CIRCE

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Design Education for the Pluriverse: A Study of Contemporary Pedagogy, Curricula, and 21st-century ~~Bauhaus~~ Skills and Competencies

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Design Education for the Pluriverse

A Study of Contemporary Pedagogy, Curricula, and 21st-century ~~Bauhaus~~ Skills and Competencies

by Jessica Guy

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Acknowledgments

In this essay, I write from my own lived and shared experiences, drawing from active research conducted between April and September 2023, during a six-month research fellowship with the Creative Impact Research Centre Europe (CIRCE). Donna Haraway articulates, all knowledge is unavoidable, situated, embodied, and partial (Haraway, 1998). This challenges the notion that research can possess universal neutrality; rather, this research represents my personal investment and perspective on design education in Europe.

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Introduction

This research explores practices, models of pedagogy, and curriculum of design education in Europe based on its intertwined history connected to the Bauhaus School. In the initial sections of this text, the legacies of the Bauhaus School are being explored, including its transcultural impact and a critical assessment of its influence on contemporary design education. The text then delves into the broader context of the European design canon, considering the prevailing design philosophies promoted within educational contexts. Furthermore, the writings acknowledge the inherent link between the current design education framework and traditional design and manufacturing practices, underscoring the limitations posed by this connection. This overview aims to facilitate a general understanding for readers within and beyond the design sphere, emphasizing the intricate interplay between design paradigms, perspectives, and established norms that ultimately shape the content and methodologies employed in design education.

This research has been crafted with a deliberate emphasis on critical citation, guided by the perspectives of feminist, intersectional and queer research theories. It acknowledges the potential for academia and citation to act as reproductive technologies that perpetuate and circulate knowledge within confined boundaries (Ahmed, 2023). As such, the approach for this research and citation was an inherently critical practice, aimed at challenging existing norms and expanding the scope of knowledge dissemination.

The last section of this writing explores areas of intervention for contemporary design education that can offer a more holistic and just curriculum for skills and competencies development needed to address the pressing issues of our times. The findings aspire to offer insights across a spectrum of interconnected themes, while recognizing that other dedicated design educators and practitioners are contributing from their unique vantage points, each shaping the landscape through their contextual lenses.

What might a modernized and contextual design education, reminiscent of the Bauhaus, encompass in the present day? Which types of governance models can inform contemporary pedagogy? Which emergent concepts would form the core of knowledge and skill development for future designers? What vital themes that currently go unnoticed in design education could be seamlessly integrated into the curriculum?

The Bauhaus School

The Bauhaus was a revolutionary and influential art and design school that operated in Germany from 1919 to 1933. It was founded by architect Walter Gropius in the city of Weimar, with the aim of combining technologies, crafts, and fine arts to create a cohesive and functional artistic approach (Ananny et al., 2019). The school's name "Bauhaus" comes from the German words "Bau" (meaning building or construction) and "Haus" (meaning house), reflecting its focus on bringing together various disciplines to improve the quality of design and architecture.

The Bauhaus school was renowned for seamlessly integrating research, teaching, and practice, exemplifying a holistic comprehension of the interplay between nature and technology. Its pedagogical model differt from other schools that existed at that time. It was a framework for conceptualizing the "artificial" following the idea of “what do I need to make the world” (DiSalvo, 2019). Themes such as *Gesamtkunstwerk* (Total Work of Art), the willingness to experiment, and a dedication to democratizing and making well-designed products and buildings affordable, among many other topics, originated during the Bauhaus era and remain integral components of the contemporary design canon.

The school embraced an apprenticeship and master model reminiscent of the world of the traditional craft. It defied the constraints of specialization through its interdisciplinary approach, erasing boundaries between various artistic domains (Turner, 2019). This integration extended to disciplines like architecture, painting, sculpture, metalworking, pottery, weaving, and typography, converging them into a cohesive and unified art form.

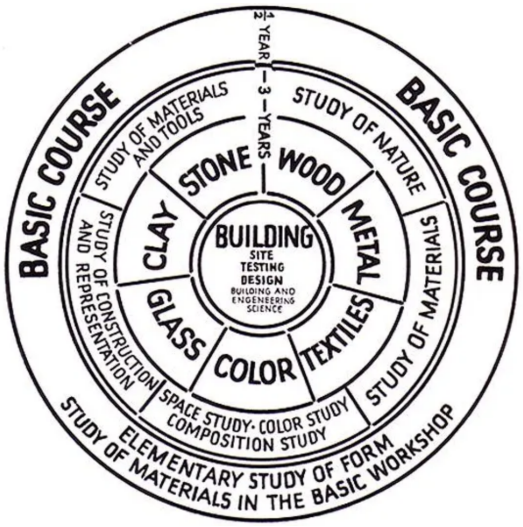

Figure 1. Diagram of the Bauhaus Curriculum (from the Bauhaus Archiv)

The Bauhaus faced political tensions and financial difficulties, leading to its eventual closure in 1933 under pressure from the National Socialist regime (Ananny et al., 2019). Despite its closure, the Bauhaus exerted a profound and enduring influence on modern design and artistic practices worldwide (Turner, 2019). The commonly recognized Bauhaus, is often associated with one particular place and moment. Nonetheless, regardless of its frequently singular reference, the Bauhaus encapsulates a diverse array of manifestations, extending beyond a singular space. The ideas and principles of the Bauhaus continued to spread globally through the emigration of its faculty and students, leaving a lasting impact on modern design, architecture, and art.

The Bauhaus after the Bauhaus

The closure of the Bauhaus in 1933 marked a poignant moment in history, yet this very event, in retrospect, may have contributed to the enduring impact of the Bauhaus. Paradoxically, its closure can be viewed both as a tragedy and a catalyst. The spirit of the Bauhaus has transcended physical boundaries, persisting beyond its original confines. Walter Gropius carried a portion of its essence from Weimar to Dessau in Germany, while Moholy Nagy transported another facet to the United States where he founded the New Bauhaus, which was later renamed to the IIT Institute of Design (Turner, 2019). These people were carriers of its principles and values, which allowed the Bauhaus to multiply and reconstruct itself in different contexts (Ananny et al., 2019). The Bauhaus historiography might never achieve a level of completeness sufficient to depict the complete range of influence and forms that the Bauhaus assumed over the past century and its impact stretches well beyond its widespread design aesthetic. From its very beginning, it symbolized a sense of optimism, envisioning that design could shape a type of society that politics alone could not achieve (Turner, 2019). Moholy-Nagy envisioned the emergence of a "new man" characterized by an integrated and creative existence, embracing the harmonious fusion of art, technology, and human consciousness (Moholy-Nagy, 1947). The Bauhaus left an indelible mark on design, influencing architecture, industrial design, graphic design, and more. This vision of design as a transformative force has shaped design education and practice worldwide, emphasizing the importance of interdisciplinary collaboration and the pursuit of innovative solutions to complex societal challenges.

Critical Perspectives and Challenges of the Bauhaus and Design Education

The Bauhaus experience wasn't without its drawbacks. The Equal Rights Act of the Weimar Republic, enacted in 1919, marked a pivotal step towards gender equality by granting women equal access to education and professional pursuits[1]. This landmark legislation aimed to dismantle gender-based barriers and promote a more inclusive and equitable society. Unfortunately, regardless of the Weimarer legislation that has given Women equal access to study, the Bauhaus has only partially implemented this equality strategy.

The Bauhaus started with a commitment to equal rights but swiftly transformed it into a discriminatory stance when the applications for the 1920 intake revealed 78 men and 59 women applicants. According to scholars like Katerina Rüedi, Gropius and the council of masters implemented a more stringent selection process, especially for women applicants, as they were already perceived to be disproportionately represented. Women already accepted were confined to disciplines like weaving, pottery, and bookbinding, with architecture being excluded. Moreover, a gender-based tuition fee disparity emerged, with women required to pay 180 marks while men were charged 150 marks (Rüedi, 1999). The policy was later withdrawn for unclear reasons, leaving uncertainty about whether this decision was imposed by the government or if there was a change of perspective. These gender-based inequalities are also represented within the 13 Bauhaus Meisters. They were accompanied by only one woman, Gunta Stözl. Stözl was the sole woman granted the title of "Meister" and was the only woman allowed to teach. This is likely one of the numerous instances in design history that served as gatekeeping mechanisms, preventing not only women from gaining access to prominent positions in design but also suppressing the representation of diverse voices within the European design canon. Despite these challenges, many women at the Bauhaus made noteworthy contributions, demonstrating artistic excellence and innovative thinking. Figures like Gunta Stözl and Anni Albers, among others, left a lasting impact, showcasing their talents and reshaping design paradigms. Fortunately, over time, the persistence and resilience of these women have gained their deserved recognition, shedding light on their vital role in shaping the legacy of the Bauhaus movement.

On the other hand, it has to be acknowledged that there have been also other events that showcase a different mentality at the Bauhaus. Particularly under the backdrop of the rise of fascist ideologies and the Volkspartei, the institution faced significant challenges related to its admission policy. Jewish students, in particular, became targets of discrimination and exclusion. Numerous attacks were lodged against the school, some even escalating to

[1] Facing History & Ourselves, Women in the Weimar Republic, https://www.facinghistory.org/resource-library/women-weimar-republic, last update May 12th 2020, Accessed 10th of August, 2023

complaints to the government, with the accusation that foreign culture was being prioritized over local culture in the admission process. In the face of these challenges, Walter Gropius and the school's directorate exhibited support for the students and the institution's admission policy. They defended the principles of artistic merit, even when faced with complaints targeting Jewish women like Friedl Dicker.

These are only a few examples of many that showcase the influence of the Bauhaus in Europe and the challenges that emerged during the Bauhaus era for design education. The predominantly hegemonic nature of design education had far-reaching effects and limited the exploration of alternative modes of pedagogy and profoundly shaped the valuation of design and architecture in general. The uncritical and unexamined white-centric presence within design realms fails to uncover the racial, cultural, and gender-biased ideologies often regarded as the benchmark of good design by many (Chin, 2017). The Bauhaus's influence contributed to the perpetuation of hierarchical power structures and to the limited exploration of alternative design paradigms that could have enriched the field with a broader spectrum of perspectives.

The pivotal role of design in shaping and upholding unsustainable systems requires a comprehensive reevaluation of design education's focus. Design education institutions play an important role in shaping not only the social, demographic, and socioeconomic diversity within the field of design but also exert a broader influence on society as a whole. They produce graduates who are equipped for professional roles and building cultural organizations, which in turn support, finance, and recognize individuals according to established norms, values, and demographics. This perpetuates a self-reinforcing cycle of design students, designers, and the concept of "good" design.

The lack of representation of various types of designers and perspectives in design history maintains norms that discourage individuals from diverse backgrounds from seeking admission to design schools (Zetterlund, 2012). Although there have been noticeable advancements, disparities persist, underscoring the need for continued and insightful actions to address the often-referenced "pipeline issue" (Chiu, 2020). This "pipeline" concept involves enhancing the representation of qualified individuals from underrepresented groups and dismantling obstacles that hinder the growth of career trajectories and advancement to higher positions.

Design education spaces have to critically review, and reflect on their existing ways of working and knowledge-sharing practices to continually evolve into more equitable spaces of learning. It is imperative to equip the upcoming generations of designers not only with the tools to address present and future challenges through design, but also with an awareness of the broader environmental, social, and ethical implications of their work. Currently, this holistic perspective is available to only a limited number of students within institutions that have already integrated such forward-thinking approaches. A critical introspection is crucial to

facilitate the emergence of design education that can redefine the practice, emphasizing systems thinking, resilience, justice, and critical making.[2]

The following section pdvelves deeper into European design and design education, pedagogical approaches, and curricula. They are summarized in three facets (1) Design Culture(s), (2) Autoren Design, and (3) Outdated Design and Production Paradigms. Although not an exhaustive selection, these three facets were deliberately chosen as they provide a framework that encompasses the key themes that have surfaced in the literature review. Moreover, the in-depth discussions with research participants consistently underscored the significance of these three facets, emphasizing their substantial impact on the shaping of design curricula and the cultivation of skills and competencies among upcoming generations of designers.

Design culture(s)

European design cultures, while rich and diverse, also face a range of challenges that shape their evolution and impact. These challenges highlight the complex interplay between traditions, cultures, innovation, global influences, and the need to address contemporary societal and environmental concerns.

Design plays a central role in shaping our experiences and surroundings yet only a small percentage of human (and non-human) actors engage directly in design processes. Notably, those who are affected most by its repercussions stemming from design choices, encompassing visual culture, emerging technologies, and urban development, often possess the least influence over these decisions and their formulation (Costanza-Chock, 2018). Ensuring representation and acknowledging marginalized voices within design narratives is an ongoing challenge that requires intentional efforts to broaden perspectives and challenge dominant paradigms. A careful examination of the designer's role and associated accountability could pave the way for a future where designers no longer hold central planning authority, but rather operate as contributors within systems (Ito, 2019).

The narrative surrounding design in the 20th and 21st century often underscores a significant imbalance in representation. When referencing design during this period, it becomes evident that the spotlight is predominantly on the contributions of white cisgender men, particularly from central and western Europe. This focus frequently gravitates towards the iconic works of

[2] The writings and research represent the author's background, experience, and upbringing in Europe, presenting a specific perspective rooted in their immediate surroundings. While these paragraphs offer a general overview of design education practices in Europe, it may not fully capture the intricate nuances and progressive developments already underway. Nonetheless, this critical review stresses the broader potential for improvements in design education. While in the same breath aims to acknowledge the efforts of individual European institutions working diligently to modernize their pedagogy, curricula, and approach within a contemporary and holistic context.

the Bauhaus era and the subsequent creations influenced by it. However, this narrative extends beyond the European context. Even when looking beyond Europe, the story remains largely unchanged, with white cisgender men from the United States frequently dominating the design canon. The history of European design is intertwined with colonialism. Colonial legacies further remain by centering the design achievements of those benefiting from colonialism while overlooking the contributions of colonized or marginalized communities. Western design ideals and standards are often upheld as the benchmark of modernity, while indigenous design traditions and perspectives are continuously marginalized or dismissed (Escobar, 2018). The legacy of colonialism still persists in design education, industry, cultural norms, and they continue to contribute to existing structural inequalities unless they are remedied (Constanza-Chock, 2018). In recent decades, efforts to decolonize design have gained momentum. The recognition of the value of multiplicity in design is gradually reshaping the discourse, challenging the dominant hegemonic narratives that have perpetuated a limited view of what design can be (Tunstall, 2013).

For example, the notion "everybody designs", shaped by Ezio Manzini, challenges the conventional view of design and calls for a reexamination of its fundamental principles and existing culture (Manzini, 2015). This concept reflects a democratization of design, and a transition towards recognizing that individuals from diverse backgrounds actively engage in shaping their environments and experiences and therefore *design* (Escobar, 2018; Manzini, 2015). This discourse is further deepened by highlighting the inherent connection between design and culture. Design is more than the creation of physical artifacts; it is the crafting of cultural meanings, practices, and immersive experiences that resonate with communities (Balsamo, 2011). The interplay prompts a critical inquiry into the evolving nature and education of design, its cultural embeddedness, and its role in shaping contemporary society.

Autoren Design

Autoren Design (Author Design) is a term used in the design world that emphasizes the individual authorship and creative expression of designers. It places a significant focus on the unique vision, artistic sensibility, and personal style of the designer as a central driving force behind the creation of a design. Many architects and designers and architects who emerged from the Bauhaus, such as Kandinsky, Gropius, Breuer, Bayer, and Mies van der Rohe, are often celebrated as author-designers, whose names are closely associated with their works. However, their contributions were not created in isolation but were deeply influenced by the creative exchange and collective spirit of the Bauhaus. The acknowledgment of the contributions and influences that played a significant role in shaping their iconic works is seldom recognized.

The singular approach to design that does not account for the diverse inputs that have shaped it continues to be a part of design education today. These authored designs that have emerged

from the Bauhaus are often presented as 'good practice,' while collaborative works or projects where contributions are acknowledged seldom find their way into curricula as “best practice examples”. The continuous given importance and praise of Autoren Design fosters an ego-centric approach, especially in young designers and design students. An overemphasis on individual authorship contributes to an exclusive and elitist design culture, where only certain designers are recognized as "author designers." This can marginalize emerging talents, diverse voices, and collaborative efforts that do not fit the mold of traditional Autoren Design (Hummels, Lévy, 2012). While aesthetics and personal expression remain important, it is crucial to balance them with collaborative works especially those with a focus on the social, ethical, and environmental implications of design decisions (Ansari et al., 2018).

Learning environments should serve as an arena for knowledge exploration and experimentation that foster collaborative and participatory practices that have the potential to cultivate a shared understanding of reciprocity and *response-ability* (Hepburn, 2020; Haraway, 2016). This idea of "response-ability" underscores our role as responsive beings, highlighting our responsibility towards both each other and the environment (Ingold, 2016; Wall Kimmerer, 2015). It underscores the significance of collaboration and participatory making and collective agency in addressing complex challenges and creating adequate interventions (Dunin-Woyseth, 2007). Hence, shifting away from the importance of the "Autoren design" concept and acknowledging the collective contributions of works can foster a transformation in design cultures, promoting a mindset that values interconnectedness and encourages collaborative approaches.

An outdated design and production paradigm

The outdated design and production paradigm stands as a relic of bygone eras, a system ill-suited to the challenges and possibilities of our modern world. The trajectory of design education, deeply rooted in the legacy of the Bauhaus, once tailored to the demands of mass-produced standardized goods, now finds itself at a crossroads. At its core, it champions a linear, one-size-fits-all method of design and production. It reinforces a consumption-driven culture, where products are designed with planned obsolescence, and the environmental toll is staggering. Finite resources are extracted at alarming rates to fuel the relentless demand for products, exacerbating ecological degradation and contributing to climate change. The realm of outdated design education can leave students ill-prepared for the dynamic challenges of the 21st century (Hummels, 2021).

Decentralized community-based manufacturing, as exemplified by maker spaces, which incorporate principles of circular economy, can play a pivotal role in transitioning from a "Product in - Trash out" (PITO) paradigm to a "Data in - Data out" (DIDO) model (Armstrong, 2020). This innovative design approach leverages on global connectivity for data transmission rather than physical products, prompting a reevaluation of production methods, materials, and

customer-product interactions (Bassi, 2020). This concept is driven by initiatives worldwide, including the Fab Lab Network[3], Fab Foundation[4], Distributed Design Community[5], and the One Army Community[6]. Communal, decentralized, and autonomous design challenges the conventional and outdated design and production paradigm by advocating for collaborative, contextually sensitive, and socially responsible approaches (Escobar, 2018). Nonetheless, design and manufacturing principles like these are acknowledged within a restricted scope of design education environments. Eventhough imposing limits on the expansion of production can offer a thought-provoking departure from conventional growth-oriented ideologies. Setting boundaries on the relentless pursuit of production, can offer a unique opportunity for creative flourishing and a renewed sense of autonomy can emerge (Illich, 1973). Designers and educators alike must champion holistic design approaches that prioritize ethical considerations, environmental stewardship, and emerging critical-making methods.

Amidst this scenery, outdated design paradigms persist, upholding their hegemonic presence, and hindering the evolution toward a regenerative, justice-centered, and systemic approach to design in which governance, ontologies, and epistemologies are considered. The urgency for change is underscored by the importance to cultivate designers who possess competencies catering to both the demands of a professional career and the imperatives posed by our evolving societal, political, and environmental challenges. Recognizing the interconnectedness of these aspects, this exploration underscores the pressing need for a holistic design education that equips future designers with the critical tools to address the multifaceted and emerging challenges of an ever-evolving world.

[3] https://fablabs.io/
[4] https://fabfoundation.org/
[5] https://distributeddesign.eu/
[6] https://www.onearmy.earth/

Towards a Contemporary Design Education: Research Setting, Methodology, and Reflexive Research Activities

The methodology for this research employed a multifaceted approach to gather insights and perspectives from various actors within the field of design through a literature review and a mixed-method approach for reflexive research activities. Semi-structured interviews were conducted with both design practitioners and educators, providing in-depth qualitative data. A digital questionnaire was utilized to quantitatively reach a broader audience, including design students and alumni, as well as practitioners. Additionally, a roundtable conversation featured three participants, focusing on innovative interdisciplinary educational models. The research process culminated in a co-creation session, where participants collectively curated modular and contextualized design curricula, inspired by the concept of the pluriverse and informed by the research findings. The formulation of questions for both the interviews and questionnaire adhered to a structured approach, as illustrated in (Chart 1, inspired by Danah Abdulla). These questions followed a funnel-like progression, beginning with broad introductory inquiries that encouraged interviewees to share their personal and professional experiences. Subsequently, the questioning process became more directive, delving deeper into the specifics of their educational practices. This approach facilitated an exploration of the opportunities and challenges encountered within design education, ultimately enabling a nuanced understanding of the subject matter.

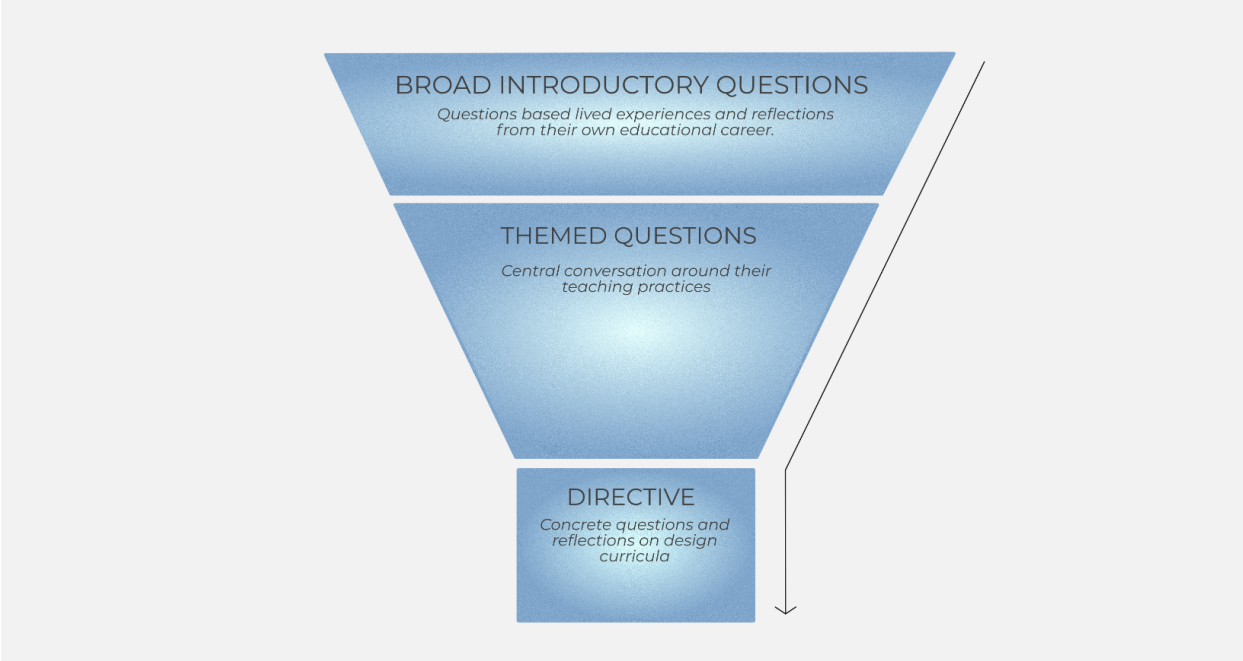

Chart 1. Funnel approach, adapted from Danah Abdulla

Lastly, all the insights gathered from these research activities were meticulously transferred and translated into a Kumu map, an open-source digital interface. This map serves as a dynamic and accessible platform that visually represents the interrelations between key concepts and ideas within design curricula. It functions as both a repository of the research's content and a living documentation space, capable of evolving and expanding with future research endeavors.

Semi-structured qualitative interviews

The research employed a qualitative approach utilizing semi-structured interviews to gain insights into contemporary design education and its alignment with emerging themes and critical perspectives. The overarching objective was to capture a pluralistic view of experiences and perspectives within the field, thereby enriching the understanding of the current state of design education. The interviews were conducted through virtual platforms, providing a convenient and accessible means for participants across different geographical locations to engage in the study. Initially it was planned to conduct 8-10 interviews within the 6 month research period. However, there was a slight shift in the implementation of the interview process. While six interviews were initially conducted in a one-on-one online format, three of these interviews were restructured into a round table discussion. The rationale behind this modification stemmed from the insights gathered during the interviews, as participants expressed interest in engaging with the research theme on a broader scale alongside fellow allies. Consequently, the initially closed framework of individual online sessions was transformed into an open and collaborative format, elaborated upon in the Round Table Conversation section (p. 18).

Sampling and Participants

A total of six semi-structured interviews were conducted, involving a critical selection strategy to ensure a broad spectrum of viewpoints. The participants were selected from various professional backgrounds to ensure diversity and comprehensive coverage of the subject matter. Additionally, the years of experience of the participants ranged across the spectrum, encompassing early-career educators, seasoned practitioners, and interdisciplinary experts. The interviews were conducted with participants from five different countries, namely Spain, Colombia, India, Italy, and the United States, reflecting a range of cultural and educational contexts.

Data Analysis

The collected interview data was transcribed and coded using thematic analysis techniques. This process involved identifying patterns, recurring themes, and noteworthy insights within the interview transcripts. The coded data were organized into themes and subthemes, facilitating a comprehensive analysis of the participants' responses.

Questionnaire

The research employed a digital questionnaire to gather insights from a wide range of designers and design students, aiming to achieve a broader perspective on contemporary design education and its alignment with emerging themes. The primary goal was to gather a substantial quantity of responses from individuals with diverse design learning experiences. The questionnaire was developed using the Typeform platform, offering a user-friendly interface for respondents to engage with the survey. It included a mix of open-ended, and closed-ended questions and Likert scales to capture both qualitative insights and quantitative data. The questionnaire was disseminated through multiple channels, including social media platforms, newsletters, and the Distributed Design Platform community, ensuring a wide reach within the design community.

Sampling and Participants

The digital questionnaire was designed to reach a diverse audience of designers and design students globally. By employing an open distribution strategy, the research aimed to include participants from various backgrounds, experiences, and geographical locations. The sample was intended to be extensive, encompassing participants with varying levels of expertise in the field of design.

Data Analysis

The collected questionnaire responses were subjected to thematic analysis, wherein qualitative insights were identified, coded, and organized into themes. The closed-ended questions were analyzed quantitatively to discern trends and patterns in respondents' choices. This mixed-method approach allowed for both in-depth exploration of individual experiences and the identification of broader themes within the research.

Table 01 — Interview and digital questionnaire questions and relation to research questions

Research questions
(1) What might a modernized and contextual design education, reminiscent of the Bauhaus, encompass in the present day?
(2) Which types of governance models can inform contemporary pedagogy?
(3) Which emergent concepts would form the core of knowledge and skill development for the designers of the future?
(4) What vital themes that currently go unnoticed in design education could be seamlessly integrated into the curriculum?

Question Phase	Research Question #	Questions	Target Audience
Introductory Questions		How do you describe/ or name your profession? Or position?	Eudcators, Design Practitioners, Students
		When was the moment when you decided you wanted to follow a design career path? Can you remember the day/ interaction/ feeling you had?	Eudcators, Design Practitioners
		Which educational path did you follow?	Design Practitioners, Students
	4;	How satisfied were you with your education in general?	Students
	2; 3; 4	What are the most precious moment that you hold dear from your own design education?	Eudcators, Design Practitioners, Students
	3; 4	Looking back to the start of your career start, did you feel prepared?	Eudcators, Design Practitioners, Students
	2; 3; 4	What were the most frustrating moments during your own design education?	Eudcators, Design Practitioners, Students
	1; 2; 3; 4	Imagine your dream design education journey, how would it look like?	Design Practitioners, Students
Themed Questions		What are you teaching?	Eudcators, Design Practitioners
	2	How does a typical day in your classroom look and feel like?	Eudcators
	1; 2;	How do you decide what you would like to teach/ on your curriculum?	Eudcators
	2; 3	Is it being updated on a regular basis? Or has it been set out at one point and since there have been little significants changes?	Eudcators
	2	Is it easy for you to navigate the bureaucractic landscape in your institution? Meaning how much or little freedom do you have for your decission making (pedagocy & curriculum)	Eudcators
	2	how much influence did you have as a learner or a group of learners, on how and what was being taught?	Design Practitioners, Students
	2	If you had an influence on the curricula, explain how educators or learners facilitated that.	Design Practitioners, Students
	2	What were the main modes of knowledge exchange?	Design Practitioners, Students
Directive Questions	1; 3; 4	Do you classes focus mainly on theory, or are they practice based? Or both?	Eudcators
	1; 3; 4	Can you explain a bit the importance and/or balance of each.	Eudcators, Design Practitioners
	1; 3; 4	What are the main references that you are sharing with your students?	Eudcators, Design Practitioners
	1; 2; 3; 4	How have you chosen them? Are they being updated on a regular basis? (Noteworthy designers, studios, design approaches and methods etc)	Eudcators, Design Practitioners
	3; 4	From your point of view, which are the skills/topics that are most relevant for students to learn?	Eudcators, Design Practitioners
	3; 4	What subjects or courses made you feel most prepared when starting your career?	Design Practitioners, Students
	3; 4	Which are the ones that are currently not being taught/ not taught enough - but would be necessary to be integrated?	Eudcators, Design Practitioners
	1; 3; 4	Do students learn about their own terretory / cultural backgrounds designers, artists, architects, design cultures and history?	Eudcators, Design Practitioners
	1; 3; 4	How prepared did you feel, or do you feel, to address the social and environmental challenges that we are facing through your design practice?	Design Practitioners, Students
	1; 3; 4	In your point of view, what were the three most important (design) theory subjects that were covered during your learning experience?	Design Practitioners, Students
	1; 3; 4	Did you experience project-based learning?	Design Practitioners, Students
	1; 3; 4	Please mention 2 -3 themes that were covered and with whom these projects were developed	Design Practitioners, Students
	1; 2; 3; 4	Was your learning experience more process or outcome orientated?	Design Practitioners, Students
	1; 3; 4	List 5 technical and 5 social skills that you have learned during your design education.	Design Practitioners, Students
General Questions	2	Are there any feedback mechanisms for your students for the governance, curriculum, teaching style or similar?	Eudcators, Design Practitioners
	1	In you eyes, what are the main areas of improvement with Design Education?	Eudcators, Design Practitioners
	1	How do you imagine your dream design education?	Design Practitioners, Students

Table 1. Interview and digital questionnaire questions in relation to research questions

Round table conversation

To gather in-depth insights and opinions on alternative emerging education forms and it's alignment with emerging themes, a roundtable conversation was conducted. The primary objective was to engage with educational experts in a semi-structured conversation to explore nuanced perspectives and experiences in a collective knowledge-sharing atmosphere. The recording is available here. As highlighted in the preceding section, the round table conversation was a modification from the originally intended online one-on-one interview format. This transformation aimed to render the conversation's insights more accessible to a wider audience.

Participants

The roundtable conversation included three participants who are established experts in the field of design and maker education and practice. The initial speaker represented a local (Spanish) institution dedicated to offering educational avenues for individuals with marginalized, immigrant, and LGBTQ+ backgrounds. The second speaker fulfilled the role of a program contributor and publisher for an educational initiative (incl. masters degree) grounded in the principles of commoning. This master's program, in contrast to requiring tuition fees, provided a designated budget to each participant for the realization of their projects. The final speaker held the position of director for a Master's program exploring emerging futures, a program concentrating on cultivating skills and competencies for designers in the realm of emerging possibilities. This master's program is centered around maker learning approaches and innovative tools for envisioning future scenarios.

Format and Conversation Framework

Unlike conventional roundtable discussions where hosts or moderators dictate themes and questions, this particular roundtable adopted a horizontal organizational approach. All participants convened two weeks before the event to collaboratively select the discussion theme (pertaining to design and maker education) and formulate the questions to be explored collectively. This pre-meeting served two primary purposes: firstly, to facilitate prior acquaintance among speakers and, secondly, to instill a sense of ownership and empowerment regarding the event itself.

Concerning the first objective, typical roundtable participants often meet for the first time on the event day. As part of this research, an alternative approach was undertaken to test whether familiarizing participants beforehand would result in a smoother conversation flow. This aspect also significantly impacts the experience for the audience attending the roundtable. A coherent and engaging conversation flow can enhance the interest and interaction for both participants and observers. In line with the second objective, the concept of collective governance and agency holds relevance for design curricula. Thus, the collaborative decision-making process to determine conversation themes was closely aligned with the essence of this research.

Figure 2. Roundtable conversation (© Manuela Reyes)

Analyses of Themes

The insights for the issues and themes were derived from the questionnaire responses, interviews, and roundtable conversations and underwent an analysis to identify common patterns. This analysis, as depicted in (Chart 2), represents a thematic examination of the challenges and issues prevalent in contemporary design education. The identified issues, in conjunction with the themes (Chart 3), serve as central areas of focus for potential interventions and exploration for contemporary design education. The following writings in the section “Beyond Surface Reforms: Fostering Emergent Design Cultures through Design Education” encompass reflections of the research activities using the literature review as a conceptual framework. The writings are clustered into two sections (1) A Critical Approach to Teaching and Being Taught, and (2) Design Activities and Practice. This is an attempt to cluster ideas around the notions of pedagogy and curricula - the design knowledges and activities. Resulting in an overview of interventions that can inform what skills and competencies are relevant to design students in a modular, contextualized design education framework.

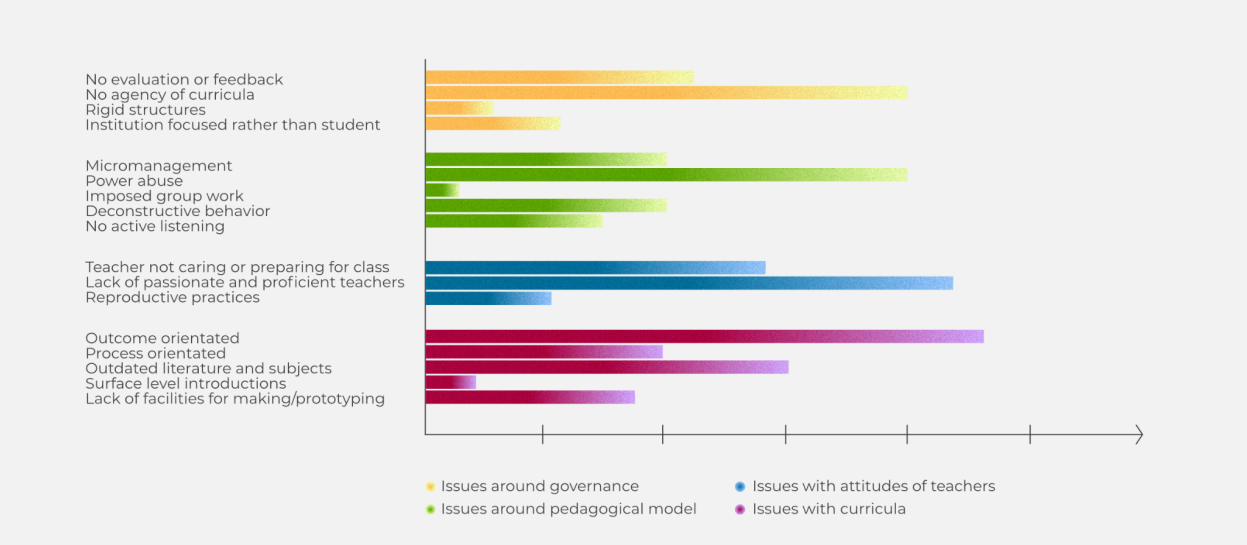

Chart 2. Thematic analyses of issues encountered in design education

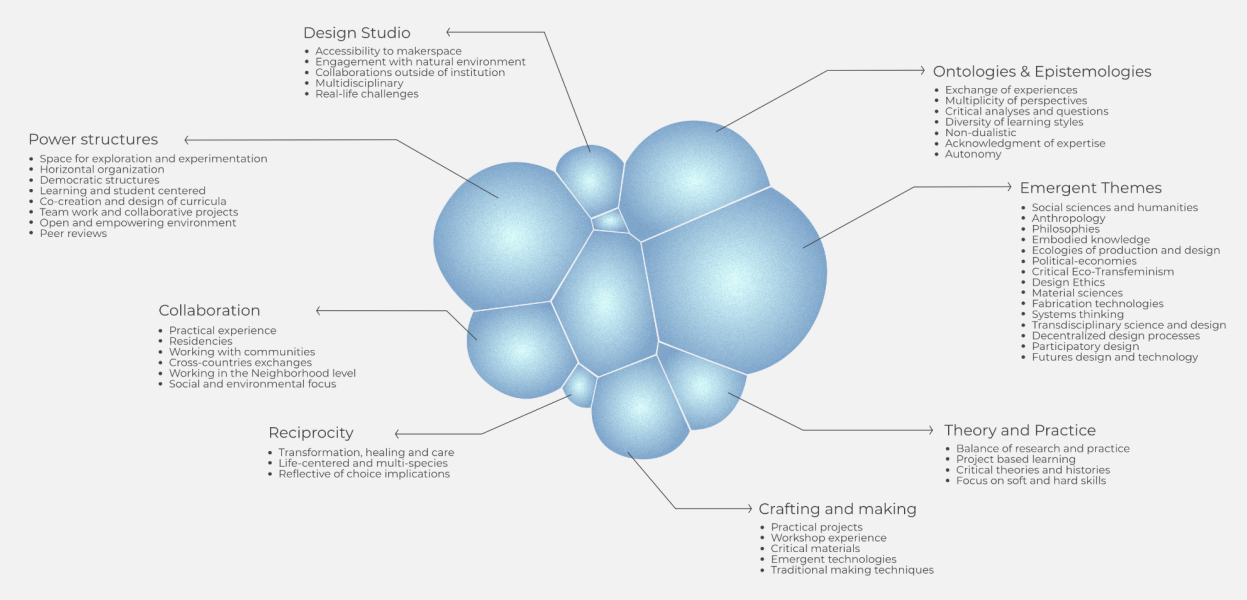

Chart 3. Themes emerging from the research activities

Co-creation of updated Bauhaus Wheel of Learning

In the last phase of the research a collective workshop was convened, bringing together participants from the interviews, roundtable conversations, and questionnaire respondents. The purpose of this workshop was to facilitate the collaborative curation of one distinct design curriculum. The primary goal was to foster cross-pollination of ideas stemming from diverse perspectives, resulting in a prototype collective design curricula. These curricula adopt a visual format akin to the Bauhaus Wheel of Learning while affording participants the creative freedom to explore their unique modes of expression. Leveraging the rich tapestry of lived experiences

and viewpoints within the field, this workshop aimed to enrich a pluralistic approach to conceiving how design curricula can be collectively curated. The evolution of this curriculum design approach remains an ongoing process involving some of the research participants. The outcomes presented in the writings signify the initial iterations, with subsequent refinements expected as this approach continues to be actively implemented and practiced by the participants within their educational settings.

Participants

In the collaborative design session, two individuals who had participated in the interviews, one from the roundtable conversation, and four respondents from the questionnaire expressed their willingness to join and contribute to the collective endeavor.

Format

The online workshop was conducted to accommodate participants from various parts of the world and lasted approximately 1.5 hours in Miro. The initial 20 minutes were dedicated to introductions, where participants shared their names, pronouns, and backgrounds. Following this, the workshop's dynamics were explained in a few minutes, leaving most of the time for conversations and reflections.

The first activity of the workshop involved participants reviewing themes related to emerging design curricula and adding any relevant themes they felt were missing. Subsequently, participants were organized into groups based on the themes they chose. Each group was provided with a digital canvas to position their chosen theme. Once themes were established, participants had the opportunity to review and select subjects and skills to associate with their theme. These subjects were not presented in any particular order but were derived from the literature review and previous research activities. Participants were encouraged to add any subjects or skills they considered relevant using digital sticky notes.

The next step required groups to curate the subjects around their chosen theme. However, there was a consideration regarding potential bias if an example was provided, as participants might be influenced to structure their themes similarly. To strike a balance between guidance and freedom, an example, which represented a more flexible iteration of the Bauhaus wheel, was prepared but hidden. Participants were given the choice of whether they wanted to view the example or preferred not to be influenced by it during their design and curation process.

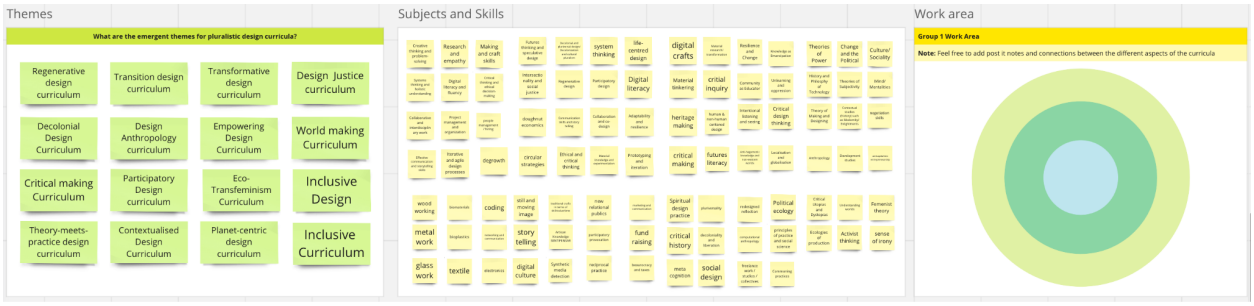

Figure 3. Miro board for curricula co-design session

Open Source Documentation: Kumu to live beyond CIRCE

The insights gathered from the research activities are thoughtfully curated and translated into a Kumu map, a dynamic platform that simplifies the organizing of data into relationship maps. This alternative version of this research paper is publicly accessible and designed to evolve collaboratively with practitioners in the field. The map visually represents the connections among concepts and ideas from this research, showcasing the interplay between various elements. Through different "views," it provides diverse perspectives on how design education can take shape, each view centering around a specific theme contextualized to the local educational environment and influenced by current global and local factors. These themes are linked to relevant concepts and associated skills allowing for flexibility. Unlike the rigid three-phase structure imposed by the Bauhaus's wheel of learning, this approach fosters modularity, exploration, and contextualization.

Furthermore, it serves as both a repository of the research's content and a living documentation space, capable of growing with future research endeavors. It is a tool that can invite educators and students to co-design the curriculum collaboratively from the outset of their learning journey. Educators can curate educational offerings while allowing students the agency to decide what areas to focus on. While there may be other platforms, tools, or methods for achieving these goals, Kumu can provide the technological infrastructure for this initial iteration.

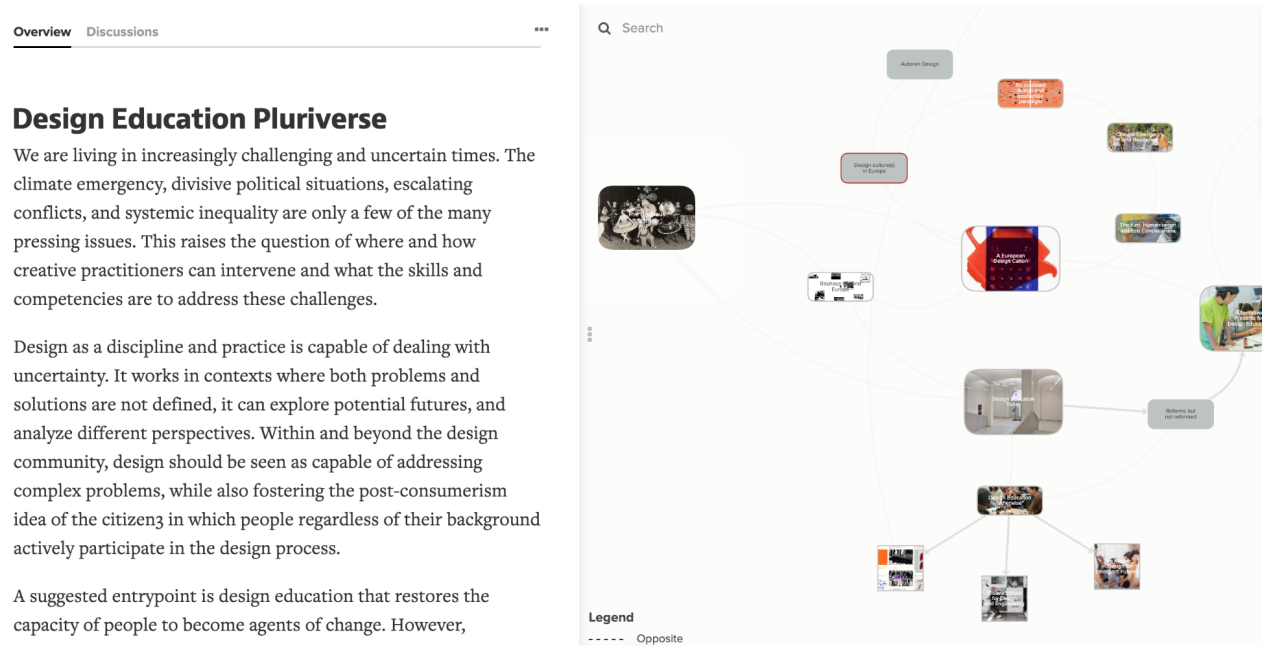

Image 4. Open Source Documentation in Kumu

Limitations of Method

The variety of methods served as a valuable tool for capturing an array of perspectives from design and interdisciplinary educators and practitioners across different countries. This exploration of emerging themes and gaps within contemporary design education shed light on critical insights that contribute to the ongoing dialogue surrounding the evolution of design pedagogy. While efforts were made to ensure diversity among participants, the study's small sample size and specific selection criteria may limited the generalizability of findings to a broader context. Additionally, the virtual nature of the interviews may have influenced the depth and nuance of responses. The primary limitation of the digital questionnaire method is the potential for self-selection bias, as participants who choose to respond may have certain characteristics that differ from non-respondents. The open distribution strategy may also result in a skewed sample that is more engaged with digital platforms. Additionally, the questionnaire's closed-ended questions may limit the depth of qualitative insights compared to traditional qualitative interviews.

Beyond Surface Reforms: Fostering Emergent Design Cultures through Education

The following section is the culmination of a six-month research odyssey, presented through a reflective lens. The findings are organized thematically into three distinct sections, including sub-aspects to showcase some of the nuances that are encapsulated within. Furthermore, each written piece is enriched with inspiring and insightful quotes from the research participants. It was crucial to share the viewpoints of these research participants to fulfill the research framework's aim of showcasing a plurality of perspectives beyond the authors.

The first section "A Critical Approach to Teaching and Being Taught," explores the evolving roles of educators and learners. It emphasizes the need for a shift from hierarchical structures and authoritarian figures to educators as facilitators and curators of design narratives. It highlights the importance of incorporating diverse perspectives, narratives, and experiences into design pedagogy, emphasizing critical reflections and nurturing a culturally sensitive approach.

The second section, "Design Activities and Practice," delves into the practical dimension of design education. It underscores the significance of engaging with a wide array of design activities, from collaborative and reciprocal practices to crafting, making, and digital fabrication technologies. Moreover, it examines the vital role of material exploration and regenerative practices in design to shape the contemporary skills and competencies of future designers.

A Critical Approach to Teaching and Being Taught

As we delve into the modern landscape of design and design education, it becomes increasingly evident that traditional systems are grappling with obsolescence. Its steady adherence to the paradigms of the industrial era has led to a rigidity that no longer serves the multifaceted and interconnected nature of today's design practices. The analogy of schools as factory assembly lines, marked by standardized schedules, compartmentalized subjects, and age-based groupings, underscores the dire need for an overhaul (Hummels, Lévy, 2021). The progression of acquiring proficiency has often been portrayed as a seemingly uniform transition from a novice stage to an expert level. This portrayal carries an underlying assumption that students lack skills rather than possessing a foundation that can be enhanced. Within this outdated thinking, design education follows a unidirectional trajectory, where knowledge primarily flows from instructors to students as the latter advances from a "non-designer" state to become a "designer" (Gray, 2022; Siegel, Stolterman 2008). We can source inspiration from some of the core values of the Bauhaus, that design education can be a way of thinking through things, through pedagogy, and through design (Ananny et al., 2019).

It's important to mention that all knowledge shared in design education like design history, ethics, and philosophy, among others, are human constructs designed for human understanding. While they offer valuable insights, they are inherently limited, providing only certain perspectives on the diverse world of design (Findeli, 1995). In the pursuit of comprehensive design education, it's crucial to recognize the subjectivity and partiality of these knowledge systems. As we explore contemporary design curricula, we must be aware of the interplay between various ways of knowing, the evolving nature of design knowledge, and the goal of providing a holistic education for students to navigate the complexities of design.

Inspired by the core values of the Bauhaus, the following writings aim to inspire design educators and institutions towards embracing diverse perspectives and knowledges, recognizing the limitations of human-made knowledge systems, and shifting towards non-hegemonic pedagogical approaches. Three areas of intervention for an updated pedagogical approach are summarized in the following aspects "Learning and Exchange Dynamics", “Collectively Curating Narratives” and “Integrating Emergent Themes”.

Aspect 1: Learning and exchange dynamics

> *"I imagine a learning journey where the students feel at first open and allowed to explore as much as possible, focusing on what interests them the most, where inclusiveness is at the center. Then as you go through it, you learn real applications for your interest and support to find or make yourself a contributing part of society." - K.V.*

In traditional learning environments, teachers typically hold positions of authority, shaping the educational experience by dictating what, how, and where students learn. Traditional jury processes that judge work by experienced individuals can reinforce power hierarchies (Burroughs, 2017). A peer review method that encourages collective reflection among participants could provide a more suitable alternative. This approach would enable a comprehensive understanding of the development of works, the challenges overcome, skills acquired, and insights gained throughout the learning process (Burroughs, 2017). Alternative learning dynamics can emerge through collaborative course syllabi creation and various forms of self-expression and communication, inspired by pedagogical models like Freire's pedagogy of liberation (Burroughs, 2017; Freire, 1970). Blurring the lines between teachers and students encourages reciprocal teaching and learning (Freire, 1970), promoting respectful challenges and meaningful dialogues (Abdulla, 2017; Freire, 1970; Shor, 1992; hooks, 1994). This further supports the idea that educators have a responsibility to establish safe spaces that facilitate the integration of diverse perspectives and experiences into the learning process (Hepburn, 2020).

In the context of e.g. studio learning, the conventional teacher-driven model gives way to a dynamic space where students are empowered to explore, analyze, and question concepts independently, fostering a deeper comprehension of their personal experiences in the broader

global context (Hummels, Lévy, 2021; Hepburn, 2020). Learning is a process of understanding and improving personal skills, and teachers are asked to provide an environment and facilitate that process (Rognoli, Who, 2019). It is the teacher's responsibility to guide knowledge exchange, recognizing the potential of each student as a critical thinker and agent of change. This approach transcends the confines of the classroom, incorporating external design contexts and acknowledging the professional influences that contribute to holistic learning (Freire, 1970). Such pedagogical approaches prioritize students' holistic development and the cultivation of a sense of *collectivity* within the classroom *community*.

Aspect 2: Collectively Curating Narratives

> *"I enjoyed moments in which the class came together in intellectual discussions on the state of the world and the relevance of our ideas and opinions. These exchanges were capable of shifting our current understanding and would go beyond our backgrounds and expertise." -A.M.*

The curricula and knowledge systems in contemporary design education in Europe have, to a significant extent, remained limited in scope. Primarily revolving around (Central and Western) European designers, Bauhaus design principles, and the post-Bauhaus era creations that emerged as a result of the widespread influence of individuals associated with the Bauhaus movement. The landscape of knowledge production and creative practice in the design field requires a profound reconsideration and continuous critical review of how hegemonies and exclusions are constructed and (re)produced (Tunstall, 2013; Mazé. 2019).

Syllabi, once perceived as impartial repositories of knowledge, need to be recognized as personalized compilations, requiring critical evaluation and reshaping (by students and educators) to align with a variety of viewpoints (Dovey, 2023). This discourse is amplified by a body of literature that directs attention toward design practices within marginalized groups, thus shedding light on alternative narratives of technology and design, which in turn addresses the deficiencies present in mainstream design canon (Willis, 2015). As design educators determine between what to reveal and what to omit, they mold and outline a particular standpoint. Such a standpoint resonates through learners' interpretations, subsequently shaping their perceptions of existing ontologies.

Central to this exploration is the fundamental premise that all forms of knowledge hold value and have the potential to enrich the design curriculum. This perspective resonates with the earlier mentioned collective experiences, of not only educators but also students and participants contributing to the diverse and multifaceted body of design knowledge. Within this context, an essential facet is to maintain a critical lens. One of the most significant responsibilities is to actively challenge and question what is being taught, rather than passively accept and perpetuate, the narratives of design histories and presents (Mazé, 2019). This can contribute to design education's capacity to provide a platform for the meaningful exploration of design ontologies and epistemologies (Findeli, 1995).

> *“Co-creation sessions might be the best way to update curricula. … I can imagine a one-year experimental program with the potential students who are included in the curricula design from the early stages.” - F.M.*

In this light, educators should cultivate an environment open to different ontologies adopting roles as curators rather than authoritarian figures of singular truths (Dovey, 2023). By acknowledging diverse perspectives, lived experiences, and narratives, teachers cultivate diverse design cultures that resonate with the philosophy of decolonizing practices. Embracing this pluriversal learning approach encourages cross-pollination of ideas, enriches design paradigms with diverse viewpoints, and facilitates an interplay of multiple experiences and ontologies.

Aspect 3: Integrating Emergent Themes

> *"For me my dream education would be a series of very different experiences that would bring me out of my comfort zone, would prevent premature specialization or limitation, would be shaped and motivated by encounter and the different contexts it traverses, trying to break open the artistic bubble by being confronted to different realities and struggles." - D.P.*

Despite the enduring significance of Bauhaus-originated theories of color, form, material and shape, contemporary design education has not evolved sufficiently in addressing vital themes that are equally crucial in today's design landscape. There is a noteworthy gap in terms of fully incorporating essential topics such as regenerative design, circular design, post-human design, interspecies designs, ecologies of design and production, and life-centered approaches. These themes hold significant importance in cultivating the foundation for resilient and regenerative futures in the field of design. However, their presence within educational frameworks remains notably limited, indicating a need for an expanded curriculum that can effectively tackle the multifaceted challenges present in contemporary design education. In a rapidly evolving world where environmental concerns, ethical considerations, and social impact are of absolute significance, the absence of these critical themes within the curriculum seems like a missed opportunity.

The finite nature of resources within a world with constraints should be considered and made explicit in design education. It dispels the notion that limitless possibilities exist, urging for a creative pursuit that makes designs possible within existing frameworks and finite resources. By infusing these concepts into the educational landscape, design education can empower students with the knowledge, skills, and ethical perspectives required to tackle the complex and interconnected challenges of our time (Escobar, 2018). As design evolves beyond mere aesthetics and function, a curriculum that embraces these themes becomes a critical agent in shaping a more regenerative, equitable, and just design practice.

Design Activities and Practice

There's a growing emphasis on academia in design curricula that sometimes overshadows practical experiences. To foster holistic design education, it's vital to create an environment where academic theories and real-life experiences hold equal importance (hooks, 1994). Budgetary constraints often push institutions toward theory-focused curricula, limiting opportunities for collaboration with e.g. freelance design practitioners who can bring practical workshops and valuable insights to education. Collaborating with professionals from diverse fields enriches the design discipline by incorporating aspects like experience, values, and cultural diversity (Hepburn, 2020).

The focus on aesthetics over substance, stemming from movements like the Bauhaus, is driven by portfolio-oriented education that can lead to challenges for students transitioning to the professional world (Beirut, 2007). A deeper understanding of design emerges where theory converges with practice and becomes intertwined with the complexities of real-world contexts. Within these realms, the acquisition of knowledge becomes deeply rooted in immersive experiences that stretch far beyond the traditional classroom setting.

> *"Design Education always goes hand in hand with practice. That is the main challenge that most design students are struggling with. A good balance between research and practice is something that most design education programs seem to be lacking."* - *F.M.*

To redirect design towards a transformative practice an awareness of how design interlaces with diverse contexts and practices is imperative (Fry, 2012). In addition to delving into the facets of what is explicitly taught within the realm of design education, the following section outlines the diverse activities in which participants of design education can engage in three aspects “Practicing reciprocity, “Project-based learning, and collaborating with”, and “Crafting and making: regenerative materiality”. Anticipating future trends and skill requirements is crucial to provide a comprehensive toolset derived from both theory and practical experiences.

Aspect 1: Practicing reciprocity

> *“I dream of a design education where I am empowered to be critical of design theories and approaches that have been based on hierarchical dualistic reductionist and anthropocentric thinking. An unrooting of design and a weaving of alternative mindsets for design. It would also be an embodied, experiential, transdisciplinary process of knowledge creation. It would be aimed towards healing our relationships with each other and the biosphere, not for the pursuit of growth, or consumerism. It would be a deeply transformative journey.” - M.I.*

Central to design education should be the acknowledgment and relation between humans and the rest of the natural world—an understanding encapsulated by reciprocity (Hepburn, 2020). Reciprocity, a fundamental concept, is not necessarily central to many European cultures. The profound shifts brought about by the Industrial Revolution further diminished interconnected

approaches in various regions of Europe. These changes were also reflected in the educational paradigms of the time. The Bauhaus, with its strong industrial focus, had little room for concepts like reciprocity within its curriculum. Consequently, the notion of reciprocity has rarely made it into mainstream design education, if at all. This highlights an opportunity for contemporary design education to revisit and incorporate these principles, recognizing their significance in fostering more holistic and interconnected design practices. Indigenous knowledges hold the potential to enrich contemporary design education by fostering a regenerative, culturally respectful, and holistic approach to design that transcends industrial methodologies (Escobar, 2018, Wall Kimmerer, 2015). Central to many indigenous wisdoms is the recognition of interconnectedness with non-human entities, challenging human-centric perspectives (Arista, 2021). This perspective resonates within the design field, promoting post-human and life-centered design and interspecies collaboration, emphasizing design's role within the broader ecosystem of life.

In a world where the consequences of design decisions ripple through both human societies and ecological systems, the concept of reciprocity serves as a guiding light in design education. This recognition emphasizes the impact of design choices on ecosystems and communities, and the responsibility of designers to craft designs that not only give back but also safeguard the environment (Antonelli, Rawsthorn, 2022). It amplifies the far-reaching implications of design choices, extending beyond mere aesthetics or functionality. It prompts designers to shift from a narrow perspective focused solely on human needs to a holistic viewpoint that considers the broader ecological and social context.

Aspect 2: Project-based learning and collaborating *with*

> *“I imagine a free to near-free formal education, supported by community- and company-based courses and small collaborative design gig opportunities. Also, an accessible maker space would be at hand, and besides hands-on product and service design learnings, systemic design education would include massive open-source cooperative design, implementations in public spaces, and a wide-spread global ecosystem to exchange ideas and experiences.”- P.G.*

The concept of the design studio has long been a cornerstone of art and design education, forming a nucleus of educational methods across generations of design students (Anthony, 1991). However, as design disciplines evolve, there's a growing need to reconsider the studio's role (Gray, 2022; Anthony, 1991; Gray 2013). To promote a more comprehensive design education, there's a call to expand the studio's scope beyond its physical confines and integrate research and ideation methods into real-world contexts (Vernon, 2013). This multidisciplinary interaction equips students with the adaptive skills required to tackle challenges prevalent in contemporary design, embracing external experiences and immersing students in tangible contexts interconnectedness of various elements that influence design and images with systems thinking. Design, in this context, extends beyond aesthetics and

functionality to address the profound impact on livelihoods, highlighting the ethical responsibility inherent in the design process.

> *"My dream education journey would be giving solid fundamentals in design and humanities as well: research, management, knowledge management, project presentation, and networking. Most of all it should teach curiosity and flexibility, and care, the tools and methods .... And after that, wider access to quality on-demand courses and flexible education, upskilling, and community support." -M.M.*

Design education can emphasize project-based learning, bridging theory and practice through hands-on experiences. Co-creation and co-design methods, underutilized in design education, involve collaboration to shape innovative solutions for diverse needs (Halskov et al., 2012). While partnering with corporations can offer insights into future work environments, a corporate narrative often exploits students' ideas without fair compensation, perpetuating the undervaluation of design work. Nevertheless, design education institutions and educators retain the power to select their collaborators and partners, allowing them to prioritize working with entities that align with their values and serve the needs of local communities.

> *"A democratic educational journey that helps you find those 'Aha!' moments about your own creative goals. It's a path where you can practice academia/research, hands-on experience/workshops, residencies/side travels (for cultural appreciation), and collaborative projects while working closely with your teachers. A safe place where you feel free to question what happens around/inside you. A journey where you can explore and nurture the seeds of your passions, and to find the tools to unleash your designer superpowers."- P.M.*

Apart from corporate collaborations, students can gain valuable experiential learning by addressing social and environmental challenges directly. This shift requires design institutions to adapt and contextualize their strategies, viewing themselves as integral parts of local ecosystems. However, it is essential to exercise caution against uncritically transplanting social design discourses, tools, tactics, and aesthetics into diverse environments, recognizing the need for sensitivity and genuine understanding of each unique context (Abdulla, 2017).

Alongside this approach is the concept of collaboration *with* communities, as opposed to designing *for them*. Simply extracting information from communities without understanding their broader context can lead to superficial and limited design efforts. While good intentions are important, they may not guarantee that design processes genuinely empower communities or unintentionally perpetuate existing inequalities (Costanza-Chock, 2018). A critical and holistic approach e.g. integrating design justice, or community-driven design in design education can employ cooperative approaches to tackle the most fundamental issues of different communities (Costanza-Chock, 2018). A dialogical process, where the orchestration, facilitation, and creation of opportunities for dialogue amongst all participants is central to the value cultivation in the design process.

Aspect 3: Crafting and making: regenerative materiality

> "... I imagine the future of design education to be something similar to artistic residencies, with an equipped maker space and biolab, where we are surrounded by local biodiversity and ecologies. with daily hands-on practice and online global expertise.." - P.G.

The Bauhaus initiated a transformative approach to design by promoting a playful and material-driven exploration of the field. This shift was marked by a deep understanding of various making practices and a strong emphasis on hands-on experiences. However, it is important to note that the focus on material experiences has its limitations, as mentioned earlier. Primarily stemming from budget constraints within design institutions or financial burdens placed on students.

Crafting, making, and digital fabrication, along with hands-on learning experiences in the design curriculum, promote a deep understanding of materials and design processes, bridging theory and practice. This approach emphasizes material-driven design processes, where students prioritize understanding material qualities before creating objects (Parisi et al., 2017; Bak-Andersen, 2018). Thus, material applications emerge through exploration and comprehension of their qualities, allowing materials to determine their application. Material choice also influences the selection of appropriate making processes for designs.

Encouraging emerging designers to explore available resources, including industrial by-products and materials often considered waste, supports a shift away from resource-intensive extraction toward a circular economy approach (Bak-Andersen, 2018). Integrating biomimicry, bio-design, and bio-materials like bioplastics, bacterial-based dyes, mycelium, and scoby into design curricula is essential. Exploring materials not only enriches design knowledge but also cultivates vital material competencies through experiential learning (Rognoli, Zho, 2019). Therefore, the interaction with materials forms a robust foundation for holistic design education, fostering both explicit and tacit knowledge.

While modern digital technologies have transformed design, traditional crafting practices still hold value. Including various making techniques empowers students to bridge the gap between virtual design concepts and physical creations, enhancing their ability to iterate, test, and refine ideas.

The integration of digital fabrication, crafting, and making techniques should be closely linked to the understanding of materials and a focus on regenerative principles. While many making techniques still rely on extractive materials, there are critical design approaches and creative initiatives that reimagine traditional crafts and emerging technologies using recycled or regenerative materials. This process of rejuvenation and restoration reflects care for society and the environment (Pujadas, 2022). Therefore, it is crucial to explore and prioritize these regenerative practices within design curricula.

Reflections and Discussion

The future(s) of design education does not emerge in isolation; instead, they are inherently linked to their historical foundations. These futures are entwined with the legacies of existing worldviews, structures, and methodologies. Nevertheless, alternative presents[7] have the potential to activate distinct future trajectories, prompting a crucial exploration of new perspectives and practices that can reshape and enable new pathways in design education.

The Bauhaus exemplary emphasis on material, technological, and mechanical experimentation holds a significant relevance within design education. However, the present societal, economic, environmental, and political landscape poses unique challenges that demand a more responsive and updated approach. This research tried to illustrate the potential of design education and its role within the broader creative industries and global ecosystem. Design education, regardless of its focus offers learning environments for design practitioners to develop skills and competencies that are relevant to resiliency. This transformation is essential not only for the benefit of the students but also to align design education with the evolving demands of the future. In the face of these complex challenges, contemporary design education must create a platform for addressing a wide array of issues through innovative pedagogical models and curricula as highlighted through the writings. It should also embrace a more inclusive approach that accommodates an array of ontologies and epistemologies.

A contemporary approach to designing curricula shifts away from conventional paradigms, avoiding the overemphasis on a single historical narratives. Instead, it embraces democracy, situatedness, contextualization, and modularity to reflect the multifaceted nature of design. The curriculum is collaboratively crafted by both students and educators, fostering a dynamic and inclusive learning environment. Diverse themes can take center stage alongside a broad pool of subjects that can be choosen collectively. This curatorial process becomes a democractic effort, enabling participants to determine the sequence, thematic core, and relevance. Furthermore, it should accommodate flexibility, allowing students to opt in and out of courses. Additionally, contemporary design education should, if possible, actively involve external voices, such as collaborating entities, guest speakers and workshop facilitators, based on the unique interests and needs of each year's cohort.

Aligned with the notion of "alternative presents," this research was guided by the belief that many of the mentioned themes and areas of interventations have the potential (to a certain extent) to be seamlessly woven into the fabric of contemporary design education *today.*

[7] The notion of "alternative presents" is grounded in the belief that in order to pave the way for potential new futures, actionable steps can and must be initiated in the present. This concept seeks to deconstruct the perception that futures are distant, abstract, and beyond our capacity to actively influence, shifting towards an understanding of agency and active participation in shaping the envisioned futures we aspire to bring into existence.

Alongside *alternative presents* is the notion of the *pluriverse*. Inspired by Arturo Escobar's work, this notion encapsulates a paradigm where diverse perspectives, ontologies, and epistemologies coexist with equal significance and interconnectedness (Escobar, 2018). It resonates seamlessly to the realm of design education, emphasizing that there exists no singular approach, but rather a tapestry of ways. Therefore, the objective was not be to seek a monumental systemic singular reform. Instead, the intention for the future is to further engage with critical research and a series of critical actions that include educators, learners, and institutions. Opening pathways towards design education aligned with the demands of our rapidly evolving society and ecosystem.

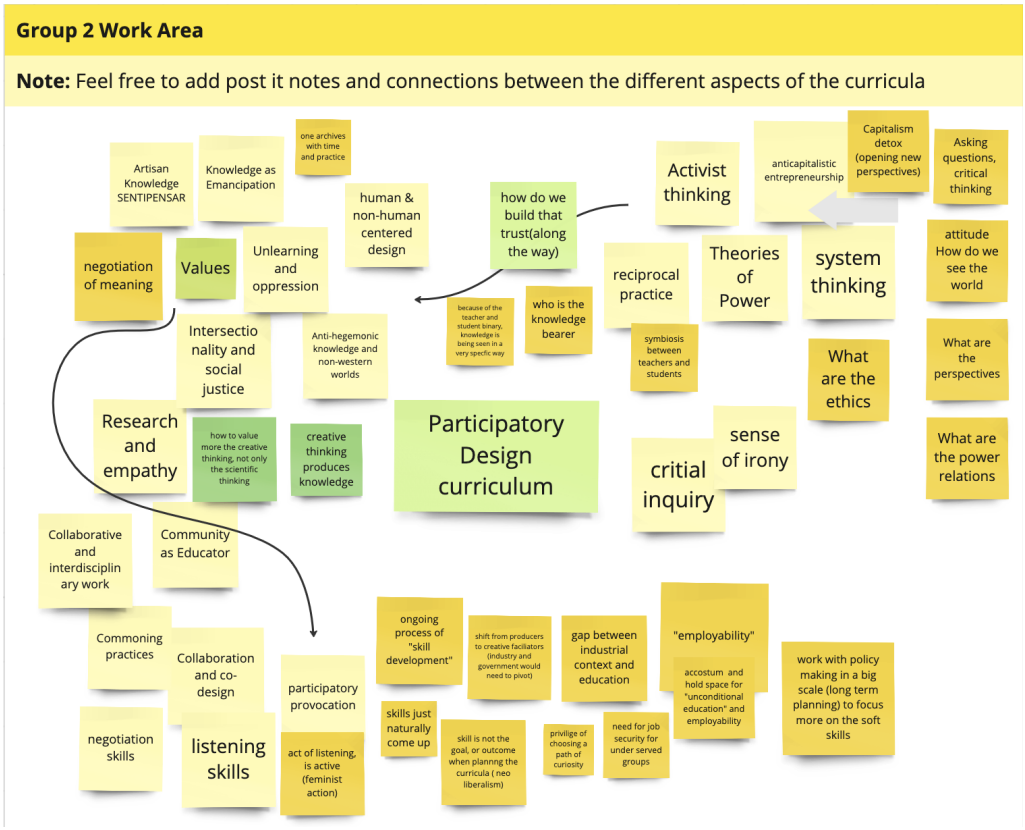

Image 5. Co-curated curriculum with research participants in Miro[8]

[8] Although not perfect in designerly execution, this collectively curated “participatory design curricula” is shared at the end of this writing to finish this report with a beginning of further explorations.

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Appendix

Appendix A Semi-structured Interview Questions

Introduction

- How do you describe/ or name your profession? Or position?
- When was the moment when you decided you wanted to follow a design career path? Can you remember the day/ interaction/ feeling you had?
- What are the most precious moments that you hold dear from your own design education?
- What were the most frustrating moments during your own design education?

Governance

- What are you teaching?
- How does a typical day in your class look and feel like?
- How do you decide on the curriculum?
  Is it being updated regular basis? Is it flexible? Or has it been set out at one point and since that day it has not changed significantly?
- How easy is it for you to navigate the bureaucratic landscape in your institution? Meaning how much "freedom" do you have for experimentation or to turn it around, how little freedom do you have?

Curriculum, Skills & Competencies

- Do your classes focus on theory, or are they practices based? Or both?
- What are the main references that you are sharing with the students? How have you chosen them/ Are they being updated on a regular basis? *(Noteworthy Designers, Studios, design approaches and methods etc)*
- From your point of view, which skills / topics are the most relevant for the students to learn?
- Which are the ones that are currently not being taught but would be necessary to be integrated? (Either by you or your fellows)
- Do students learn about their own territory / cultural backgrounds designers, artists, architects, design cultures, and history? *(Question depending on the geographical diversity of students)*

General

- Are there any feedback mechanisms for your students for the governance, curriculum, teaching style or similar?
- From your point of view, what are the areas in which (generally speaking) design education can improve?

Appendix B Quantitative digital questionnaire - extracted from Typeform

Dream Education							
Imagine your dream design education journey, how would it look like?							
Learning experience							
What were the main modes of knowledge exchange?	self tought	course	peer learned	familiy tradition	university	other	
Governance							
On a scale from 0 - 10, how much influence did you have as a learner or a group of learners, on how and what was being taught?							
If you had an influence on the curricula, explain how educators or learners facilitated that.	Peer learning	Lectures	Workshops	Project work	Multimedia	Readings	Other
Curricula							
On a scale from 0 to 10, how satisfied were you with your education in general?							
What are the most precious moments that you can recall and hold dear from your educational journey?							
What are the most frustrating moments that you experienced during your design education journey?							
On a scale from 0 to 10, how prepared did you feel when starting your professional career?							
What subjects or courses made you feel most prepared when starting your career?							
In your point of view, what were the three most important (design) theory subjects that were covered during your learning experience?							
Pedagogy							
Did you experience project-based learning?							
Please mention 2 -3 themes that were covered and with whom these projects were developed							
Was your learning experience more process or outcome orientated?							
List 5 technical and 5 social skills that you have learned during your design education.							
Dream Education							
After these questions, how do you imagine your dream design education?							