

A large, stylized letter 'U' graphic. The left vertical bar is a solid purple semi-circle. The right vertical bar is a vertical rectangle with a color gradient from blue at the top to red at the bottom. The bottom curve of the 'U' is a solid red semi-circle.

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MONTERREY 2024

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# AN ANALYSIS OF INCLUSIVE DESIGN INTEGRATION AND INTERSECTIONALITY IN DESIGN EDUCATION CURRICULA.

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**ABSTRACT** | This paper investigates the integration of inclusive design principles and intersectionality within design education by analyzing curricula from top-ranking international design programs. The study employs an interpretative approach to examine 23 undergraduate and postgraduate courses from the top 10 universities in the QS World University Rankings (2023). A research protocol features a comprehensive analysis grid focusing on five main clusters: 1) General Information, 2) Inclusive Approach, which evaluates how each course addresses inclusive design both explicitly and implicitly, 3) Mapping of Course Aims and Approaches, 4) Levels of Design, and 5) Integration of 13 individual identities in diversity. Data were collected from university websites and databases, with fifteen literature-derived terms used to guide the search within course descriptions. The findings reveal current practices incorporating inclusive design principles across leading design programs. The research underscores the necessity of embedding inclusive design principles into design education, advocating for both practical applications and a holistic approach to address complex societal challenges. The paper concludes with potential future research, emphasizing the value of the analytical protocol developed. In fact, this protocol could serve as an example for similar studies or as a tool for educators to assess and enhance their courses. By providing an initial overview of this educational area, the paper aims to stimulate reflection, foster meaningful engagement, and guide the evolution of design education to integrate inclusive design principles better.

**KEYWORDS** | INCLUSIVE DESIGN, DESIGN EDUCATION, INTERSECTIONALITY, DESIGN CURRICULUM ANALYSIS



## 1. Introduction

The landscape of inclusive design is evolving, driven by two key factors: an increasing recognition that “good intentions cannot be enough” (Del Gaudio et al., 2020; D’Ignazio & Klein, 2020) and a shift from physical exclusion to more complex forms (Donahue & Gheerawo, 2021). Inclusive design, traditionally focused on integrating disabled and elderly groups into mainstream society, has expanded its scope beyond traditional accessibility concerns (Clarkson & Coleman, 2015; Lillegård et al., 2021; Szlavi & Guedes, 2023). There is a growing imperative to address diverse issues such as race, gender, social status, and sexual orientation, acknowledging intersectionality, as introduced by Kimberlé Crenshaw (1989). Intersectionality and the matrix of domination (Collins, 1990) shed light on how privilege and oppression intersect. Despite the momentum of intersectionality, a gap exists in design education, necessitating comprehensive studies on how students approach and address intersectional biases (Berry et al., 2022). This paper aims to analyze the educational landscape of design and answer

the research question: **How are inclusive design principles and intersectionality addressed in different design curricula?**

Drawing inspiration from Das et al.’s (2023) methodology for ethics, equity, and justice audits of design pedagogy, this paper analyzes the course programs of top-ranking international design universities and colleges. A literature review informs a protocol for analyzing existing design education programs. The research protocol includes an analysis grid to map the courses and compare the results. Initially, the results are analyzed quantitatively, followed by a qualitative examination to highlight the primary considerations that emerged from the inquiry. The research, restricted to the top 10 universities in the 2023 QS World University Rankings by subject: Art and Design, examines programs and course descriptions of 23 undergraduate and postgraduate courses. Second-hand data from university websites and databases were analyzed, with fifteen terms derived from the literature as search criteria within course descriptions. The

analysis provides insights into the current state of design education programs and their incorporation of inclusive design principles. Overall, this research highlights the importance of integrating inclusive design principles into design education, emphasizing practical applications and holistic perspectives to address complex societal challenges effectively. The paper concludes with discussions and reflections on potential future avenues for similar studies, aiming to contribute to ongoing discourse and advancements in design education. The primary goal of this paper is not to provide exhaustive research but to lay the foundation for further investigation and to share tools for analyzing and reflecting on design courses.

This brief research is part of a PhD research focused on prioritizing inclusive design within design education, particularly in the methodological learning approach aimed at redefining design briefs (problem-framing). Research on problem-framing, which influences decisionmaking, can be significantly biased, resulting in superficial efforts to promote inclusive actions (Holmes, 2020). This study is based on the principle that addressing awareness, power dynamics, and biases at the beginning of the design process is crucial to prevent these biases from affecting the proposed solutions (Costanza-Chock, 2020).

## 2. Theoretical background

This section offers general reflections on the future of design education by identifying fundamental changes underway to address the urgent needs of global development. It explores the dimensions of these changes and how scholars are intervening to implement them. Additionally, it analyzes the literature on inclusive design, attempts to define the term, and outlines how current research approaches this subject.

### 2.1 Exploring the Changing of Design Education

The field of design education is undergoing substantial changes, necessitating the development of new courses, curricula, and teaching methods (Mercer & Terresa, 2019). Two interrelated factors primarily drive this transformation. Firstly, ongoing global and local challenges of unprecedented scope and intricacy highlight the limitations of traditional, discipline-specific design education in preparing students for emerging contexts (Pontis & Van der Waarde, 2020).

Consequently, there is a pressing need to reconsider the future direction of design education (Jones et al., 2022). Designers today face increasingly complex and impactful challenges, necessitating reevaluating educational methodologies to effectively address contemporary issues (Pei & Colombo, 2023). Simultaneously, there is a growing recognition of design's role in influencing societal structures. This shift in perspective

demands a critical reassessment of current practices and calls for an expanded definition of innovation that encompasses socially inclusive outcomes (Noel et al., 2023; Monteiro, 2019). Monteiro (2019) claims, “The world is not broken but works exactly as it was designed to work, and we are the ones who designed it”, underscoring the importance of transformative processes within the design discipline. In its various manifestations, design is increasingly viewed as a catalyst for social change, capable of empowering marginalized communities and promoting innovative behavioral patterns (Avelino, 2021; Meyer & Norman, 2020). This comprehensive reform requires interventions at various scales, driven by the increasing emphasis on diversity, inclusion, and equity. Researchers are reevaluating macro and micro scales to foster genuine change within the education system.

Three dimensions are identified here:

### 1. **Rethinking the pedagogical model**

At the macro level, there is a need to rethink the entire pedagogical model. One prominent theme in this discourse is transdisciplinarity. As design education expands to incorporate critical, inclusive, and systemic tools, its potential as a discipline and a mode of teaching and learning becomes more evident (Jones et al., 2022). This shift acknowledges that traditional disciplinary boundaries are less beneficial for higher education graduates compared to more active and constructivist learning opportunities. In this dimension, while strong and widely

theorized ideas remain relevant, there is a challenge to the traditional “banking mode” of education, where educators are viewed as experts depositing knowledge into students. According to hooks (1994), the primary goal of education is to cultivate critical thinking skills in both teachers and students. This approach, known as critical pedagogy, involves educators posing thought-provoking questions, fostering collective critical awareness, formulating action plans, and helping students become more autonomous. Fundamental principles of this pedagogy necessitate that all participants are capable of thinking, questioning, and acting on issues that matter to them (Tang et al., 2020). Furthermore, recognizing the incomplete nature of individual knowledge, collaboration and active listening among participants is crucial. New and more disruptive ideas are also emerging, built on similar foundations. For instance, the Matriarchal Design Futures framework rejects capitalistic and hierarchical structures, instead focusing on caregiving and nurturing for all identities. It emphasizes values of collectivism, cooperation, inclusivity, and human rights, challenging the priorities set by white supremacy and capitalism (Place, 2022). This approach avoids using metrics to measure success and seeks to highlight and discuss issues rather than provide definitive answers. The goal is to spark public conversation and collaborative imagination.

## 2. Rethinking Design Curricula

The effects of dominant design education curricula are now recognized in both practice and educational research (Jones et al., 2022). From the broader reconsideration of pedagogical models, a need arises to revise the educational offerings of design universities. Rethinking design curricula opens new research frontiers that follow the trend of inclusion more comprehensively and systemically (Noel, 2022). A significant example is the focus on decolonizing design curricula, a topic debated for decades, with much work still needed to represent a plurality of design practices, cultures, and approaches. Design education has historically played a role in global projects aimed at universalizing design principles, both in subject matter (e.g., modernism and internationalism) and curriculum (e.g., the dominance of the Western “Bauhaus model”) (Kambunga et al., 2023). Escobar (2019) highlights that concepts like universalism, impersonality, and standardization are often considered virtues in modern society. However, this emphasis on universalist methodologies in design pedagogy can lead to homogenization, reducing diversity, perpetuating social inequalities, and favoring a dominant narrative (Noel et al., 2023). Dominant narratives are deeply embedded in mainstream design forms, potentially leading designers to employ discriminatory practices (Prendeville & Korja, 2022). Noel (2023) argues for questioning the global uniformity of

curricula and recognizing what is lost when the richness of specific and local design cultures is marginalized (Berry et al., 2022; Noel, 2022). With its Bauhausian and Ulmian roots, the education system risks uniformity that erases cultural specificity, which could otherwise enrich student design education (Noel, 2022). Moving away from modernist and Eurocentric approaches to design history involves adopting a global perspective that includes design practices from Latin America, Africa, and Asia— adding “non-Western” design objects to an existing Eurocentric curriculum and rethinking historical narratives to center previously marginalized or erased design practices (Charlotte Smith et al., 2020; Jae & Kevin, 2023). The pluriversal approach in design education, as advocated by Mignolo (2020) and Noel et al. (2023), values a range of locally rooted perspectives, acknowledging that design shapes different ways of existence despite contextual contradictions and conflicts (Bianchin & Heylighen, 2018). Pluriversal thinking encourages diverse viewpoints, addresses power imbalances, and avoids extractive practices (Rodriguez Schon & Celi, 2023). It promotes teaching design from local contexts and actively involves those most affected by the design process. This shift challenges the conventional transactional view of design, emphasizing relationality instead.

### 3. Reforming Courses Structures and Methods

At the micro level, researchers are challenging the structure of design courses and proposing new solutions for teaching methods and application contexts.

Emerging work is rethinking when, where, and how design education occurs, shifting the focus from what and how to why and from things and processes to intentions such as improving, facilitating, provoking, and conserving (Davis & Dubberly, 2023). This systemic thinking implies that interventions in university organizations must be holistic. Just as a company must ensure that its internal operations and external results align with its values, universities must address change comprehensively. For example, using recycled materials is mere greenwashing without a genuine commitment to energy-saving production and sustainable product end-of-life strategies (Davis & Dubberly, 2023).

Thinking about systemic change is necessary but can be problematic since it is often only a trivial exercise of speculation (Jones et al., 2022), and, critically, it avoids questioning how a change to design education takes place (Noel, 2020).

Furthermore, there is the potential to trigger broader transformations through local course interventions. Starting at the departmental level and gradually expanding to the international level can foster meaningful reflections and actions. Scaling efforts from local to global can spread insights and practices, initiating broader discussions and collaborations.

### 2.2 Inclusive design as a mindset

Inclusive design has become a focal point within design education since design schools have become where social impact, engagement and innovation can be developed, analyzed, and sustained. Design schools now play a critical role in equipping educators with the necessary tools to promote diversity, inclusion, and equity (Noel, 2022). Inclusive design is becoming more than a method to apply and persuade; it is a mindset that should change from the beginning of the approach to the project.

Traditionally, inclusive design focused on disabled and elderly individuals, known globally as “Design for All” in Europe and “Universal Design” in the US, originating in the 1950s (Clarkson & Coleman, 2015). However, two critical conditions are transforming inclusive design: the realisation that good intentions are insufficient (Del Gaudio et al., 2020; D’Ignazio & Klein, 2020) and a shift from physical exclusion to more complex forms (Donahue & Gheerawo, 2021).

These two critical conditions are briefly summarized as follows:

- Designers play a crucial role in shaping our world, as their decisions can have global consequences (Norman, 2023). It is easy to cause harm with good intentions (Costanza-Chock, 2020; D’Ignazio & Klein, 2020). Prejudices, norms, and stereotypes are embedded in many artefacts, and design has the potential to strengthen

them (Prochner & Marchand, 2018). There is a growing awareness in the design process that recognizes the responsibility of design and how unconscious biases can influence and impact decisions (Costanza-Chock, 2020; Wachter-Boettcher, 2018). Unconscious biases are learned, natural, instinctive, unintentional preconceptions so deeply rooted that they quickly affect a person's behavior (Canli, 2018; Lillegård et al., 2021). "Exclusion happens when we solve problems using our biases" (Holmes, 2020). Designers must recognize their biases and be open to questioning their perspectives to avoid tokenistic attempts at inclusivity and shifting to community-driven approaches instead of the traditional power dynamic (Place, 2022).

- The literature highlights the need to expand the definition of exclusion, moving beyond traditional accessibility concerns (Lillegård et al., 2021; Szlavi & Guedes, 2023). While issues like ageing have received attention, there is a growing imperative to address other critical issues and steer research towards a more holistic direction (Donahue & Gheerawo, 2021). Inclusive design should consider characteristics like race, gender, social status, sexual orientation, and others, embracing the theory acknowledging intersectionality. This concept was introduced by Kimberlé Crenshaw (1989), a Black feminist legal scholar, in 1989. Crenshaw (1989) has highlighted how race and gender intersect, particularly the experiences

of racism and sexism endured by black women. The concept of intersectionality was developed within a legal framework to show how a "single axis framework" often failed to protect Black women workers (Crenshaw, cited in Costanza-Chock, 2018). The predominance of what Crenshaw calls "single-axis analysis", in which race, class, or gender is considered an independent construct, continually undermines the intentions of well-meaning designers who hope to challenge bias through the objects, systems, or environments they design. Intersectionality reveals that forms of oppression are interconnected. Another concept related to Intersectionality is the representation of the "matrix of domination" (Collins, 1990). Intersectionality and the "matrix of domination" help us understand how privilege and oppression are interconnected. A privileged view will also likely inform beliefs, assumptions, and norms that shape many design decisions made throughout design projects. If designers become more aware of and sensitive to how privilege and oppression (including their own) function in the contexts they are designing, they can make decisions to challenge status quo inequities and patterns of oppression produced (Goodwill et al., 2021).

This increased awareness has prompted scholars to strive for equity and justice in their practice. New frameworks actively pursuing this goal are emerging from the literature,

such as Design Justice (Costanza-Chock, 2020), Liberatory Design (Anaissie et al., 2021), and Design for Belonging (Anaissie et al., 2022).

Design Justice, developed in 2018, aims to ensure the equitable distribution of design benefits and limitations, meaningful participation in design decisions, and recognition of communitybased design traditions (Costanza-Chock, 2018). Liberatory Design, first introduced in 2016 and reviewed in 2021, encourages self-awareness and reshapes power dynamics in design processes for collective liberation (Anaissie et al., 2021). Design for Belonging supports designers in fostering community belonging and reducing othering through diversity-driven design choices (Anaissie et al., 2022). In this research, “inclusive design” encompasses these emerging frameworks, particularly the principles of design justice influenced by intersectionality theory. The concept of intersectionality has initiated a slow but ongoing shift in the social sciences, legal studies, and various research and practice fields (Crenshaw, 1989; CostanzaChock, 2018; Gianfrate et al., 2024). This shift, linking intersectionality with accessibility and empowerment, fosters a more integrated understanding of discrimination, social exclusion, and stigma. It is also beginning to influence the design industry by promoting comprehensive approaches that enhance collective efficacy, recognize marginalized individuals and their autonomy, and build community solidarity and tacit knowledge (Gianfrate et al., 2024).

Despite the growing acknowledgement of intersectionality, design education still faces challenges. There is a need for further research on how students engage with intersectional biases (Berry et al., 2022) and for practical guidelines to help educators teach these concepts effectively beyond theoretical discussions (Costanza-Chock, 2020).

A research question emerged from these reflections: How are inclusive design principles and intersectionality addressed across various design curricula? This question aims first to analyze the current state of the art and then explore potential ways to address gaps.

### 3. Research Methodology

The literature review facilitated the identification of key parameters necessary to assess the presence of inclusive design within design universities.

To effectively operate within societal contexts, designers must be trained to incorporate ethics, equity, and justice into their practice. With this premise, an analysis of design curricula was conducted, drawing inspiration from the work of Das et al. (2023), who developed a methodology based on the Design Justice framework for auditing ethics, equity, and justice in design pedagogy. In their research, Das et al. (2023) analyzed course syllabi from various departments at the Massachusetts Institute of Technology (MIT) from Fall 2019 to Fall 2020. While their work inspires this paper, it employs a different methodology. The main

distinction lies in the data sources; Das et al. (2023) analyzed a substantial amount of first-hand information from their university, making their research more reliable.

In contrast, this study analyses second-hand data gathered from publicly available sources on the internet. Similar to Das et al. (2023), this research underscores the importance of reflecting on university offerings and informs the research question. It also seeks to determine whether the racial, social, and environmental justice movements of 2020 have had any significant impact on design pedagogy. The hypothesis posits that, due to the COVID-19 pandemic, courses may now incorporate more socially conscious practices, but these changes may not profoundly influence pedagogy. A review protocol was developed based on the literature review to analyze the curricula. This protocol investigates 1) the presence and extent of inclusive design in design curricula, 2) the overlap with other terms and approaches, 3) whether intersectionality is addressed, and 4) the most common topics covered in the programs.

### **3.1 Design the research tool: protocol development**

The research protocol consists of an analysis grid summarized in Table 1. The protocol is organized into several columns to capture and analyze course information systematically, as well as to facilitate comparisons among the courses under review:

- **General Information:** This part includes essential details such as the course name, university, prerequisites or competencies, modality, level of the course, course format, and required outputs.
- **Inclusive Approach:** This part maps whether the course description mentions accessibility or intersectionality.
- **Course Aim and Approaches:** details the approaches mentioned, including theoretical aspects, hands-on activities, and outputs required to achieve the course's objectives.
- **Levels of Design:** categorizes the course content according to Young's (2008) model, designed to capture design tasks' varying scales and complexities. The model distinguishes between three levels of design. The first level is the Product Level, which involves design within a specific context and focuses on tangible, micro-level design outputs. This dimension represents the traditional approach to designing artefacts and objects. The second level, Systems Thinking, addresses design within a broader context. It emphasizes the design of services and systems, incorporating a holistic perspective that considers the interactions and relationships among components within a system. The third level is the Policy Level, which deals with creating meaning and purpose. This dimension involves macro-level design dimensions, including developing policies and ideologies to address large-scale, systemic issues. The idea was to map the outputs required by the course syllabi and understand the main outputs required by future designers.

· The 13 individual identities in diversity, as identified by Wilson (2023), were integrated into the analysis to understand how courses address multiple perspectives of diversity. This includes mapping whether characteristics such as gender, Indigenous status, race/ ethnography, socio-economic status (class), disability, LGBTQI+, religion, age, immigrant status, physical or mental illness, refugee status, veteran status, and neurodiversity are present in the course descriptions.

This structured organization offers a comprehensive mapping tool to understand each course’s

Table 1. Parameters used to analyze curricula integrated with the design levels proposed by Young (2008) and the 13 individual identities in diversity introduced by Wilson (2023).

<b>General Information</b>	<b>Inclusive approach</b>	<b>Course aim and approaches</b>	<b>Levels of design (Young, 2008)</b>	<b>The 13 individual identities in diversity (Wilson, 2023)</b>
Course name	Design with community	Approaches mentioned	D1: Product level	Gender
University	Accessibility	Prerequisites/ Competencies	D2: System level	Indigenous
Modality	Intersectionality	Theoretical aspects	D3: Policy level	Race/ Ethnography
Couse Level	Reflection practice	hands-on activities		Socioeconomic status (Class)
Course Format		Outputs Required		Disability
				LGBTQI+
				Religion
				Age
				Immigrant
				Illness (Physical or Mental)
				Refugee
				Veteran
				Neurodiversity

framework and approach to inclusive design education. An Excel file was used for the analysis to speed up the process and provide a visual comparison of all the courses analyzed. Figure 1 illustrates the Excel file's structure and the courses' final compilation.

Course Code	Modality	Level	Type of course	Co-design in practice	Hand-on Activities	Theoretical	Accessibility	Intersectionality	Reflection Thinking	Approaches mentioned	Prerequisite/competices	Type of Output	Individual Identities	Levels of design
C1	Online	Extracurricular Course	Elective	X	X	0	X	0	0	equity, inclusion, and social justice (EISJ)	Non Designer	n/a	Socio-economic status (Class) Gender	D2, D3
C2	In-Person	Undergraduate	Elective	X	X	0	X	X	0		Designer	n/a	Gender Disability LGBTQI+	D2, D3
C3	In-Person	Undergraduate	Elective	X	X	0	X	X	0	Equity justice intersectionality	Designer	n/a	Socio-economic status (Class) Gender	D2
C4	In-Person	Undergraduate	Elective	X	X	0	X	0	0	design activism	Non Designer	Research/ speech	Age Indigenous Race/ Etnigraphy Socio-economic status (Class)	D1, D2
C5	In-Person	Extracurricular Course	Elective	X	0	0	0	X	X	empathy	Designer and non	a tool to evaluate good and bad design	Age Disability (Physical or Mental)	D1, D2
C6	Hybrid	Extracurricular Course	Elective	X	0	0	0	X	0	Human- centered design	Designer and non	mobility innovation processes	Age Disability (Physical or Mental)	D1, D2
C7	online	Short Course	On Demand	X	0	0	0	X	X	Participatory design Design and climate change	No prerequisite	n/a	Age Disability (Physical or Mental)	D1, D2
C8	online	Short Course	On Demand	0	0	0	X	0	0	Critical Research	No prerequisite	n/a	Refugee Veteran	n/a
C9	In-Person	Postgraduate	Degree	0	0	0	X	X	0	Design in action, Sustainability	BA Degree	Thesis	Socio-economic status (Class) Immigrant	D1, D2, D3
C10	In-Person	Postgraduate	Degree	0	0	0	X	X	0	Making and design	BA Degree	Thesis	Indigenous Race/ Etnigraphy Immigrant Refugee Veteran	D3
C11	In-Person	Postgraduate	Degree	0	0	0	0	X	X	Business Design	BA Degree	Thesis/ project	Socio-economic status (Class)	D3
C12	In-Person	Undergraduate+ Postgraduate	Elective	n/a	n/a	0	0	0	0	Human sciences	Enroll in a program	n/a	Gender Indigenous Race/ Etnigraphy Socio-economic status (Class) Disability Age Immigrant (Physical or Mental) Refugee Veteran Neurodiversity	n/a
C13	In-Person	Postgraduate	Degree	X	0	0	X	X	X	Technology	BA Degree	Thesis/ project	Socio-economic status (Class) Immigrant Refugee Veteran	D2
C14	In-Person	Undergraduate+ Postgraduate	Elective	n/a	n/a	0	0	X	n/a	User Experience	n/a	n/a	Disability (Physical or Mental) Neurodiversity	D3
C15	n/a	Undergraduate+ Postgraduate	Elective	n/a	0	0	0	X	0	pedagogical knowledge, evidence-based strategies	n/a	Reflection and discussion	n/a	D3
C16	In-Person	Undergraduate+ Postgraduate	Elective	n/a	X	0	X	0	0	case studies, Examine trend	n/a	examine trends	Indigenous Race/ Etnigraphy Socio-economic status (Class) Age Immigrant Refugee Veteran	D1
C17	In-Person	Undergraduate+ Postgraduate	Elective	n/a	0	0	X	0	0	social activists, policy maker	n/a	analyze and synthesize evidence	Age Immigrant Refugee Veteran	D1, D2
C18	In-Person	Undergraduate+ Postgraduate	Elective	0	0	0	0	X	0	community based, social health	n/a	hands-on exploration of urban art and design	Age Immigrant Refugee	D1, D2, D3
C19	In-Person	Undergraduate+ Postgraduate	Elective	0	X	0	X	0	0	cultural landscape theory, historic preservation	n/a	n/a	Indigenous Race/ Etnigraphy Socio-economic status (Class) Age Immigrant Refugee	n/a
C20	In-Person	Undergraduate+ Postgraduate	Elective	X	0	0	0	X	X	Technology driven	Enrolled for a degree programme of faculty Industrial Design	project	Disability (Physical or Mental) Neurodiversity	D1, D2
C21	In-Person	Undergraduate+ Postgraduate	Elective	0	0	0	0	X	X	Technology driven	Enrolled for a degree programme of faculty Industrial Design	project	Disability (Physical or Mental) Neurodiversity	D1
C22	In-Person	Undergraduate	Elective	0	0	0	0	X	0	service design, systemic change	Enrolled for a degree programme of faculty Industrial Design	project	Race/ Etnigraphy Socio-economic status (Class)	D1
C23	In-Person	Undergraduate	Degree	0	0	0	X	X	0	post capitalism	n/a	prototype and realise design solutions for sustainable and positive social change	Race/ Etnigraphy Socio-economic status (Class)	D1, D2

Figure 1. The Excel file was used to analyze the courses, showing how the protocol was structured and how the tool was used. The screenshot shows both the tool and the appearance of the final compilation with the course information entered.

### 3.2 Sample selection and data collection

The research focused on the top 10 universities in 2023 according to the QS World University Ranking by Subject: Art and Design (Table 2). Data were collected second-hand by analyzing the program syllabi and main descriptions from university website databases. Based on the literature, a list of 15 terms referring to design justice and inclusive design was searched within the course descriptions (Figure 2).

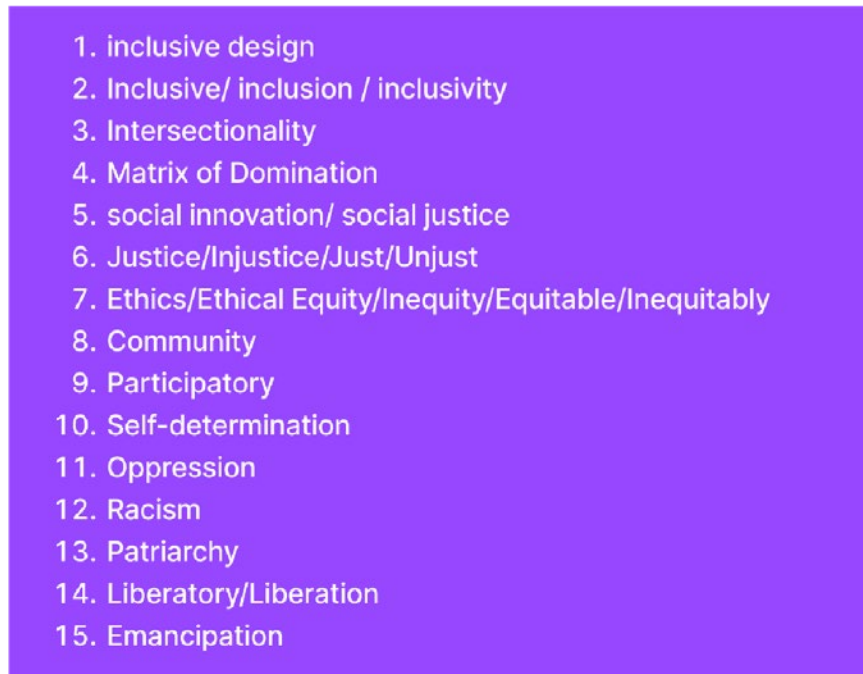
- 
1. inclusive design
  2. Inclusive/ inclusion / inclusivity
  3. Intersectionality
  4. Matrix of Domination
  5. social innovation/ social justice
  6. Justice/Injustice/Just/Unjust
  7. Ethics/Ethical Equity/Inequity/Equitable/Inequitably
  8. Community
  9. Participatory
  10. Self-determination
  11. Oppression
  12. Racism
  13. Patriarchy
  14. Liberatory/Liberation
  15. Emancipation

Figure 2. List of the 15 terms used to perform the design curricula analysis

This list of terms helped the selection process, as the first screening was conducted to identify relevant courses. The study is based on the available information: not all universities describe the courses in detail. Courses that did not provide enough information to understand the course requirements and goals were excluded. Additionally, courses that seemed out of scope based on their descriptions were eliminated, allowing for a final filtering. A total of 23 courses, both undergraduate and postgraduate programs, were analyzed.

Table 2. Top 10 universities analyzed in the QS World University Rankings by Subject 2023 in the session Art & Design

Position	University	Country
1	Royal College of Art United Kingdom	United Kingdom
2	University of the Arts London	United Kingdom
3	Rhode Island School of Design (RISD)	United States
4	Parsons School of Design at The New School	United States
5	Massachusetts Institute of Technology (MIT)	United States
6	Aalto University	Finland
6	Pratt University	United States
8	Politecnico di Milano	Italy
9	Design Academy Eindhoven	Netherlands
10	Tongji University	China (Mainland)

## 4. Analysis results

The analysis of inclusive design courses across university programs provides several key insights, summarized in Table 3 and detailed in the following text.

Out of the 23 courses examined, 18 are integrated into degree programs. Of these, 9 are available to both postgraduate and undergraduate students, 4 are exclusively for postgraduates, and 5 are exclusively for undergraduates. Additionally, 5 courses are offered ondemand or as extracurricular options, indicating their presence beyond formal degree programs. Regarding the mandatory nature of these courses, only 5 out of the 18 integrated courses are compulsory, while the remaining 13 are elective. This trend suggests that inclusive design education is often treated as an optional rather than a required part of the curriculum.

The analysis also highlights the inclusion of intersectional and related topics such as antioppression, power dynamics, inequity, and positionality. These topics are explicitly covered in 6 of the 23 courses: 5 are elective, and 1 is an on-demand extracurricular course. However, practical activities related to intersectionality are less prevalent, with only 2 courses explicitly mentioning to incorporate hands-on activities. These practical elements are linked to ongoing projects or supported by teaching labs focused on social innovation.

Regarding addressing critical social issues, 4 out of the 10 universities reviewed offer master's programs focusing on significant challenges such as climate change, racial inequality, and poverty. This reflects a solid commitment to tackling pressing societal issues through advanced educational programs.

The presence of inclusive terminology in course descriptions is noteworthy. Terms such as "inclusive", "inclusivity" and "inclusion" appear in 10 of the 23 courses. Additionally, "ethics" is mentioned in 4 courses, "equity" in 6 courses, and "social innovation" in 16 courses, highlighting the emphasis on ethical considerations and social impact within the curriculum.

Examining the design dimensions covered in these courses revealed that obtaining clear and consistent information was challenging, as course descriptions often did not specify the outputs. Only 3 out of the 23 courses address the product dimension of design, and the same number address the policy dimension. Furthermore, 7 courses address a second design dimension, with 4 offering a

hybrid approach that integrates product or service skills and policy considerations.

Finally, the analysis of individual identities addressed in these courses reveals a diverse range of focus areas. Gender and LGBTQI+ identities are covered in 6 courses, socio-economic status in 14 courses, age and disability in 10 courses, and religion in 2 courses. This distribution suggests a varied emphasis on different topics, with some identities receiving more attention than others. Notably, the courses that address individual identities do so in a manner consistent with an intersectional approach. However, further investigation is needed to explore how these focus areas intersect and to understand why some identities, such as religion, are less frequently considered than others.

Table 3. Summary of data analyzed derived from the grid and the comparison of the courses

Analysis factor	Numbers	Comments and considerations
Included Courses on inclusive design within their degree programs as elective courses	18/25 (courses analyzed)	Of the 18 courses integrated into the design curricula, 9 were accessible to postgraduate and undergraduate students, 4 were exclusively for postgraduates, and 5 were exclusively for undergraduates.
Courses on demand design offered by the university on demand or extracurricular	2/21 (courses analyzed)	This category covers on-demand and extracurricular courses that have been mapped because they are present in the university's offerings but not strictly related to design programs such as bachelor's or master's degrees.
Included Courses on inclusive design within their degree programs as mandatory	5/18 (not considering the course on demand or extracurricular)	3 courses are elective, and 5 mandatory.
Courses explicitly mention concepts related to intersectionality or connected topics (such as anti-oppression, power dynamics, inequity, and positionality)	6/21 5 elective courses 1 on demand	Of these 6 courses, 5 are elective (1 on demand), an extra-curricular course organized periodically and open to other participants, not only enrolled students.
Courses explicitly mention concepts related to intersectionality with feminist activities.	2/25 (courses analyzed)	The courses proposed are predominantly theoretical, and only 2 offer hands-on activities. In this case, they either offer the course by integrating an ongoing project or focus teaching aligned related to social innovation that supports students.
Universities offer master's degree programs centered on addressing critical social issues	4/10 (universities analyzed)	Programs centered on addressing critical social issues, including climate change, racial inequality and poverty.
Presence of the terms "Inclusive", "Inclusivity", "Inclusion" in courses	10/23	Number of the courses that are mentioned these terms in the course title or description
Presence of the term "equity" in courses	6/23	
Presence of the term "social innovation" in courses	11/23	
Presence of the term "divers" in courses	4/25	
Individual identities working on gender and LGBTQ+	6/23	Individual identities mentioned (directly or indirectly) in the course description
Individual identities working on socio-economic status	14/25	
Individual identities working on Age / Disability	10/23	
Individual identities Working on Religion	2/23	

## 5. Discussion and consideration

### 5.1 Emerged consideration

From this analysis, three primary considerations emerged:

1. **Positioning of inclusive design in design curricula:** In all the universities considered in the sample, at least one course related to inclusive design was identified. However, the predominance of elective courses poses a challenge in fully integrating inclusive design into the curricula, necessitating further consideration. While standalone courses risk limiting its perception as a peripheral subject, seamlessly incorporating its principles into existing syllabi is complex. Although relevant theories and principles can be introduced through lectures on inclusive design, it is crucial to incorporate practical applications into education, ensuring students have opportunities to apply these principles (Dong, 2010). It is well recognized that inclusive design addresses specific issues but follows a general design process, emphasizing user involvement to create solutions accessible to a broad audience (Dong, 2010).

2. **Integration of Accessibility and Social Inclusion in Design Education:** The curriculum often treats accessibility and social inclusion as separate topics, with only six courses explicitly addressing concepts related to intersectionality, such as anti-oppression, power dynamics, inequity, and positionality. While these courses focus on social inclusion, they frequently overlook accessibility, and vice versa. This separation highlights a significant gap in the curriculum, underscoring the need for a more integrated approach that encompasses both accessibility and social inclusion through the lens of intersectionality. Some courses address inclusion by linking it to equity and social change. For instance, these courses may be associated with ongoing projects or feature dedicated educational labs focused on social innovation that support student engagement. These approaches enable co-design with communities and emphasize the importance of community engagement and equity. One of the primary challenges in implementing inclusive design in an educational context is the difficulty of applying projects to real-world situations, compounded by ethical considerations. Although these courses may effectively address the concept of intersectionality, they often fail to incorporate accessibility, indicating a lack of a comprehensive, holistic perspective in the curriculum.

**3. Linking with Environmental Sustainability and Social Innovation:** It emerged that universities often offer master's degree programs targeting critical social issues like climate change, racial inequality, and poverty. While these programs align with intersectionality, they often neglect identity-related aspects. Nevertheless, they stress the link between social innovation and environmental sustainability, echoing the objectives of the 2030 Agenda.

This alignment advocates for a holistic approach that challenges traditional power dynamics and consumption patterns, promoting economic and environmental sustainability while addressing human factors like poverty reduction and community needs. Indeed, sustainability and inclusion are intertwined; by questioning consumerist and Western economic paradigms, these programs endorse a comprehensive approach considering power dynamics and striving to foster sustainable attitudes benefiting communities. However, it is essential to note that sustainability cannot replace justice (Das et al., 2023), and often, this correlation is absent in program descriptions.

## 5.2 Limitations

This analysis is primarily interpretative and relies on secondary research data, which introduces several limitations typical of qualitative research. As detailed in the methodology section, the study faces constraints related to the availability of information and the challenges associated with conducting a thorough exploration of each design education program and its related courses. Consequently, this paper represents an initial effort to observe and examine this specific area of education, aiming to stimulate reflection and promote meaningful participation in understanding, initiating, and implementing solutions.

A notable limitation of this research is the relatively small sample size of the courses analyzed, which may offer a partial view. This suggests that a larger sample size could provide more robust insights. Additionally, the

reliance on programs and course descriptions to assess the integration of inclusive design content is constrained by the limited access to materials and the incomplete nature of publicly available information. More than Syllabi is required to fully capture a course's pedagogical approach and learning experiences, highlighting the need for more detailed and varied data sources.

## 5.3 Conclusion and Future Works

Beyond the data presented, what could be particularly valuable for future research is the analytical protocol itself. This protocol could serve as a model for conducting similar studies or as a guide for educators to understand the trajectory of their courses. Additionally, the data provide a partial yet significant overview of the current state of design education at leading universities.

To build on this research, several actions could be taken:

- **Update the Analysis:** Repeat the analysis using the latest rankings, such as those from 2024, to determine if other universities now address inclusive design differently or more effectively.
- **Expand the Scope:** Examine additional universities beyond the top-ranked institutions, possibly selecting them based on literature where authors have highlighted relevant teaching practices.
- **Conduct In-Depth Interviews:** Conducting in-depth, semi-structured interviews with educators and scholars would be beneficial. These interviews aim to explore how experts implement inclusive design, manage biases within the design process, and interpret key research terms related to inclusive design. Such qualitative insights could illuminate behavioral models and practices in greater detail.
- **Obtain First-Hand Data:** Conduct detailed investigations of syllabi and entire course programs to better understand the educational landscape.

These steps provide a more comprehensive view of how inclusive design is taught and applied across different institutions and contribute to a more robust analysis of the current educational practices. Integrating inclusive design into design education is an ongoing process requiring substantial effort and commitment from educational institutions. By embedding inclusive design principles into the core curriculum, fostering practical applications, and adopting a holistic approach that merges social inclusion with environmental sustainability, design education can better prepare students to address the complex and impactful challenges of today's world. This comprehensive reform is essential for nurturing a new generation of designers equipped to create innovative, equitable, and sustainable solutions for the future.

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