This article is an extension of my participation in the PIVOT 21 Virtual Conference seeking to deepen the conversation around design for the pluriverses in sustainable design education in Mexico and Latin America.

As discussed in the Ancestral Future, El Futuro Ancestral panel of the Conference. We, Designers and actors from the Global South, are in the path of a transition into other ways of doing design, and dismantling the imposing structures, finding inspiration in our ancestral views of the world. The conference and the present research work raise the question of how design and design education in our territories of the Global South could learn and produce a new vision of design. A design that takes everyone into account, all terrestrial agents; a design that sustains, repairs, and respects life.

Design education in Mexico and Latin America needs to adopt sustainability at its core, and it needs to be decolonized, finding its roots in the Buen Vivir (good living, collective well-being) philosophies. My research sets the groundwork for a new design curriculum for sustainable design education that adopts this view. For this, I am mapping current sustainable design education programs and teaching practices in the most important design schools in Mexico. I used the Fringe methodology of future studies to map the new critical design studies in a time frame of what is happening now, what could happen soon and in the far future regarding these subjects to have clarity on the path we have to undertake on sustainable and social design education.

*Education for sustainability, Designs of the south, Anticolonial Design, Radical Interdependence.*
1. Introduction: The contributions of design to the crisis

As a Mexican designer with an Indio name from the Antilles, who has lived abroad in some Latin American and European countries, I have submerged myself in two worlds: the world of our ancient cultural Buen Vivir (good living, collective well-being) roots and the eurocentric modern world. Trying to raise the question of how design and design education in our territories of the Global South could learn and produce a new vision of design; one that eliminates or dismantles the capitalist structures that have submerged design as its ally on the destruction and Defuturing of the planet and its habitants. According to Tony Fry (1999), Defuturing is the denial of future worlds for us and many others of our ignored non-humans. It also denotes denial of crisis by design and a lack of understanding. He continues:

We act to defuture because we do not understand how the values, knowledge, worlds and things we create go on designing after we have designed and made them. [...] we have very little comprehension of the complexity, ongoing consequences and transformative nature of our impacts. (Fray, T., 1999, p.10)

After more than 40 years of research and calls to action by the scientific community and groups of the society, it is clear by now that the capitalist, anglo-saxon, eurocentric, patriarchal “modelo civilizatorio” has failed to provide fair equal rights and resources for all humankind and sustain life on earth. The consequences of this civilizational model are devastating, we are submerged in a socio-environmental crisis due to its depravatory practices. As mentioned by Arturo Escobar (2018): “[...]the contemporary crisis is a crisis of a particular modelo civilizatorio, or civilizational model, that of patriarchal Western capitalist modernity.”(p. ix).

Some days after PIVOT 21 came to an end, the new Intergovernmental Panel on Climate Change (IPCC) report was published (Aug 8, 2021), with alarming and not so surprising news: “Many of the changes observed in the climate are unprecedented in thousands, if not hundreds of thousands of years, and some of the changes already set in motion—such as continued sea level rise—are irreversible over hundreds to thousands of years.” (IPCC, Aug 9, 2021). The report also states that human activities are the cause of the environmental crisis: “It is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred.” (IPCC, Aug 9, 2021).

As mentioned by the Design for Social Innovation and Sustainability (DESIS) Network (2020) in their Philosophy Talk #7.2, design has a great responsibility on the state of affairs in this global socio-environmental crisis:

The environmental crisis we are facing is, at the end, first and foremost, an anthropological crisis. Design played (and often still plays) a role in this state of affairs. We designed (and still design) many products, services and systems aimed to fulfill human interests only and often only for a small portion of mankind. (Tassinari et al., 2020, p. 244)

This anthropocentric-capitalist way of thinking about design and design itself has its roots in the industrial revolution. A moment when design was, and often still is, at the service of the industry and the market. This occidental-modern view of design has put us, designers, simply as problem solvers at the service of the industry, designing merely attractive products and services that function under market logic; thus, contributing not only to the environmental crisis but also to the socio-epistemological crisis caused by the ways design shapes our worlds and cultures.
To understand its role in this crisis, it is important to understand how design formulates our lives. Everything around us is subjected to design, and design is subjected to the designed world in which it is immersed. These transformations of our realities and how design modifies our lives, show us the need to have an ontological approach to design. If we do not change the ontological understanding behind design and its practice, we cannot change the world it is designing. In the words of Escobar (2018): “Design is ontological in that all design-led objects, tools, and even services bring about particular ways of being, knowing, and doing.” (p.x).

If design has shaped the world that has shaped us, design can also play a role in changing the course of humankind; and with its new critical approaches, including learning from the south, we, designers, can play an important role in the planetary and social restoration.

Due to its tools, methods, capacity for analysis and problem solving, as well as its ability to bring together knowledge from other disciplines to transform them into a language, objects, or other media that can be understood, used, and approached by humans, Design plays an essential role in the transition of the socio-environmental crisis of the Capitalocene.

To achieve this transition, we first have to teach the new generations of designers a different approach to the already failed eurocentric patriarchal way of designing, starting with the understanding of how design shapes our world.

My research aims at answering the question: What is the best way to teach sustainable and social design in Mexico, according to our contexts and today’s socio-environmental crisis?, which might subsequently enable me to propose the first curricula in Mexico specialized in sustainable and social design.

My point of departure was the analysis of the state of education in sustainable design at undergraduate level in Industrial Design schools in Mexico.

2. Sustainable design education in Mexico

The methodology of my research consisted of the comparison of different industrial design curricula in Mexico, in combination with a series of interviews conducted with actors from the academy and the design world and day to day conversations with students of eco-design, social innovation and biomaterials courses of Universidad Iberoamericana Puebla and Centro. At the same time, different concepts from critical design studies that propose an ontological turn of design were analyzed and placed in a conceptual map using the Fringe methodology, to map the current state of sustainable and social design education in Mexico and the course it is taking.

Until recent years, and in many cases design education in Mexico is still being dictated by Eurocentric and Anglo-Saxon guidelines that on the one hand have perpetuated a dualistic and modern mentality of designers, and on the other, have prevented research and reflection on the realities that constitute the Global South, the needs of our communities and their circumstances.

According to Matilde Breña (2019), in most of these schools the educational model that predominates does not revolve around the making of research:

> Research is taught from the models and publications edited in foreign universities that, even if they are of great relevance to the field and its practice, they are also a way to consolidate the abstract universalism among the mentality of designers, which leads to ignoring the conditions and needs of the communities of our environment. (Breña, M., 2019, p. 90).

488
To better understand the state of sustainable design education in Mexico and how it is taught until now, I gave myself the task of comparing 11 curricula of Industrial Design bachelor’s programs. The chosen criteria for selecting these programs were: First, that they were certified by the Mexican Council for the accreditation of design programs, COMAPROD, whose purpose is to get design education programs accredited at the undergraduate level both in Mexico and internationally. The second criterion was that the curriculum had a social or sustainable approach, or that they had a subject related to eco-design or sustainability. And third, public and private universities that teach design were selected either by their importance, like the Universidad Nacional Autónoma de México (UNAM) or by their presence in diverse national and international design platforms, which is the case of Centro or the Tecnologico de Monterrey.

![Fig. 1. Main design curricula and their sustainable and social approach. source: self-creation](image)

Before this analysis, I conducted a literature review of the specialized sources, as well as journals, magazines, blogs, social media and other publications, to find several different approaches of the new critical design studies and new design practices, like transition design, activist design, Living Systems Design or Decolonial design, and I placed them in a map of temporalities, according to what is happening now, what could happen soon, and what could happen in a far future. This, with the objective of finding a guide for the future of sustainable design education in México. I used a method that belongs to future studies called Fringe to map the contexts, new approaches and nowadays tendencies of sustainable design and social innovation. This method was created at the Future Today
Institute, based on the detection of trends and signals that look for contradictions, inflections, practices, hacks, extremes, and rarities.

These two methodologies were then compared with data gathered through a series of interviews made to different actors of the design academy and in the broader design world in Mexico, who have an inside view of where sustainable design is at the moment and where it is heading to.

What I found from my early personal experience and verified with my research is that Mexico is still at an early stage concerning sustainable design. Even if the majority of the compared schools have a subject related to sustainable design or ecodesign, in most of the cases this is just a complementary subject, not regarded as essential to the design profile, and it usually involves the redesign of products focusing on one aspect or phase of the production or design process only, like the use of recycled materials or less harmful process. We could say it's addressed as green design (Ceschin & Gaziulusoy, 2016).

These subjects are generally taken from the 3rd year of studies onwards, the justification for this is that students need to be more prepared on the design, materials and production processes. But according to various students and some of the interviewees, among whom some are directors of the programs or the head professors of these subjects, the sustainable or social approach is being introduced to the students too late in their studies. This causes conflict to the students who have to unlearn what they have been taught and in some cases even learn about completely new design approaches like the Sustainable Product-Service System or the circular economy.

There are some cases like the Universidad Iberoamericana Puebla (Ibero Puebla) whose curricula are being changed towards a full approach of these subjects, using sustainability and system thinking to address wicked problems in design in the main design courses, so the ecodesign, social innovation and ethnography subjects are regarded as the core. Other schools like Centro are also working towards including sustainability and social innovation at the core of their design courses.
The challenge that these changes pose is the graduates’ profile contrasts with the job offers that they come across when they encounter the design professional field. The design-related fields of work are still looking for professional experts in designing good-looking products and large-scale production solvers.

Other efforts for integrating sustainability and social innovation in education are being made by the Universidad Autónoma Metropolitana (UAM), where at the terminal phase of studies some students participate with the Learning Network on Sustainability, LENS network, developing participatory design projects with different communities in the field.

In recent days an encounter of great importance to the design conversation, education and practice, occurred in Mexico. The Buen Vivir Routes, or *Rutas Para el Buen Vivir conference*, took place from the 30th of August to September 4th of 2021. It was a shared effort between Ibero Puebla and UAM to open a space for dialogue, work and share ideas and projects around design initiatives that seek to work with and for different communities, restore and sustain life, preserve and innovate crafts and aesthetic traditions in indigenous groups among many other subjects and workshops. The participants of this event could share and in the case of young design students, understand design and life experiences around the Buen Vivir philosophies of living and caring for the commons.

These philosophies are gaining interest amongst different groups and communities who find inspiration in those who have managed to resist colonial domination for over 500 years. From them, one learns a sense of community that is respectful of Mother Earth and the cosmos, which opposes the inevitably individualistic and predatory breath of development (Gustavo Esteva, 2016). Buen Vivir, live well, live to the fullest, the good life, the dignified life, correct life, good way of being, sweet life, austere life lubricated by affection, expressions such as these began to be used to distance themselves from the prevailing winds. These translations of indigenous expressions such as Sumak Kawsay (Quechua) and Suma Qamaña (Aymara) or Lekil Kuxlejal, a fair and dignified life, (Mayan Tzotzil and Tzeltal). It combines Western-centric environmental concerns with indigenous conceptions of Pachamama (Mother Earth). It vindicates the right of nature to be protected as a living entity whenever the stability and regeneration of its vital cycles are threatened (Esteva, 2016; Boaventura de Sousa Santos, 2011; Diana Albarran Gonzalez, 2020).

Another educational project that aims to change the conversation of traditional design education and promotes collaboration between design schools in Mexico, is the Taller Interuniversitario de Diseño (Interuniversity Design Workshop) or TiUD, a program that brings together students and professors from different design schools to work together in a project, in a multidisciplinary and participatory way.

It is important to note that the majority of the interviewees for this research, that, like I said before, are the head of the sustainable design courses, are also part of TiUD.

In addition, most of them are also women. When I asked about this, which might seem like a coincidence, I got similar answers: Women designers are the ones aiming for a change in design curricula, addressing sustainable and social design in their courses and talking about pluriversal design and transaction design, because we have gotten used to fight and fight for a common good.

As for the path that critical design studies, sustainable and social design is taking, the future of design, its education, and practice looks promising.

The majority of schools are beginning to understand the importance of teaching sustainable and social design education based on and inspired by our own context of the Global South, finally detaching design education from its relation with the imposed and adopted guidelines of the occidental world, it is becoming Decolonial.
These new design practices are nowadays related to Social Innovation, Participatory Design, design in collaboration or inspired by the “diseño artesanal” (artisanal design), bio-design, system thinking, circular economy. Thanks to the initiatives of some design actors and schools, as mentioned above, we are soon approaching transition design, feminist or depatriarchal design, Buen Vivir inspired design and most important, Decolonial design.

3. Designs for the pluriverses in design education in Mexico. The basis for a new design curriculum for education in sustainable design in Mexico.

To achieve the dismantling and reassembly of design it is necessary to educate future design makers with full awareness and involvement in the ontological turn that implies an understanding of the connection and interdependence between all the actors in the planetary system.

Even if design education in Mexico is transitioning to a new vision of the discipline aiming to propose a new practice that takes inspiration from the Buen Vivir philosophies, that cares for all actors involved in the design process human and non-humans and works together with different communities and groups of our own territories. It is still important to continue the conversation and urge for a new design education curriculum in Mexico centered on sustainable and social design. A specialized program with this focus could represent an opportunity for design in the global south to transcend its anthropocentric approach and for the emergence of a new way to design in Latin America, one that respects, repairs, sustains, supports and cares about life and autonomy.

After conducting the interviews, mapping the state of sustainable design education in Mexico, and immersing myself in a series of conversations and discussions, I present four basic approaches for a design education program in Mexico focused on sustainability, social and transitional design **para el Buen Vivir:**

1. **Sustainability at the core and from the start**

Today there is a widespread consensus that there should be no such thing as sustainable design. Design should, by default, be taught and practiced considering and respecting all the people and species involved in its process, working together with different disciplines and within different communities in our contexts. Sustainability should be an integral part of design education, and there should not be a choice between becoming a “product designer” or a “sustainable product designer”, many design educators are yet to embrace this multi-dimensional nature of sustainability. (Torres Maya, 2021; Papanek, 1974; Kjøllesdal et al, 2014).

All design educational programs should teach sustainability as the core of the practice and from the beginning of the studies, teaching students the methods and skills that allow them to design in a sustainable way taking into account approaches like the Product Service System innovations and community-based innovation combined with Human-Centered Design skills. (Ceschin & Gaziulusoy, 2016). So they are qualified to address the socio and environmental problems present in todays’ anthropological crisis.

2. **Observe and reconnect with Nature**

One of the key reasons and characteristics of the anthropological crisis is that modern contemporary societies have entirely lost the connection and understanding of nature and its process. Katherine Richardson (2020), a member of the Independent Group of Scientists that wrote the 2019 Global Sustainable Development Report, explains that:
For most of human history, humans knew that their daily survival was completely dependent on a respect for humanity’s connectedness with the physical and natural work.

In humanity’s most recent history, we have learned to harness external energy sources and control our own food production. These innovations removed, at least for much of humanity, the daily reminders that confronted our ancestors regarding the importance of the connectedness between humanity on the global ecosystem of which we are part.

[...] Most of us have lost sight of the fact that our societies and their continued development are completely dependent on our connectedness with the earth and its resources. (Richardson, K., 2020, p. 9)

In order to achieve a new practice of design, design students need to approach and immerse themselves in nature and natural systems. This could be achieved using methodologies of design like biomimicry or Design for Living Systems, but also by understanding and acknowledging the radical interdependency between all different agents that together constitute earth, all terrestrial, and recognize themselves as terrestrials. (Tassinari, 2020).

3. In fieldwork, confronting realities

As some of the compared schools and programs are already practicing. A key action for learning social innovation and participatory design approaches, as well as Human-Centered design methodologies, is the fieldwork. For students to better grasp a systems view of sustainability, real-world cases and practical project work needs to be a pillar of sustainable design education, with education moving outside the classroom. (Kjøllesdal et al, 2014). This not only will provide design students with real-life situations, in the case of our own context and circumstances in Latin America, it will also confront students with other realities, other world views and life experiences happening in their own territories. This is essential to understand the ontological approach of design, and how they can set in motion a design that respects these other word views and the autonomy of the communities.

4. Educating with and for El Buen Vivir and the importance of our territories

The Buen Vivir philosophies and struggles offer a source of inspiration to design, to develop another form of design, one that respects and collaborates with nature, that does not arise from a Eurocentric vision, that does not use hierarchies but the participation of extended communities of people who relate to each other to create. According to Alfredo Gutierrez Borrero:

El Buen Vivir offers a fruitful ground in design, to design in the horizontal confluence of the ontologies of many human groups, among which we can identify general similarities like an ethic that recognizes nature as a subject of rights; decolonization that embraces the ecology of pieces of knowledge; overcoming the domination and instrumentalization of others, including nature; parity approach among pearls of wisdom; alternative conceptions of nature; expanded communities of people, non-humans, spirits and artifacts; and overcoming the material base through the enhancement of experiences and affections. (Gudynas, 2011, Santos, 2014, cited in Gutiérrez, 2015).

Educating with and for El Buen Vivir approach will not only provide students with horizontal, anti-patriarchal, decolonizing, and ancestral knowledge, it will also teach the importance of these philosophies and our territories for an ontological turn to approach a more sustainable and equal future for all terrestrial agents. This would mean teaching with a pluriversal approach, that is, fostering the coexistence of multiple worlds. (Escobar, 2018)
These four basic approaches for sustainable design education is yet to be expanded as my research progresses, but it sets a groundwork to develop the first design education program in Mexico with a sustainable approach, understanding that designing in and from Latin America can be the key for design to transcend the imposed occidental, dualistic, patriarchal and human-centered approach and that from our own circumstances and with the vast tools of our communities we can help transition to a world where we relate differently with the planet, and finally all ways of living and thinking have a voice and a place in a world we design together.

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