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Published online: 02 Dec 2024.

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The evolution of design postgraduate programmes in Mexico: Perspectives from three regions (2008–2023)

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ABSTRACT

Design education and research in Mexico have been advancing and adapting to the different contexts of the country's regions. European influence was particularly relevant for creating art academies and establishing contact with pioneering institutions that led to the rise of postgraduate programmes. This study aims to analyse the national context and postgraduate design programmes in three regions of Mexico to describe their academic trajectory, growth rate, and perspectives, and to identify improvement opportunities by promoting collegiate work. The study concludes that, while Mexico has made notable progress in increasing graduate educational programmes and design research, achieving a higher quality profile and international recognition requires addressing current deficiencies in doctoral programmes. Improving the practical application of research and aligning doctoral studies with national and global needs are essential steps to advance Mexico's academic and professional design landscape.

Introduction: Framing and purpose

Postgraduate design education has grown exponentially in the last three decades around the world, and Mexico is no exception. Initially, postgraduate programmes responded to the need to offer specialisation and advanced training, particularly through majors and master's degrees. Over time, the intention evolved into training designers capable of solving complex problems, supported by a solid research foundation. This evolution marked the rise of PhD and research-based master's degrees.

Although Margolin (2016, 5) pointed out that Design PhD programmes growth has occurred 'without a bounded subject matter', we need to recognise that Design is an interdisciplinary profession serving multiple needs (Friedman 2012), and that designers think and work according to different projects. Design is a complex field 'whose parameters are fluid, ill-defined, and changing continually, with a few different design societies dedicated to them' (Meyer and Norman 2020, 14). On the other hand, society is also a complex system, to the efficiency of which many different fields contribute, including design (Norman and Stappers 2015). This is why the context, focus, and regional needs dictate most of the contents of postgraduate programmes. Despite the lack of a definitive range of skills, a specific series of knowledge domains (Friedman 2012) or a single core curriculum (Margolin 2010), researchers must be prepared to unveil their hidden preconceptions, and in this process, become better designers and global citizens (Huang et al. 2018). Research not only produces knowledge but is a key element for making new things possible (Redström 2020), and, in this sense, research has always been part of design.

Over the last fifteen years, research and postgraduate design education have emerged from different contexts and experiences (Ariza 2012; Castillo 2021; Delaney and Liu 2023; Er and Er 2006; Melles and Wölfel 2014; Castillo Olivares 2021; Wai and Siu 2010). Some of the mentioned authors present specific design vision developments, types of research approaches, a variety of institutions and their academic organization, or even teaching styles used to educate upcoming designers and researchers. This paper presents an overview of postgraduate programs in Mexico and discusses the importance of:

- Academic updating: Rethinking design education (Findeli 2001; Komnenić et al. 2016; Huang et al. 2018; Davis and Dubberly 2023) through qualified programs and faculty capability to provide education that responds to labour market demands and society needs.
- Infrastructure and financial resources: Lack of laboratories, outdated libraries, and restricted access to new technologies and other educational services can undermine the quality of teaching and research. In Mexico, state-paid public universities oversee most of the postgraduate programmes (ANUIES (National Association of Universities and Institutions of Higher Education of Mexico) 2022; Galván et al. 2006), which means most of them struggle with financial and bureaucratic constraints.
- Internationalization: Globalization demands that postgraduate programmes increase student and faculty mobility (Wang et al. 2022) to foster cooperation with foreign institutions. Even though there are many Collaboration Agreements for Scholarships Abroad (CONACYT

2021) in Mexico, this has not been enough to make Mexican postgraduate programmes internationally recognized and competitive.

- Research quality: To achieve excellence in research, it is important to be positioned in frontier science in a specific area and to raise funds to support it. In Mexico, the National Council of Humanities, Science and Technology (CONAHCYT) opens a call for Frontier Science every year, but design projects are rarely granted. On the other hand, published design research outcomes in peer-reviewed and indexed journals, may also be considered a sign of quality research.

This paper offers an analysis of postgraduate design programmes in three regions of Mexico comparing their academic trajectory, growth rate, disciplinary perspectives, and improvement opportunities by promoting collegiate work. Although the history of postgraduate degrees in Design in Mexico began in 1969, with the opening of the Master in Visual Arts by the National Autonomous University of Mexico (UNAM), the study presented here focuses on the last 15 years (2008-2023). The main historical data of the region and the characteristics of the programmes of the most active schools are discussed.

Documentary Research (Scott and Marshall 2015; Esser and Vliegenthart 2017) was adopted as the main method for compiling data, looking at:

- Relevant historical periods for Mexican postgraduate programmes in different regions of the country.
- Methodological perspectives and the current situation of the institutions in terms of their academic offering.
- Main issues affecting postgraduate design programme evolution, such as those posed by academic and professional organisations, and national policies.
- A comparison between data from the three regions to find similarities, opportunities for synergistic collaboration, and relevant improvements.

The map presented in Figure 1 shows the distribution of higher education institutions across three regions (North, West, and Central Mexico) and the postgraduate design programmes offered by each of them. It also shows the geographical distribution of offerings: master's studies, doctoral studies, and a diversity of design disciplines. There is a high concentration in the central region, especially in Mexico City, reflecting its historical importance as the cultural and educational epicentre of the country. However, there is considerable provision in other key regions, such as the north and west. Geographical representation is uneven towards Mexico City and its surroundings, shadowing the south and other states.

North Mexico Region

Centro de Estudios Universitarios Xochicalco — Baja California
- Master in **Multimedia Design**

Universidad de Tijuana CUT — Baja California
- Master in **Planing and Urban Design**

Universidad Autónoma de Baja California — Baja California
- Master in **Architecture, Urbanism and Design**
- PhD in **Architecture, Urbanism and Design**

Universidad José Vasconcelos — Baja California
- Master in **Advertising and Multimedia Design**

Instituto Superior de Arquitectura y Diseño — Chihuahua
- Master in **Advanced Architectonic Design**
- Master in **Innovation and Design Management**

Universidad Autónoma de Ciudad Juárez — Chihuahua
- Master in **Creative Studies and Processes in Art and Design**
- Master in **Design and Product Development**
- PhD in **Design**

Universidad Autónoma de Coahuila — Coahuila
- Master in **Art and Design**

Universidad de Monterrey (UDEM) — Nuevo León
- Master in **Art and Design of Video Games**
- Master in **Graphic Design**
- Master in **Design and Development of Containers and Packaging** (online)

Universidad Autónoma de Nuevo León — Nuevo León
- Master in **Interior Design and Architectural Environments**
- Master in **Graphic Design Orientation in Creative Direction**

Instituto Tecnológico y de Estudios Superiores de Monterrey — Nuevo León
- Master in **Architecture and Urban Design**

Current Design Posgraduate Programmes in Mexico

Central Mexico Region

Universidad Nacional Autónoma de México (UNAM). — Mexico City
- Master's Degree in **Visual Arts**
- Master's Degree in **Design and Visual Communication**
- Master's Degree in **Teaching in Arts and Design**
- Master's Degree in **Documentary Filmmaking**
- PhD in **Arts and Design**
- Master's Degree and PhD in **Urban Planning**
- Master's Degree in **Industrial Design**

Universidad Autónoma Metropolitana (UAM) Unidad Xochimilco. — Mexico City
- Master's Degree in **Sciences and Arts of Design**
- PhD in **Sciences and Arts of Design**
- Master's Degree in **Design and Editorial Production**

Universidad Autónoma Metropolitana (UAM) Azcapotzalco Campus. — Mexico City
- Master's Degree in **Design and Product Development**
- Master's Degree in **Bioclimatic Design**
- Master's Degree in **Design and Visual Information**

Universidad Autónoma Metropolitana (UAM) Cuajimalpa Campus. — Mexico City
- Master in **Design, Information and Communication**

Escuela de Diseño del Instituto Nacional de Bellas Artes (EDINBA) — Mexico City
- Master's Degree in **Creativity for Design**
- Master's Degree in **Theory and Critique of Design**

Universidad Iberoamericana — Mexico City
- Master's Degree in **Strategic Design and Innovation**

Universidad Autónoma del Estado de Morelos (UAEM) — Morelos
- Master's Degree and PhD in **Image, Art, Culture and Society**

Universidad Autónoma del Estado de Morelos (UAEM) — State of Mexico
- PhD in **Design**

West Mexico Region

Universidad de Guadalajara (UdeG). — Jalisco
- Master in **Design and Industrial Innovation**
- Master in **Ergonomics**
- Master in **Design Information and Communication**

Instituto Tecnológico de Estudios Superiores de Occidente (ITESO). — Jalisco
- Master in **Strategic Design and Social Innovation**

Universidad Virtual del Estado de Guanajuato (UVEG) — Guanajuato
- PhD in **Innovation**

Universidad Autónoma de San Luis Potosí (UASLP) — San Luis Potosí
- Specialty in **Habitat Sciences, Orientation in the Development of New Products and Editorial Design**

Figure 1. Map of Mexico and the postgraduate programmes distributed in three regions. Credit: the authors.

The selection of regions for this study responds to criteria of institutional concentration, historical relevance, and geographical representativeness. Although the coverage is not exhaustive, the selection encompasses different regions and highlights different tendencies. Mexico City stands out, with 40% of the programmes, being home to emblematic institutions such as UNAM, the Metropolitan Autonomous University (UAM) and the National Institute of Fine Arts and Literature Design School (EDINBA). Metropolitan areas such as Monterrey and Guadalajara also exhibit a high density of programmes, reflecting their roles as industrial, craft and publishing poles.

Institutional presence is analysed in relation to the concentration and density of universities, schools and institutes offering postgraduate design programmes in each region. Historical relevance is evaluated in relation to institutional trajectory and seniority, considering the influence of each institution on design education in Mexico. Geographical representativeness is evaluated to capture the cultural, aesthetic, and industrial diversity of the different areas of Mexico, reflecting urban-rural, craft-industrial, and local-global contrasts. This allows discussion of issues affecting the evolution of design programmes and national policies. These criteria justify a strategic, albeit limited, study sample.

Regional development of postgraduate programmes in Mexico

It was in the early fifties, under the influence of The New Bauhaus in Chicago and the migrant students and teachers of the Hochschule für Gestaltung in Ulm, that the creation of design schools in Latin America began (Bonsiepe and Cullars 1991). Such is the case of Tomás Maldonado, who visited Ulm and built strong connections with Gui Bonsiepe (Devalle 2019), a recognized professor established in Germany, United States, and later in Argentina. Another case that depicts an important European connection can be identified through the work of Cuban-Mexican designer Clara Porset, who collaborated with Josef Albers (Mallet 2013) and influenced design education in Mexico by teaching at the National School of Architecture (now part of UNAM).

One of the first schools to implement a study programme in design was the Ibero-American University (UIA), responsible for the overall design projects developed during the 1968 Olympic Games. The pioneering graphic design course at the UIA was followed by the industrial design course at the National School of Architecture, founded by Professor Horacio Duran (Encuadre 2006). The influence of German, British, and Italian design during the last three decades of the twentieth century set the standard for the industry. In this way, Mexican academic institutions recognized design as a discipline not just an artistic subject.

At the same time, the general identity that Mexico embodies from pre-Columbian cultures to the present day has remained within the limits of crafts and small and medium-scale production. According to Comisarenco Mirkin (2020), the reconstruction of Mexican design culture is still being sought, highlighting the individual and social change that is still necessary. With this preamble, it is possible to identify not only the historical pattern of design education in Mexico but to see similar patterns throughout Latin America, characterized by European influences.

The case for central Mexico as a design education hub

According to the geographic characteristics recognized by the National Institute of Statistics and Geography (INEGI (National Institute of Statistics

and Geography) 2018), the central region of the country includes eight states (see Figure 1). It is an important nucleus of industrial and commercial entities, educational and governmental institutions, and healthcare services. This concentration is further intensified in Mexico City and the State of Mexico, generating a first effect of centralization and saturation that spreads to nearby states and the rest of the country.

The first postgraduate programmes began in Mexico City around the 1920s (García 1990). However, it was not until 1946 that postgraduate studies acquired their current structure, separated from undergraduate programmes, and not until the 1970s that exponential growth was observed in the programs' offerings, both in the public and private sectors. At UNAM, doctoral and master's degrees were awarded continuously starting in 1932 and the first Higher Education Studies Regulations were issued in 1967, establishing criteria for graduate programmes. This places UNAM as a pioneer in offering postgraduate programmes in Latin America (UNAM Graduate Studies n.d.).

Regarding the design discipline as a whole, the creation of graduate programmes in Mexico City can be linked to the emergence and promotion of master's degree programmes in architecture and urbanism, which were followed by a Master programme in Industrial Design in 1981 at UNAM, led by Fernando Martín Juez. Other programmes, such as the Master in Creativity, previously the Master in Design, Creativity, and Communication at EDINBA, are also pioneers in Design education at the postgraduate level in Mexico (Ariza 2012). However, it should be noted that depending on different approaches, disciplinary areas, or even trends, programmes that consider design can be found in faculties or schools that are related to engineering, marketing, or even administration. Also, according to Berlanga et al. (2022), the reference criteria for postgraduate programmes, such as classification or ranking systems, go beyond the volume of academic production or number of published papers since they also consider qualitative aspects, learning and research outcomes, and performance according to their field of study.

UNAM and UAM offer postgraduate programmes in the central zone of Mexico. These stand out due to the type and number of design graduate programmes offered. These may be characterised by a variety of approaches according to disciplinary and inter-transdisciplinary scopes and differences in the schools, faculties, and research centres within these two institutions.

As background, the postgraduate design programmes at both institutions share the common characteristic of having ventured and established the first educational foundations for this level of studies in Mexico (López Zárate et al. 2000; Posgrado en Artes y Diseño UNAM 2016; Posgrado UNAM n.d.; Posgrado de Diseño Industrial UNAM n.d.; Posgrado en Urbanismo UNAM n.d.). The initial proposals highlight a deep consideration of the social, political, cultural, and economic context of Mexico's central zone, a seedbed for the rest of the country. Furthermore, recognized faculty members with

celebrated trajectories were involved in design education at EDINBA, the Autonomous University of the State of Mexico (UAEM), and the UIA.

The Faculty of Arts and Design at UNAM opened in 1971 the Master in Visual Arts with a focus on Design and Visual Communication, which later became an autonomous field of knowledge within the university. In 2011, the Postgraduate Programme in Arts and Design opened, including a Master in Design and Visual Communication, a Master in Teaching in Arts and Design, a Master in Documentary Film, and a Doctorate in Arts and Design (Posgrado UNAM 2016). The latter aims to reappraise the activity of visual artists, designers, visual communicators, art and design teachers, and documentary filmmakers, maintaining a balance between arts, humanities, and sciences.

The purpose of the Postgraduate Programme in Arts and Design at UNAM (Posgrado UNAM 2016) is to train professionals with the knowledge, skills, and abilities necessary to meet the demands of society emphasizing an interdisciplinary approach with a humanistic perspective; and to train producer-researchers considering the different social, cultural, political, economic, scientific, and environmental spheres to develop new theoretical, practical, or theoretical-practical proposals. However, there is a lack of specific indicators to ensure that the proposals translate into tangible contributions both in the academic field and in social impact, requiring a constant pursuit of a transversal perspective.

UAM offered its first design postgraduate programme in 1982, the Master in Product Development, in collaboration with Gui Bonsiepe from the HFG in Ulm, Germany (M. Rodríguez Viqueira, pers. comm., March 2023). Later, the specialisation programme in Environmental Design was created, which evolved into master's and doctorate programmes with the addition of supplementary knowledge lines in the design field. In subsequent years, various postgraduate design programmes were created throughout different campuses of UAM.

Both institutions provide structured guidance across various approaches within established knowledge areas, enriching thesis development. Projects reflect responses to Mexico City's complex context, including the State of Mexico and surrounding areas. Emphasizing regional resource utilization, traditional practices analysis, and technology integration, projects delve deeply into user and contextual analysis. This ensures a comprehensive understanding of design challenges and solutions within the region's socio-cultural and environmental framework. See Figure 2 for detailed aspects of programmes and distribution.

Programmes in West Mexico: A strategic positioning

Mexico's central-western region comprises seven states (see Figure 1). This region includes various universities, such as the private Monterrey Institute of Technology and Higher Education (ITESM), with campuses in León and Guadalajara. The institution initiated a postgraduate
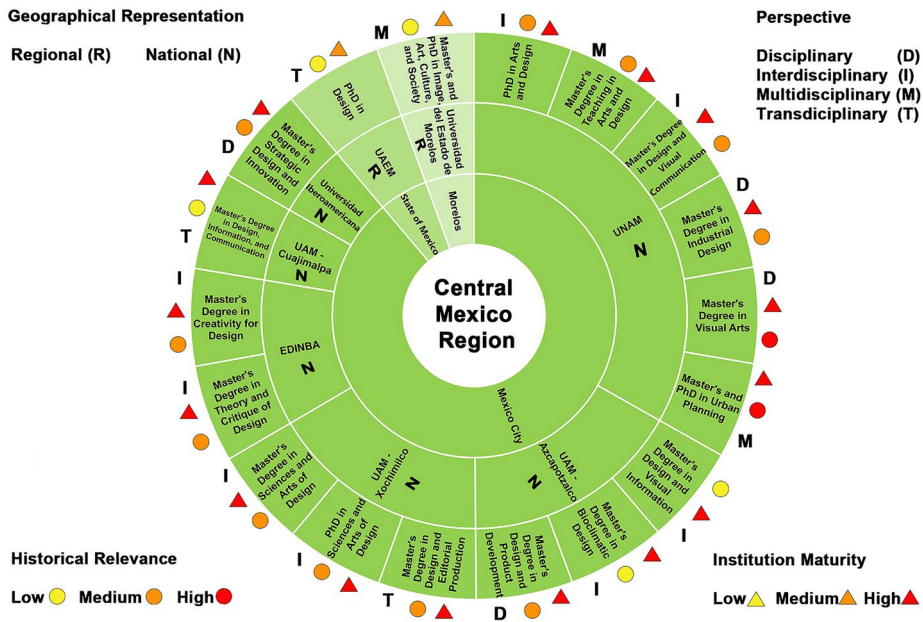
Figure 2. Strategic sample of graduate programmes in the Central Mexico Region according to geographic representation, perspective, historical relevance, and institutional maturity. Credit: the authors.

programme in Innovation and Industrial Design in 2010 and is currently undergoing a restructuring process. The public Universidad Autónoma de San Luis Potosí (UASLP) used to offer a postgraduate programme in Habitat Sciences, which is also being restructured. It currently has a speciality in Habitat Sciences, with a focus on the development of new products and editorial design. Additionally, the public Virtual University of the State of Guanajuato (UVEG) offers a Doctorate in Innovation, while the private Jesuit University of Guadalajara (ITESO) focuses on collective learning, reflection, and societal transformation through its Master in Strategic Design and Social Innovation.

The public University of Guadalajara (UdG) adopted a network organisation model in 1993, diversifying into various parts of the State of Jalisco. The UdG's University Centre for Arts, Architecture and Design (CUAAD) offers a Master in Information and Digital Communication Design, a Master in Ergonomics, and a Master in Product Design and Development (Centro Universitario de Arte, Arquitectura y Diseño n.d.). In Jalisco, the offer of online postgraduate programmes related to design is on the rise, accompanied by a wide diversity of possibilities for the integration of postgraduate students into the industry of the region and the demand for such opportunities for them. For example, design for manufacturing relates to the Western region's integration to the Silicon Valley ecosystem, representing an area that stands out in the production of electronic components for export. Another
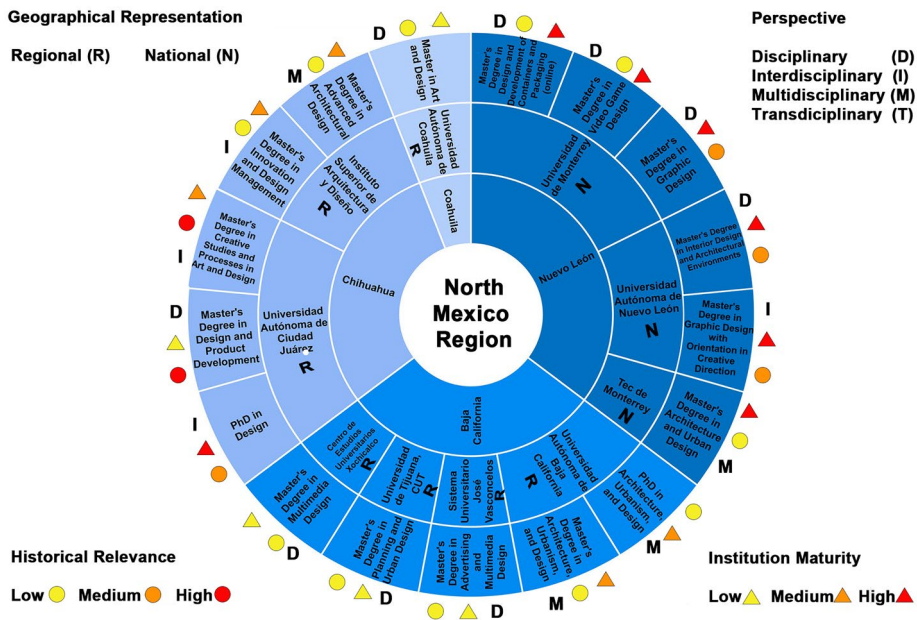
Figure 3. Strategic sample of graduate programmes in the West Mexico Region according to geographic representation, perspective, historical relevance, and institutional maturity. Credit: the authors.

promising area of activity for design postgraduates in West Mexico comes from a new market focused on the design of services related to technology (Vera and Delsordo 2022).

A novel approach that has been considered in this region refers to social design, that is, the implementation of projects with a focus on solving problems for the community, such as designing services and products in a comprehensive manner aligned with the clear purposes of the Mexican state. Referred to as the Strategic National Programmes (PRONACES), this approach focuses on identifying problems in the most vulnerable regions and address them through design. In its development process, PRONACES integrates research with visits to vulnerable sites to find the solution to problems of low, medium, and high complexities (CONAHCYT (National Council of Humanities, Science and Technology) 2024). This type of societal design contribution has the possibility of financial support from the Mexican state linked to already established government programmes and companies committed to supporting and generating a social impact that benefits the community. In addition, current postgraduate courses have generated new academics for the universities that offer Industrial Design careers in the region. See Figure 3 for detailed aspects of programmes and distribution.

Northern region: A global response

The northern region of Mexico, comprising nine states (see Figure 1), is home to approximately 266 public universities and higher education centres, and 641

private institutions (ANUIES (National Association of Universities and Institutions of Higher Education of Mexico) 2022). However, the number of design postgraduate programmes in this part of the country is still incipient, only seventeen, despite some undergraduate degrees having existed for more than thirty years.

The growth of postgraduate programmes in this region is related to the requirement for faculty qualification, disciplinary diversity, and occupational specialisation, as well as the idea of design as a professional activity. That is why it seems logical that most postgraduate programmes in the northern region are in states such as Nuevo León or Chihuahua, at large universities such as the University of Monterrey (UDEM) or the Autonomous University of Ciudad Juárez (UACJ), which offer a greater diversity of options due to the size of their educational communities.

Of the seventeen postgraduate programmes identified in the northern part of the country, only eight are in public institutions, while the rest are in private universities. UDEM offers the highest number of postgraduate design programmes, followed by UACJ (see Figure 4). At UDEM, the first postgraduate programmes were established for architects almost fifty years ago. The Master in Holistic Design opened in 2003, attracting graduates in graphic, industrial, and interior design from the region.

UACJ is the first institution to offer a PhD in Design in the region, in a programme characterised by its diverse projective disciplines compared to other programmes focused on architecture. The seven postgraduate

Figure 4. Strategic sample of graduate programmes in the North Mexico Region according to geographic representation, perspective, historical relevance, and institutional maturity. Credit: the authors.

programmes offered by UACJ Architecture, Design and Art Institute align with global trends and benefit from the faculty's international postgraduate experiences. Research emphasizes design's practical nature, integrating experiential, action-based, and reflective thinking to formulate strategies tailored to regional contexts. It also incorporates traditional humanities' reflexive and discursive perspectives, enriching problem understanding. This interdisciplinary approach enhances adaptability to diverse realities, fostering comprehensive solutions grounded in both academic discourse and practical application (Ariza 2021).

On the other hand, ITESM, with eighty years of experience and constant change and innovation, is now considered one of the best private universities in Latin America. Through its twenty-two campuses along the country, it has managed to consolidate its School of Architecture, Art, and Design (EAAD) by promoting postgraduate and continuing education programmes in ten campuses, in the West, Centre and North of the country. Currently, the ongoing Master in Architecture and Urban Design has the highest number of students. The Master in Innovation and Design has been constantly updated, emphasising topics such as strategic, systemic, and prospective design, responding not only to professionalisation but more towards scientific research. The Autonomous University of Nuevo León (UANL) and UDEM have also brought innovative ways of responding to the nearshoring industry for the region (Villanueva 2024; SEDATU (Ministry of Agrarian Territorial and Urban Development) 2018).

Although the country's northern region was one of the last to incorporate postgraduate programmes in design, their growth rate is significant. Still, it also has the vision of training design researchers and consultants who can open novel perspectives for the region while advancing towards consolidating programmes and projects connected to the industry. The insertion of more researchers into CONAHCYT's National System of Researchers and interdisciplinary work contribute to this. See Figure 4 for detailed aspects of programmes and distribution.

Supporting organisations, industry and collectives

Design culture in Mexico has been promoted by organisations accrediting educational programmes. These bodies, such as the Interinstitutional Committees for the Evaluation of Higher Education (CIEES) and the Council for the Accreditation of Higher Education (COPAES), regulate the quality of educational programs in Mexico (UAEH (Autonomous University of the State of Hidalgo) 2010). While primarily focused on undergraduate programs, they have helped create a framework for design education. Evaluators consider market demand, program innovation, and educational philosophy. They recognise that design policy and the profession's positioning in social,

commercial, government, and industrial spaces are tasks for both professional and educational fields.

There have been initiatives to create national design policies, such as John Hesket's 2008 proposal to the Economic Commission of the National Chamber of Deputies (Rodríguez Martínez 2008). This proposal aimed to promote innovation among entrepreneurs and integrate development processes through research and design. Although there is no evidence that this initiative has been followed up on, universities and accreditation institutions continue building mechanisms to demonstrate the role of design in addressing Mexico's priority issues.

In addition to these efforts, independent groups like Diseña México, the Innovation and Design Promotion Council, professional associations like the Mexican Association of Graphic Designers (AMEDIGRAF), and the College of Industrial and Graphic Designers of Mexico (CODIGRAM) contribute to promoting design culture in Mexico. The College of Designers of Mexico (Coldi) is an officially recognised organisation that represents designers in Mexico, focusing on inclusion, sustainability, and innovation. State-level design associations include the College of Architects, the College of Interior Designers of Ciudad Juárez in Chihuahua, and the Graphic Designers Association in Jalisco.

The link between design education and professional practice is essential for creating a solid academic foundation for the discipline (Rivera 2018). According to Morales Holguín and Gonzalez-Bello (2021), establishing design methods focused on project development in a workshop format has enabled the discipline to consolidate itself. Saikaly (2003) found that two fundamental perspectives in postgraduate Design programs are practice-oriented research and practice-centred research guided by a reflexive and interpretative approach to inquiry. The exchange between industry and academia has played a vital role in producing design professionals, and research-creation is one of the processes currently being promoted by the government and educational institutions.

Several postgraduate programmes in Mexico (SEP (Ministry of Public Education) n.d.), both professional and research-oriented, have materialised these perspectives in the content structure. The General Law on Humanities, Sciences, Technologies, and Innovation, presented in 2022 and promoted by CONAHCYT, aims to vindicate 'the humanistic and dialogic nature of the country's scientific and technological policy, through proposals linked to these areas that strengthen communities, the development of capacities, and national sovereignty' (CONAHCYT (National Council of Humanities, Science and Technology) 2023). This is a step towards understanding that design and art can and should enter the public debate, open the barriers to interdisciplinary work, generate networks, and go beyond object-oriented or artistic production. It is essential to acquire a critical attitude and a systemic-prospective vision in research within the country, based on the study of novel approaches and the integration of emerging inter/transdisciplinary methodologies.

Research policy controversy: Searching the new profile

Current policies for supporting research are related to the country's priorities, focused on engineering and technological development. One of the successes is the coincidences seen in promoting schools of Arts, Literature, and Architecture, grouped into the field of Humanities. Until 2022, CONAHCYT's National Programme of Quality Postgraduate Studies (PNPC) showed more than twenty postgraduate Design programmes in its catalogue. If we compare this with the number of programmes that were part of this list in 2010—three at consolidated level, two at development, and two recently created—it could be said that there was considerable growth. However, reviewing the number of programmes currently offered in the country would also be necessary. According to a study by Ariza (2012), the number of programmes that were registered in the ANUIES catalogue a decade ago was fifty-eight.

Starting in 2022, with the renewal and change of the PNPC to the National Postgraduate System (SNP), the evaluation has been pending, allowing registering programmes with a less complex mechanism derived from a national policy that seeks to promote scholarships for anyone who wants to enrol in a postgraduate programme in Mexico. It cannot be denied that this new way of evaluating the quality of postgraduate programmes has to do with the vision of the austerity of the current government and the reduction of funds for research, including less operational expenses. What is important to rescue is the proposal for social retribution for those dedicated to research and a more palpable impact of academic projects and products on the reality of the country.

Aligning the objectives of postgraduate programmes with national problems has also allowed a certain openness with design programmes since the possibilities for impact are broad if we understand the levels of professional, ethical, social, and cultural responsibility (Frascara 2000) of our practice. It is in this context that master's and doctoral programmes in design in our country are aligning with the perspectives of the entities that manage and validate research. But far from meaning a setback for the discipline, this gives a fertile field for its search for meaning.

We visualize a new profile where we can implement mechanisms in which design research in postgraduate programmes leaves the traditional approach behind, where problems are commonly established by academic interests or in a disciplinary way to launch design as a project. By searching for highly collaborative research approaches, doctorates are governed by performance and incidence criteria that can generate regional projects and articulated macro-projects (CONACYT 2021). As Findeli (2015) explains, several possible research questions are hidden behind any design issue because of people's everyday experiences. Contributing to social and economic development can

only flourish with the commitment to more conscious links between university and local environment. Therefore, the impact of research must reach the people.

The development of doctoral programmes in Mexico has been slow. However, in the last two decades, with the support of CONAHCYT, there has been an increase in the production of academic papers, the promotion of postgraduate scholarships, and the creation of research programs. There is no estimate of the number of scientific products indexed in Mexico. One indicator of institutional prestige among design programmes could be QS ranking by discipline, which in its latest edition places UNAM and ITESM within the top one hundred (Top Universities 2015n.d.).

Currently, universities with more experience are beginning to take action to include these metrics in their statutes and strategic plans. A certain disadvantage appears on the map since most of the doctoral and master's programmes offered in Mexico depend on national priorities and the six-year budgets assigned to institutions. Concerning the industrial and business sectors, Mexican postgraduate courses in design have made it possible to demonstrate the need and value of research for the improvement of productive and creative processes, as well as the intrinsic value of the systematic and systemic analysis of phenomena, context, or users.

Conclusion: Global changes and local futures

It is true that, to a certain extent, Mexico adopted European models for the construction of design education and that the main objectives have been to enable the design academy to deliver critical and constructive learning at the undergraduate level. The research conducted has shown that recognition of design in terms of public policies is stagnant, but some kind of dialogue has expanded. Proof of this is precisely the research process behind this paper, which brought together researchers from different regions of Mexico reflecting on national recommendations to design specialities, master's degrees, and doctorates in terms of quality, impact, specialisation, and research.

Mexico and Latin America are striving for quality and global recognition in design education, and this involves the challenge of adapting to national recommendations for higher education. However, academic products generated from research do not often transcend in the form of patents or technological developments demanded by universities and society. Graduate programmes offer opportunities for graduates in the business field, but deficiencies arise in applying specialised knowledge to industry or innovation. Doctoral programmes have a theoretical epistemic nature, which follows scientific rigour, generates new knowledge, and impacts academia.

Creative research offers a way of structuring discourse, developing broader perspectives on participation in the priority problems of the environment

and society, and helping to systematically approach problems and collaborate with other areas of knowledge. The project-oriented perspective found in Mexican postgraduate design programmes opened a world of opportunities, providing occasion for contributing to the discussion of design in the configuration of broad research perspectives aimed at solving critical problems.

The very nature of design is the quest for solutions to the environment and users, understanding where the problems are and how to address them. Our role as academic researchers is to identify opportunities to improve situations, for which we have learned to observe the world and work with communities. In Mexico, we are positive in thinking that the training of research designers can allow this vision to be broadened from the prevailing scientific and academic frameworks.

Therefore, it is necessary to promote cooperative research networks with the perspective of other disciplinary fields, following specific research lines and theoretical-conceptual epistemological reflection with emerging approaches and through research production. Likewise, the offer of Postgraduate Design programmes in Mexico has allowed greater openness towards interdisciplinarity and the communication and dissemination of research projects with different actors, programmes, researchers, institutions, and companies, strengthening the creation of research tracks and new degrees in design. Although this study showed a greater concentration of programmes in these regions of the country, it would be valuable to broaden the scope to capture regional diversity (particularly in the southern region).

In conclusion, the need to close the gap between academic research and practical applications is evident, especially in Mexican postgraduate programmes. To overcome these deficiencies, a concerted effort must be made to incorporate practical knowledge verification processes within communities, laboratories, and innovation centres. By cultivating a generation of researcher-designers equipped with theoretical and practical skills, we can significantly contribute to addressing pressing problems from a more integral, socially committed, and innovative perspective.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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