joined to adjust the piece and allow freedom of movement without falling or moving. Also, it has silicone edges that keep the accessory in place and prevent any noise caused by friction.



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Image 4, design of prosthesis covers, students: Adriana Luengas and Feryeni González, link.



Image 5: Prosthesis Before Design intervention



Imager 6: Intervened Prosthesis

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