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Urban design pedagogies: An international perspective

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Abstract
While the relationship between urban design, architecture, and planning has been discussed through various positionings and models, urban design education continued its institutionalization within different graduate schools. The process has ended up with diverse programs through various curricula and studio works. In this context, such accumulated diversity indicates the necessity to identify the original divergences and commonalities of the programs in the international context for proper and timely identification of the so-called 'urban design pedagogy' if it would be claimed so. To that aim, the paper examines the current institutional profiles, program descriptions, and curricula of 70 urban design master's programs and comparatively scrutinizes them with data visualization techniques. Moreover, various modalities in the organization of studio education have been explored through available course descriptions and students' works. In this framework, the subtle discrepancies and commonalities are delineated under the four titles: *institutional identity (academic organization), thematic focuses, curricular content,* and *studio education.* As a result, the concept of 'pedagogies' in urban design is argued in the current state-of-the-art within the field.

Keywords Urban design education · Institutionalization · Curricular analysis · Studio education · Urban design pedagogy

Introduction

The disciplinary connections between urban design and fields such as architecture, urban planning, and landscape architecture—rooted in normative foundations, the concept of public interest, and various discursive movements—remain subjects of ongoing debate in academic circles. Frequently discussed whether it has its own theories and methods (Foroughmand Araabi 2016; Dovey and Pafka; 2016; Çalışkan and Efeoglu 2017; Lukovich 2017), urban design as an inter-, trans-, multidisciplinary field and a 'hidden specialism' (Black 2019) is still on the way of becoming an explicitly specialized practice whose professional territories are demarcated (Butina-Watson 1997; Romice et al. 2022).

The early discussions on the characteristics of educating urban designers go back to formative years of urban design curricula in 1960s (Tyrwhitt 1962). In parallel with its increased field of application in practice, the late 1980s unfolded (Colman 1988) some initial discussions on the epistemological ground of the field (Moudon 1992) as a unified discipline (Lang 1994). Then for the last decades, the debates on urban design education have created a new subdomain in urban design literature (*Urban Design Quarterly Issues* 47, 64, 110, 152, *Journal of Urban Design*). It is possible to argue that, first, the preceding studies focus on some specific aspects of education on normative and descriptive basis. On the normative ground,

- the characteristics, roles, and missions attributed the subject or the agent of urban design education (Floyd 1978; Owen 1993; James 1993; Steward 1993);
- the object of design activity in urban design pedagogy (Arefi and Triantafillou 2005; Golden 2012; Gu; 2018);
- pedagogic orientations and methodologies to engage in real world (Savage 2005); to address the issues of flexibility, adaptability (Duarte and Beirao 2011), responsiveness to local contexts such as informality (Kamalipour and Peimani 2022; Keswani 2019) or reflexivity to globally structuring conditions within the premise of contextualism (Cuthbert 2001; Roberts-James 2009; Sargın and Savaş 2012) and to integrate

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digital technologies in urban design (Mapua Lim, et al. 2016) have been certain focal discussions providing a depth in the pedagogical domain.

On the descriptive level; the structural context through which urban design(er) came into being (Hamnett 1988; Loew 1993) and the state of the art in higher education provision and its potency in profession (Dean 1997; Evans 1997; Rowland 1997; Lloyd-Jones 1997; Butina-Watson, 2009; Loew 2009; Lang 2016; Giordano 2019) have been occasionally disclosed. Furthermore, pedagogical practices were partially addressed in raising attention to the need for an urban design and the ways of integration to allied disciplines of planning and architecture (Toon 1988; Guise and Manley 1993; Smailes 1993; Collier 1993; Adams 1993; Biddulph 1993; Tavernor 1993; Dean 1997; Kim 2009; Talen 2011; Gunder 2011; Steiner 2011; Rocco and Rooij 2010; Banerjee 2011).

Scholarly works conducted in this field presents exploratory/substantive, normative/prescriptive, discursive and descriptive approaches in the study of design education. While exploratory studies investigate epistemological, cognitive or methodological mechanisms in design education (Wallace 1978; Press 1997; Sachs 1997; Kethro 2013; Hedayati 2018; Cai 2020), normative studies put forward a theme, concept, method or approach as desirable, especially in the case of architectural design studios (McPeek 2009; Cho 2011; Mohamed 2018; Grover 2019; Marblestone and Whitbeck 2020). Discursive studies present an account of arguments, mostly evolved in time, on the design pedagogy. Descriptive ones, having relatively simpler methodological structure, depict a clear picture of facts on pedagogy with information gathered from the field and presented directly (Hardy 1965). These studies with various frameworks focus on certain aspects, modes and models without a holistic outlook in the form of a systemic comprehensive review of the design schools.

However, the corpus on pedagogy of urban design is still seen as sparse in the extensive spatial design literature (Palazzo 2011). Paradoxically, while each piece of writing implicitly suggests a singular pedagogy, the overall body of literature highlights diversity due to the emergent and non-unified nature of urban design education. Although the emergent nature of pedagogical practices in this field is not necessarily problematic (Cidre 2016), the fragmented theoretical, epistemological and methodological basis of the discipline (Moudon 1992; Inam 2002; Lukovich 2017) and the lack of consensus on its pedagogy have been considered a shortcoming to achieving reliability, which is based on internationally agreed definition and principles and a shared knowledge base (Romice et al. 2022). At that point, although recently the multiplicity of urban design pedagogy is recognized, the urge for the demarcation of theoretical and professional boundaries of urban design was aligned with the necessity of 'a unique signature pedagogy'.

Another point is that the emerging literature on urban design education falls short of an integrated and systematic identification of the pedagogical peculiarities of the graduate programs, which have increased in number in recent years in the international context. Investigating specific programs, one could recognize the differentiated constructs in each context based on some key aspects such as scale, scope, thematic orientation, and methodology.

In this context, the paper questions the possibility of 'the urban design pedagogy' as recently claimed by Romice et al. (2022) regarding the actual necessity of responding to the contemporary urban agenda of our cities. By doing that, the paper underlines the necessity to test this supposition on an empirical ground. Accordingly, the research aims to reveal the underlying characteristics of urban design education via a comprehensive curricular and pedagogical analysis of the graduate programs offering design education in the international context. Compared to other scholarly works, it combines both descriptive and exploratory approaches by attempting to portray current organizational, curricular, and thematic orientations in urban design education and to explore studio pedagogies in detail that are yet to be well-defined. This way, it offers a holistic and multi-faceted outlook by means of integrating both long-standing institutional and emerging pedagogical practices in the education of this field.

To that aim, the paper suggests a holistic framework for urban design education regarding four aspects: *institutional identity (academic organization), thematic focuses, curricular content (disciplinary domains and sub-domains), and studio education*. In this way, a robust definition of the actual pedagogy applied by the graduate programs could be provided. Utilizing this framework within a comprehensive review including 70 graduate programs currently delivering international education, the paper eventually claims pedagogical variety in contemporary education in urban design.

Theoretical background

Compared to urban design, pedagogical characteristics of the education of architecture and planning in terms of their epistemological and methodological grounding are relatively easier to characterize. The historical accumulation of these discipline's ways of knowing and theoretical foundations as well as settled practices in education bring out relatively more recognizable pedagogical frameworks. These frameworks are often disclosed in the literature. Among comprehensive writings on architectural pedagogy (Salama; 2016) and planning pedagogy (Frank and Silver 2018), the ones that compare the pedagogies of the two disciplines not only



inform about the converging and diverging historical trajectories shaped by criticisms but also provide clues on how it emerged in the first place as a 'gap filler' (Dagenhart and Sawicki 1992).

In the historical trajectory of planning pedagogy, radical shifts in the conception of space, procedures, and products and eventually paradigmatic orientation are highlighted (Lang 1983; Dagenhart and Sawicki 1992; Long 2012). In terms of the conception of space, criticisms targeting the physical premise of planning are addressed to result in a decline in craft-oriented master planning to a degree. Re-establishing academic legitimacy, coherency, productivity, and respectability of the discipline based on social sciences, planning set its agenda on the research and the social space. In that sense, the procedural aspects and the means to achieve desired ends have been redefined. Long-range physical planning activity devising master plans to achieve rational land-use, comprehensive planning, and aesthetic vision left its place to short-range policy making practice in the form of a policy plan constituting procedural concepts, economic, financial, and procedural goals and objectives (Dagenhart and Sawicki 1992).

This shuffling duality in the epistemic formation of planning discipline had its repercussions in planning education, especially in the integration of studio/workshop courses as a pedagogical device in urban planning curricula. In this context, a studio course was first seen as a place of professional instruction (Long 2012). Along with the shifting conception of space, procedures, and products, strong criticisms were directed towards studio education as it predominantly relied on intuitive processes and lacked methodological sophistication and procedural matters. Environmental deterministic inclinations implicit in the design principles and proposed solutions as well as difficulties in the integration of social and physical issues together were regarded as problematic (Lang 1983).

The shift of focus from physical environment, planning, and design to social and economic environments and environmental analysis during the late 1960s resulted in the abandonment of studio education in planning programs. However, it was criticized that the break from applied studio courses obscured and undermined the pedagogical experimenting of the argumentative and advocating nature of the city planning profession (Lang 1983). The future of planning education and the product of planning schools at the time was considered fuzzy due to ad hoc curriculum revisions (Mann 1970). The developments in the bridging of decision theory to the physical design process (Koberg and Bagnall 1974) as well as articulations in the planning theory, the nature of planning problems, the nature of planning as an argumentative process (Cartwright 1973; Rittel and Webber 1973), and the limitations of rationality and comprehensiveness in planning (Harris 1967) facilitated the reconsideration of studio education as a device to teach theory (Lang 1983). Raising concerns against the hegemony of social sciences dominating planning education and awareness that lack of physical planning brought about a considerable gap in education led to the restoration of practice-based education in planning curricula 1990s onwards (Long 2012).

The disciplinary paradigm of planning is assumed to steer parallel to this shift. It departed from a highly profession-based to a disciplinary and research-based curriculum and faculty. Within that scope, the planning discipline contributed to a great extent to the research university with external funding, applied resources and publication. This culminated in setting the current discourse of planning, on the one hand, on physical planning founded on the theories of urban form and morphology at the confluence of urban design (Bacon 1967; Burchell 2017; Lynch and Rodwin 1958). On the other hand, it encompasses a wide range of practices across regional and spatial planning, economic planning, policy planning, and community planning. Therefore, the theoretical accumulation of planning draws on managerial science, social sciences, economics and administrative sciences, behavioral sciences, and so forth. In that sense, planning theory integrates decision theory, choice theory, game theory, and utility theory within its broader framework (Batty 1977; Charlton 1981; Davidoff and Reiner 1962; Dyckman 1961; Friedmann and Hudson 1974). On the other hand, physical planning is founded on the theories of urban form and morphology at its confluence of urban design (Bacon 1967; Burchell 2017; Lynch and Rodwin 1958).

The historical trajectory or architectural pedagogy converges with that of planning in terms of criticisms on physical determinism in spatial concerns and strong belief in technological efficiency. This also led architectural pedagogy to orient towards social sciences and establish alliances with disciplines of planning and landscape architecture through the formation of urban design curricula. Otherwise, its trajectory diverged significantly from that of planning. Instead of expanding its disciplinary boundaries into social sciences, architecture re-identified its legitimacy and coherency in the design discourse adopting values of liberal arts and methods of criticism (Dagenhart and Sawicki 1992). This first led to the preposition of demystification of (designer's) design process rather than the focus on the product. Application of logical and rational systems such as operations research, organizational behavior, cognitive and computer science gained weight to inform design methods. Second corollary was taking of historical tendency to the forefront as a basis architectural thinking rather than theoretical. This led to the foundation of history, theory, and criticism as a scholarship and as an interpretive strategy, though artifacts and physical form constituted the object matter of pedagogy. Lastly, design activity is affirmed as research. At that point, traditional understanding based on mutually exclusive

conception of 'design vs. research' is radically altered to 'design research' and 'research by design' understanding (Frayling 1994). Designerly way of research is conceptualized as a reflective practice in which knowledge is generated through reflection-in action and reflection-on action while engaging the complexity of practices (Brown 1979; Cross 1982, 1993, 1999; Lawson 2006; Schön, 1983, 1984, 1985). Heuristic processes, creativity and innovation, the interrelation of design, practice and research, design brief, design/action, computation, precedents, and expertise have become major concerns of pedagogy.

Although both disciplines responded to criticisms regarding their adopted concepts of space and intuitive, product-oriented practices, their pedagogical trajectories diverge significantly in terms of disciplinary re-positioning within a broader framework, research and scholarly focus, language, and methods. Whereas planning integrated procedural theories and methods within its disciplinary framework, architecture returned to normative theory which historically formed the primary basis of the discipline (Dagenhart and Sawicki 1992).

At that juncture, evolving pedagogy of urban design was seen peripheral to the primary trends influencing parent disciplines (Dagenhart and Sawicki 1992). Therein lies a search of what constitutes its theoretical, epistemological, and methodological basis. The sparse literature on urban design education covers partial experiences in the academic or professional formation the field in specific contexts; theoretical discussions on the disciplinary position of urban design to forerunning disciplines; the implications of professional practice and real-world problems on the education of the field; and pedagogical practices within the scope of studio courses as the backbone of design education.

Primarily, *local, cultural, and social spheres* through which urban design(er) is academically or professionally formed are often disclosed in the literature (Hamnett 1988; Loew 1993; Gordon 2016). These writings occasionally present the summaries and analyses of higher education provision and its impact on the practice of the profession. While these provide valuable insights into contextual specificities, there are few attempts to cross-reference or reflect upon the distinct experiences. Furthermore, the lack of an overarching framework to situate these differences poses a challenge in developing comparative underpinnings on urban design education.

On the other hand, there is a growing body of literature on the *(inter-)relation of urban design to forerunning disciplines* at the theoretical level.[1] However, such debates focus on either discipline's relation to urban design partially, normatively, or rhetorically in terms of the formation of the field and its education without considering the actual academic structuring through a holistic framework. Such approach necessitates extensive evidence-based research, which accounts for *the institutional organization of the field* in higher education system. Furthermore, the literature falls short in pinpointing the disciplinary domains and sub-domains constituting the content of education based on curricular evidence. This endeavor requires extensive and systematic research based on *curricular organization of the field* in graduate programs. Such a two-fold inquiry would substantially enable a comparative ground through which disciplinary formation and position of urban design are discussed on the contextual basis that the literature fails to provide.

Alternatively, based on the definition of urban designer as a professional practitioner, the literature also tends to highlight *implications of practice* on urban design education. In that sense, the roles and objectives of 'urban designer' are frequently discussed as a 'controller' and 'negotiator' operating between architect, planner and landscape architect, as a 'manipulator' of development process and 'briefer' of development interests (Floyd 1978). Pedagogic orientations are re-aligned with shifting modes of practice, promoting practical knowledge, real-time learning, problem-driven and interdisciplinary approaches (Savage 2005). Given that the content of urban design education is often based on real-world problems, the portrayal of these problem areas potentially informs about *the thematic focuses* which urban design programs are governed by. The question of whether there are commonalities in terms of thematic organization or divergent focuses in different contexts is critical to address the implications of real-world practices on urban design education, which were not explicitly acknowledged in the literature.

Another domain that discussions within the literature have been accumulated is *studio education*, since applied design courses such as studio are the primary milieu of urban design education (Anthony 2011). These writings often focus on *the object of urban design* that fluctuates between form, morphology (Gu 2018; Romice et al. 2022; Duarte and Beirao 2011), 'place' (Arefi and Triantafillou 2005; Golden 2012) and the corresponding pedagogical prepositions. Moreover, links with the profession (Floyd 1978), responsiveness to real life and user needs (Owen 1993; Lak and Aghomolaei 2022) internationalization (Palazzo; 2011; Butina-Watson 2016; Kossak 2019) reflexivity and contextualism in the face of globalization (Cuthbert 2001; Sargın and Savaş 2012) and the use of new technologies (Palazzo 2011) have become the major subjects of writings. The literature addressing such concerns unfolds a normative basis for urban design pedagogy. Nevertheless, a comprehensive

[1] Please see Journal of Planning Education and Research Volume 31, Issue 2 for one of the cross referential debates that has made a significant contribution in the discussion of urban design's relation to urban planning discipline realized through commentaries and responses made by Gunder (2011), Banerjee (2011), Steiner (2011) and Talen (2011).

outlook to *the organization of design studio education* is yet to be presented.

The literature, though insightful, merely consists of partial experiences in the education of the field without presenting a cohesive framework. This amplifies the call for a holistic framework with robust research based on a methodically and comprehensively conducted review of the design schools with extensive evidence in its scope. Although the normative and descriptive foundations of urban design education, centered on specific themes, concepts, modes, and models, contribute to the academic development of the field, a comprehensive understanding of how the field is constructed through the education system is only achievable by considering various educational pillars in an integrated manner. Primarily, these include the *institutional and curricular organization* of graduate programs which informs about the disciplinary identification or positioning as well as content-wise construction of urban design education. Additionally, since the real-world practices were highly argued to impinge on pedagogical orientations in the literature, *thematic focuses* emerge as another key aspect of educating urban design. Lastly, *design studio* as the core of any urban design curriculum becomes one of the significant pillars, which requires scrutiny.

Research methodology

To characterize contemporary urban design education, a comprehensive review was conducted focusing on the fundamental differences and similarities among active graduate programs. The review covered four key topics:

- *Institutional identity: academic organization*,
- *Thematic focuses*,
- *Curricular content: disciplinary domains and sub-domains*,
- *Studio education.*

In this framework, 72 programs in 68 universities[2] taught in English were closely examined to address the following questions (Table 1):

1. *How are urban design programs positioned within academic institutional organizations? What are the variations in the institutional identity of urban design programs?*
2. *What are current thematic problem areas that have come to the fore?*
3. *What are the knowledge areas, domains and sub-domains that make up the curriculum? What specializations and sub-specializations are there?*
4. *How do different categories and typologies come to the fore in urban design studio education?*

For the first question focusing on the institutional identity of the programs, organizational structures are mapped out with an alluvial diagram,[3] through which the strings between each category of information are represented and stacked column charts,[4] through which percentile distribution of models of urban design academic organization worldwide is demonstrated, based on the data of schools, colleges, and departments in which the urban design programs are positioned. The related data were retrieved from the official web pages of schools or programs that were integrated in this study. This quantitative analysis is based on the following formula:

$$\text{The Percentage of the Models of Urban Design Academe} = \left(\sum \text{Number per Models of Urban Design Academe} \times 100\right) \div \left(\sum \text{Number of Schools}\right).$$

By the formula, the relative weight of each model could be revealed and illustrated comparatively.

Secondly, a radial network graph, a useful data visualization tool for pinpointing the strings between variables and recurring words as nodes, has been generated based on the key concepts and themes regarding the program descriptions. In this way, the common concepts and themes characterizing the programs would be delineated.

Thirdly, to categorize curricular structures of different programs, core/elective structure has been examined. Then, to identify the major specialization and sub-specialization fields in curricula, the courses available in urban design graduate programs have been grouped based on their

[2] Initially, 102 programs in 97 universities were listed to answer the first research question. However, the so-called 'immersed models' in which urban design education was integrated into Architecture or Urban Planning were later excluded from in-depth analysis in the following phases of the research. In the current framework, only independent, multiple poles and isolated models are taken into consideration for analysis.

[3] Data visualization for stacked column charts and radial network graphs was made through an open-source platform: https://www.rawgraphs.io/.

Please see: Mauri, M., Elli, T., Caviglia, G., Uboldi, G., & Azzi, M. (2017). RAWGraphs: A Visualization Platform to Create Open Outputs. In Proceedings of the 12th Biannual Conference on Italian SIGCHI Chapter (pp. 28:1–28:5). New York, NY, USA: ACM. https://doi.org/10.1145/3125571.3125585.

[4] Data visualization for stacked column charts and radial network graphs was made through an open-source platform: https://app.flourish.studio/.

Table 1 The main questions of the study, the data used in the study, research method based on data visualization or categorization in the study, and the targeted research findings

Research questions	Data	Research method	Expected outcomes
How are urban design programs positioned within academic institutional organizations? What are the variations in the institutional identity of urban design programs?	Academic organization, schools, colleges, departments	Typological and comparative analysis: the organizational structuring of each program is demonstrated via alluvial diagram	Institutional identity of programs, disciplinary models of urban design education
What are current thematic problem areas that have come to the fore?	Program descriptions	Network analysis: network map between each program and the key concepts and themes via radial network graph	Common concepts and themes in programs
What are the knowledge areas, domains and sub-domains that make up the curriculum? What specializations and sub-specializations are there?	Curriculum core courses and mandatory elective courses/modules	Comparative analysis: grouping of courses available in urban design graduate programs under specialization areas based on their subjects are demonstrated via alluvial diagram	Disciplinary specializations and sub-specializations in programs
How do different categories and typologies come to the fore in terms of contexts, themes, scales and methods in studio education?	Studio course descriptions and studio works	Typological analysis: classification of the structure of design studio. Definition of a typology based on context, themes, scales, and methods	Characterization of studio education

subjects. To that aim, the disciplinary and sub-disciplinary domains of compulsory courses and, if available, fixed elective modules in flexible and semi-structured/semi-flexible curricula have been examined. Again, alluvial diagrams were used to represent the strings of categorizations, and stacked column charts were utilized to demonstrate the percentile weight of specialization fields in each region. The percentile weight of specialization fields in each region was calculated as:

$$= \left(\sum \text{Number of Courses per Specialization in the Region} \times 100\right) \div \left(\sum \text{Number of Courses in the Region}\right).$$

Finally, to characterize urban design studios, Studio Course Descriptions and exemplar works have been investigated to come up with a comparative typology based on the main issues such as context, theme, scale, and method. The programs that exemplify these typologies are provided as tables. For this research, course descriptions and the publicly accessible selected studio works have been reviewed, whereas for the first three inquiries regarding the institutional, thematic and curricular frameworks integrated all the international programs based on the language of education. The student works as samples which are publicly available online and which exemplify the categorization in a more illustrative manner to the reader have been selected.

Within this framework, the inquiry into studio education has been relatively more dominated due to the complexity of the processes that the urban design studio entailed, and the variety of organizational structure applied elsewhere based on contextual, scalar, thematic (conceptual), strategical, and methodological frameworks. Accordingly, the selected urban design studios have been investigated based on the categories as follows:

- context and scale-based programming,
- theme-based programming,
- strategy-based programming,
- methodology-based programming.

This research employs various qualitative and quantitative methods based on research inquiries and the types of data. There are certain challenges resulting from both the availability of data and the research process. In order to overcome these, certain strategies were developed. One of the strategies to ensure credibility and validity during the coding process both in curricular analyses and characterization of studio pedagogies has been systematic data coding. First, initially emerging codes from the available data were categorized. Then, as new data were collected, it was compared to the already coded ones for coherence during the coding process. The categorization has been refined as the new codes emerged. Data coding also entailed an audit trail



as a strategy which included maintaining detailed records of data collection, analysis, and decision-making processes as well as documenting every step in the research process for transparency and reproducibility. Finally, the researcher adopted prolonged engagement and spent sufficient time in the research setting to understand the context by avoiding rushing data collection or analysis. This necessitated both fact-checking regularly by revisiting data sources and running analysis protocol more than once as new information was received.

Findings

The findings of the research are given respectively under the four key topics given above. The first three thematic categories of investigation (i.e., institutional identity, thematic focuses, and curricular content) are given along with the data visuals which enables an easy comprehension of the variations among the schools on a geographical basis. Finally, the results of the comparative analysis of studio education are presented by a series of classifications based on the contextual, thematic, programmatic, strategic, and methodological approaches characterizing the urban design studios under inquiry.

Institutional identity: Academic organization

The positioning of urban design graduate programs in the organizational structure of schools and colleges reflects their institutional identity. Carmona's (2016) framework on the models of urban design academe is adapted in studying the variations and geographic distribution in the institutional identity of programs. Information on the institutional structures of the programs was acquired through web-based research. The institutional identities of the programs were classified as:

- *Multiple poles* (related to Arch or City Planning) if one faculty offers urban design postgraduate programs more than one,
- *Independent*[5] if located under the faculty as one separate program (occasionally with an emphasis on interdisciplinarity),
- *Isolated* if located under a specific departmental structure and,
- *Immersed* if embedded in another major graduate program,
- *The fiction model*, which requires access to tacit knowledge and could not be inferred through internet research, and *the marginal model*, where urban design education is not institutionalized at all, were excluded from this analysis.

Below are demonstrated basic and detailed models of urban design academies based on the location (i.e., countries and continents) of the programs (Fig. 1).

The visualized data demonstrate that the percentage of the Independent Model (42.5%) is higher than other models. Institutional identity of urban design programs in USA and Australia are mostly formed around this model, where urban design is located separately and independently within an interdisciplinary faculty setting. The second highest percentage belongs to the Isolated Model where urban design is located within either Architecture, Urban Planning, or Landscape Architecture Departments. The data shows that the number of programs positioned within the Department of Architecture (17.4%) is larger than that of the Department of Urban Planning (9.4%). Institutional identity of the programs located in the USA, the UK and Southeast Asia are mostly isolated under Architecture than Urban Planning. There are few programs in the USA isolated under Landscape Architecture (2.1%).

The percentage of urban design programs that are Immersed in Architecture (16.9%) are higher than the ones in Urban Planning (9.2%). The percentage of immersion either in Architecture or Urban Planning runs parallel to the that of in isolation. The Immersed Model is predominantly present in continental Europe. Finally, the Multiple Poles Model (3.2%) is applied solely in the UK with a considerable weight.

The following chapters of research are based on the data of programs that adopt the so-called independent, multiple poles, and isolated model.

Thematic focuses

Though urban design programs are in diverse geographies, certain concepts and themes are commonly referred to in program descriptions. Climate change, environment and ecological challenges, contemporary issues, global processes of urbanization, complexity, housing, livability, population growth, urban growth/development/change/transformation, sustainability, social justice, equity and inequalities, resilience, rapid urbanization, public realm, and public policy are common topics that are highlighted in program descriptions (Fig. 2).

[5] Carmona (2016) refers to this model as a "fully integrated" one where "urban design sits as an intellectually separate yet also cross-cutting and integrative field within the larger constellation of disciplines." However, he argues this as an ideal or a desired condition which is impossible to identify through a web-based research. Therefore, the author of this thesis utilized the term "independent" to emphasize the academic organization of the program as situated separately under the faculty.

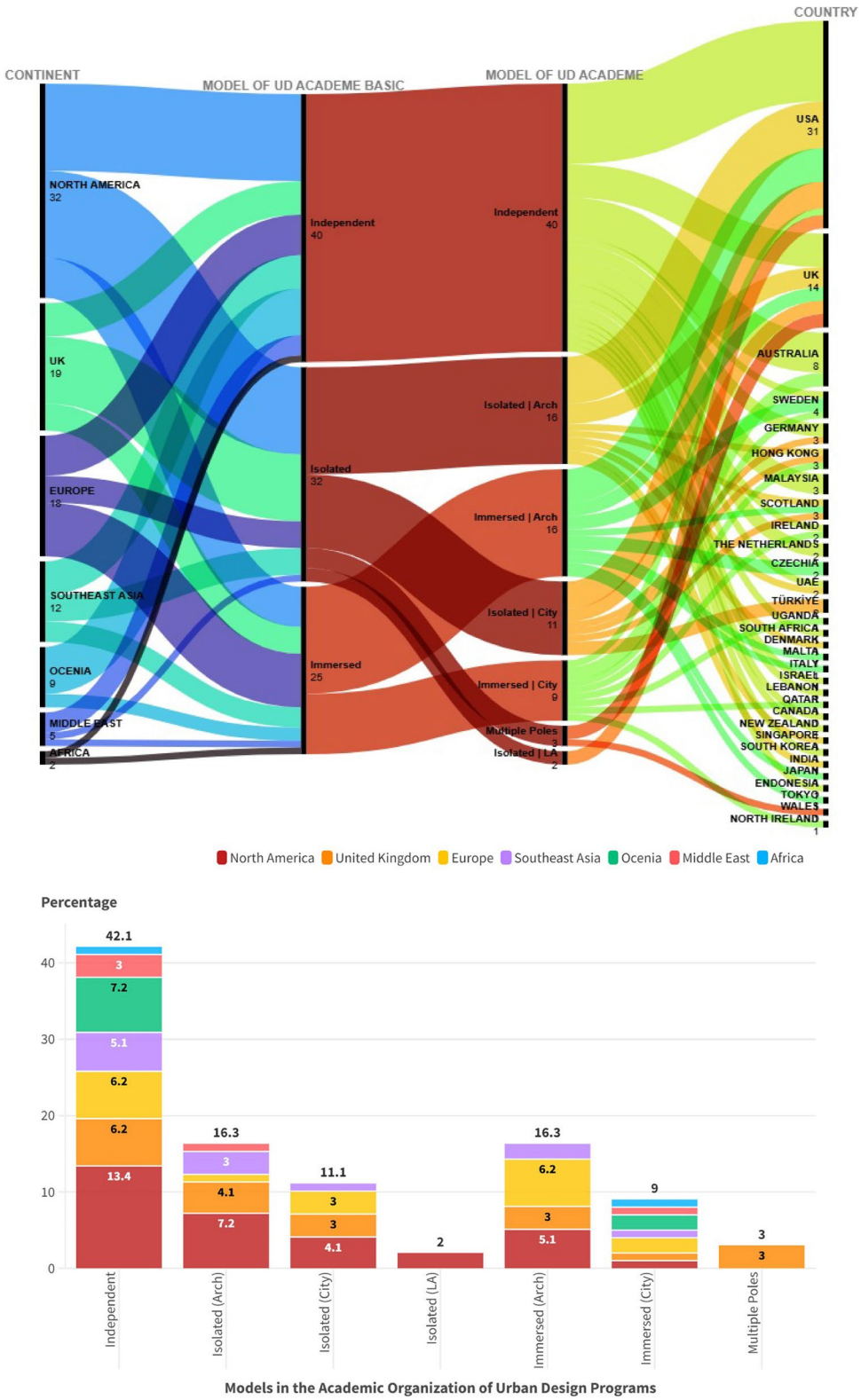


Fig. 1 Alluvial diagram of institutional identities of urban design programs based on continents and countries where these programs are founded (*above*), a stacked column chart showing the percentage of institutional identities per continent (*below*)

While some of the programs portray an interest in developing an understanding of processes of urbanization and prevalent urban phenomena, others self-identify the standing of the program through normative concepts.

Curricular content: Disciplinary domains and sub-domains

The structure of the curricula provides information on whether the basic strategy is based on the generalist or the

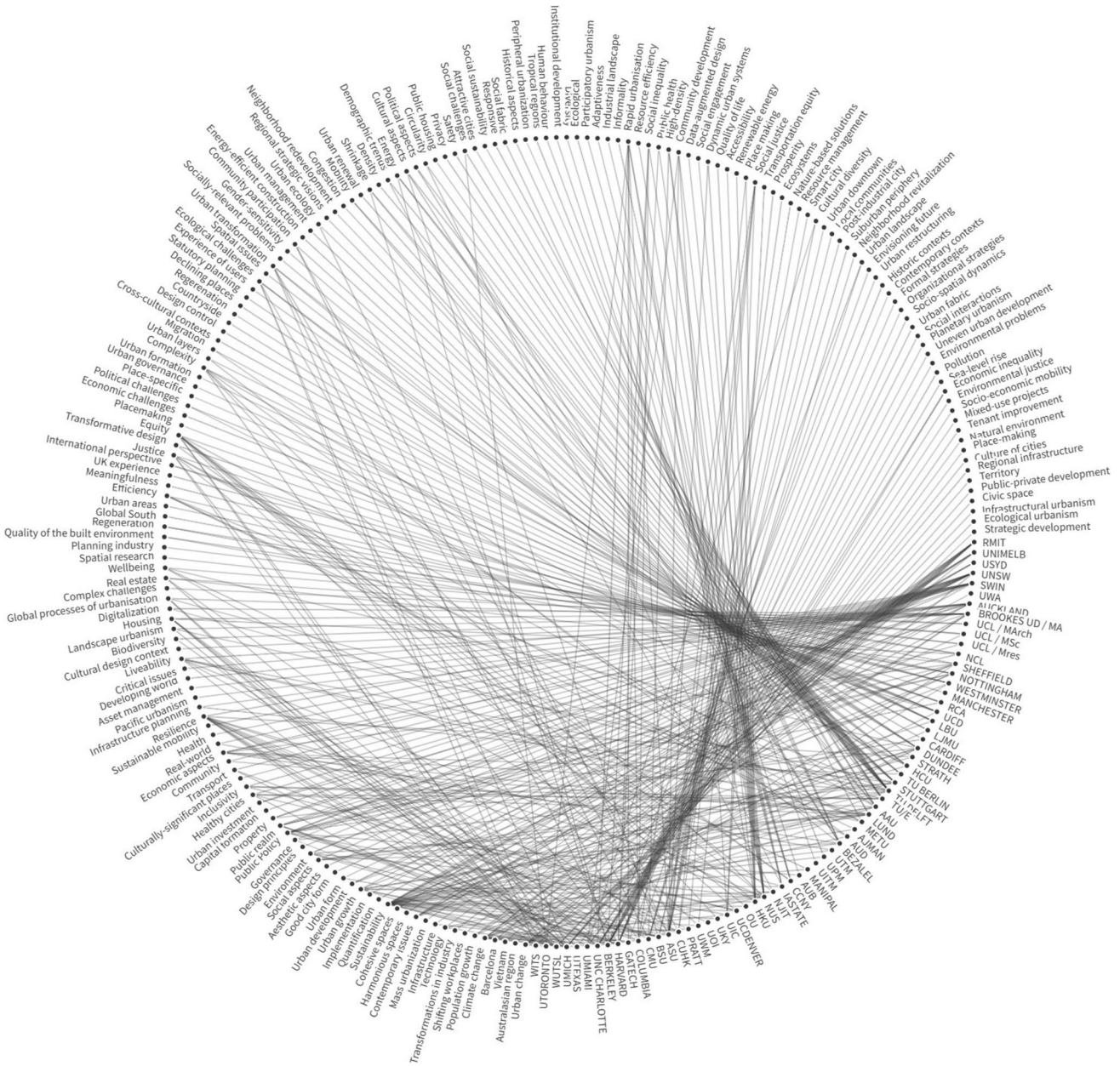


Fig. 2 Radial network graph representation of dominant themes that come to the fore in the descriptions of urban design graduate programs

specialist type of education. Fixed curricula that combine pre-defined mandatory and elective courses lead to a generalist structure integrating broad knowledge bases from different domains. The Master of Urban Design (MSc.) Program at the Chinese University of Hong Kong offers a fixed curriculum that spans a wide range of fields such as urban economics, urban history and theory, urban transportation, urban management, environmental design, and research methods.[6]

Semi-flexible curricula that combine pre-defined mandatory courses with elective clusters that contain courses from various domains present a similar generalist structure. For example, the Master of Urban Design Program at the University of Texas at Austin requires students to take courses from at least five of the following clusters: transportation planning, regional planning, urban design history and theory, historic preservation, landscape ecology, real estate, urban geography, and urban housing.[7]

[6] https://www.arch.cuhk.edu.hk/programmes/courses?course_term=&course_category=MSUD1.

[7] https://soa.utexas.edu/urban-design/courses.

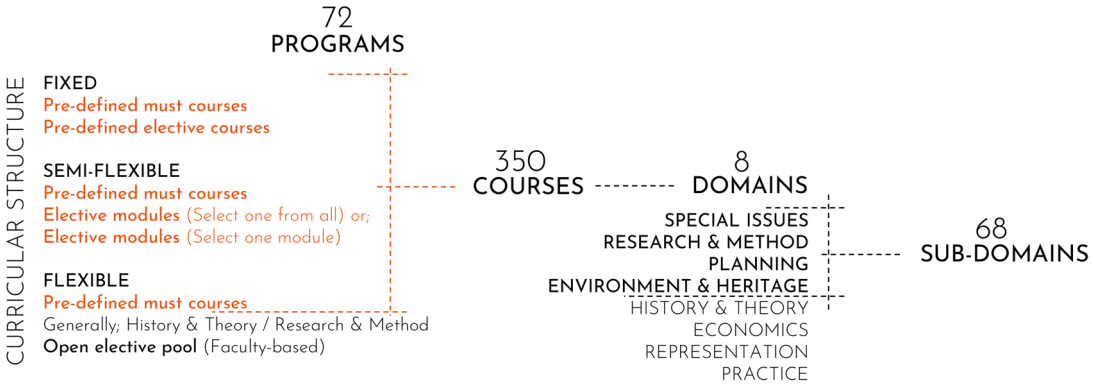


Fig. 3 Methodology for determining the knowledge areas and sub-knowledge areas in urban design curricula

On the other hand, semi-flexible curricula which necessitate the selection of one elective module as the domain of specialization, show a specialist structure. The University of Strathclyde MSc Urban Design curriculum requires the selection of one of the modules Cultural and Behavioural Factors in Architecture and Urbanism, Urban Landscape Design or Urban Design Representation.[8]

Similarly, completely flexible curricula that encourage the integration of diverse domains and departments within faculty through open elective pools display a specialist characteristic. For example, the curriculum of the University College London MRes Interdisciplinary Urban Design Program encourages to take all courses except research methods and thesis from at least three different units of the faculty.[9]

In this research, 350 compulsory courses (pre-defined elective module themes are added and open faculty elective pools are omitted) from 72 programs were enlisted and classified under eight knowledge domains integral to the curricula of urban design. Simultaneously, 68 sub-domains were generated under the first four domains based on the diverse subjects of courses (Fig. 3).

The number of courses in the domain of Planning is higher and the sub-domains of Planning are more diversified than the other domains. To illustrate, 24% of the courses are integral to the domain of Planning. It is followed by Research & Method (20.5%), Special Issues (16%), History and Theory (17.5%), Environment and Heritage (6%), Practice (7%), Representation (6%), Economics (3%) (Fig. 4).

The weight of specialization fields in each context provides information on the contextual differences (Fig. 5).

In Oceania, the domain of Planning is heavily involved in curricula (28.2%). Strategic Planning is predominantly covered as the core subject of courses in this domain. Courses related to Urban Development, Urban Transformation, Policy, Real Estate, Property and Globalization come to the fore as the sub-domains of Planning. The subject of Urban Development is heavily covered in UK (27.5%), while Policy, Real Estate and Globalization is widely addressed in USA (20.3%), Urban Development and Urban Mobility is mostly encapsulated in Germany, Denmark, and continental Europe (22.5%) (Fig. 6).

Research & method emerges as a predominant specialization field in continental Europe (36.7%). Integrated as a mandatory course, this domain is widely incorporated in curricula of programs in Germany. Spatial analysis and case studies as sub-domains are commonly placed in curricula in programs in the USA (Fig. 7). Regardless of the methodological nuances in the curricula, research is rendered as a critical part of urban design education.

The weight of courses in the domain of Special Issues is higher in the United Kingdom (26.4%). It is followed by Southeast Asia (19.4%). Sustainable Urbanism comes in sight as the sub-domain in nearly one-third of the courses. Seminar courses take up space heavily in curricula in Southeast Asia and the USA enabling, flexibility in terms of the subjects to be covered. It could be observed that form & morphology has become not only integral to studio education but as a significant sub-domain of theoretical urban design curricula, especially in countries of continental Europe (Fig. 8).

Curricula in continental Europe gravitate towards the field of Environment & heritage the most among the others (14.3%). The sub-domain of ecology and environmental design are frequently included in curricula as a part of this domain. The subject of climate change is frequently integrated into curricula not only in Europe but also in Southeast Asia (Fig. 9).

[8] https://www.strath.ac.uk/courses/postgraduatetaught/urbandesign/#coursecontent.

[9] https://www.ucl.ac.uk/bartlett/planning/study/postgraduate/interdisciplinary-urban-design-mres#:~:text=The%20Interdisciplinary%20Urban%20Design%20MRes%3A,Built%20Environment%20and%20wider%20UCL.

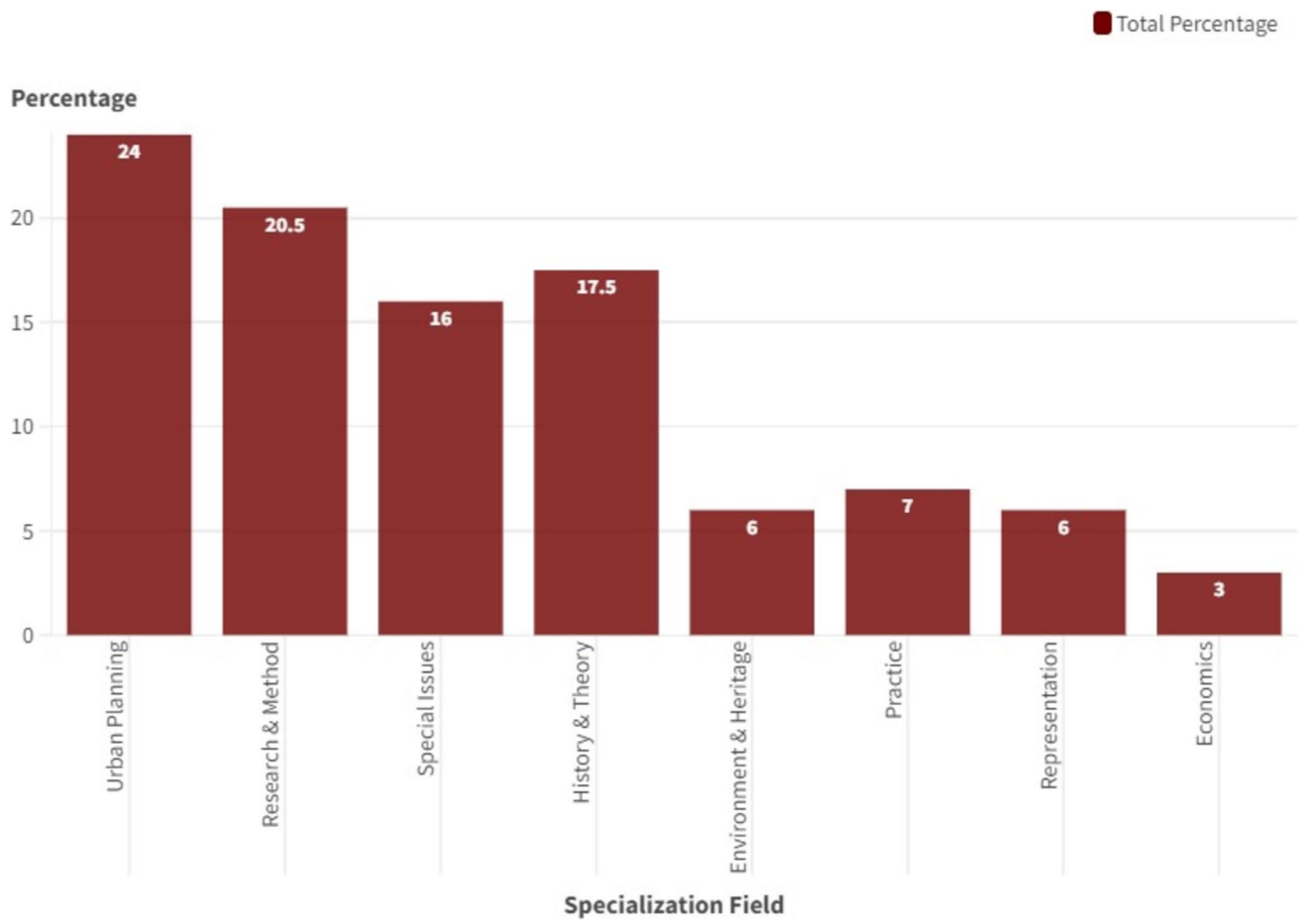


Fig. 4 Stacked column chart depicting the percentage of specialization fields based on the total number of courses worldwide per specialization field

Histories and theories of cities, urban design and urban form as well as criticism are integrated as a compulsory course in most of the programs in the Middle East and South Africa (23.5%), the USA (21.2%), the Southeast Asia (19%) and the Oceania (18%). The practice of the profession emerges as a curricular domain in various contexts (7%). Urban design management, the role of the urban designer, feasibility, impact and implementation, trajectories in practice, and professional skills development are some of the subjects covered in this domain. Though few programs give place to representational aspects in the curriculum (6%), the programs in the USA come to the fore in this scope (11%). The courses in this domain mostly include visualization, communication, media, emerging media technologies, and applied skills. Finally, it is noteworthy that the field of economics is integrated into a few curricula worldwide (3%) including the subjects related to economies of cities and regions, environmental and urban economics, finance, and city branding through economic (re-)programming.

The highest percentage worldwide and the considerable weight of Urban Planning field within the curricula in various contexts might evoke the grand polemic whether urban design is more integral to the planning discipline. Alternatively, it might raise the question whether curricular configurations are customized to compensate for planning formation for students with architectural backgrounds. Nevertheless, urban design is taught in various ways and theoretical, historical, methodological, and epistemological foundations of the urban design field are attempted to be constructed through curricular formations.

Studio education

The last chapter of the research delves into the structure of project/studio courses in order to delineate different approaches and methods in the organization of urban design studio education. Based on the analysis of course description, information on the web pages, and the final projects of studio courses, four major types of programming could be identified:

1. Context and scale-based programming,

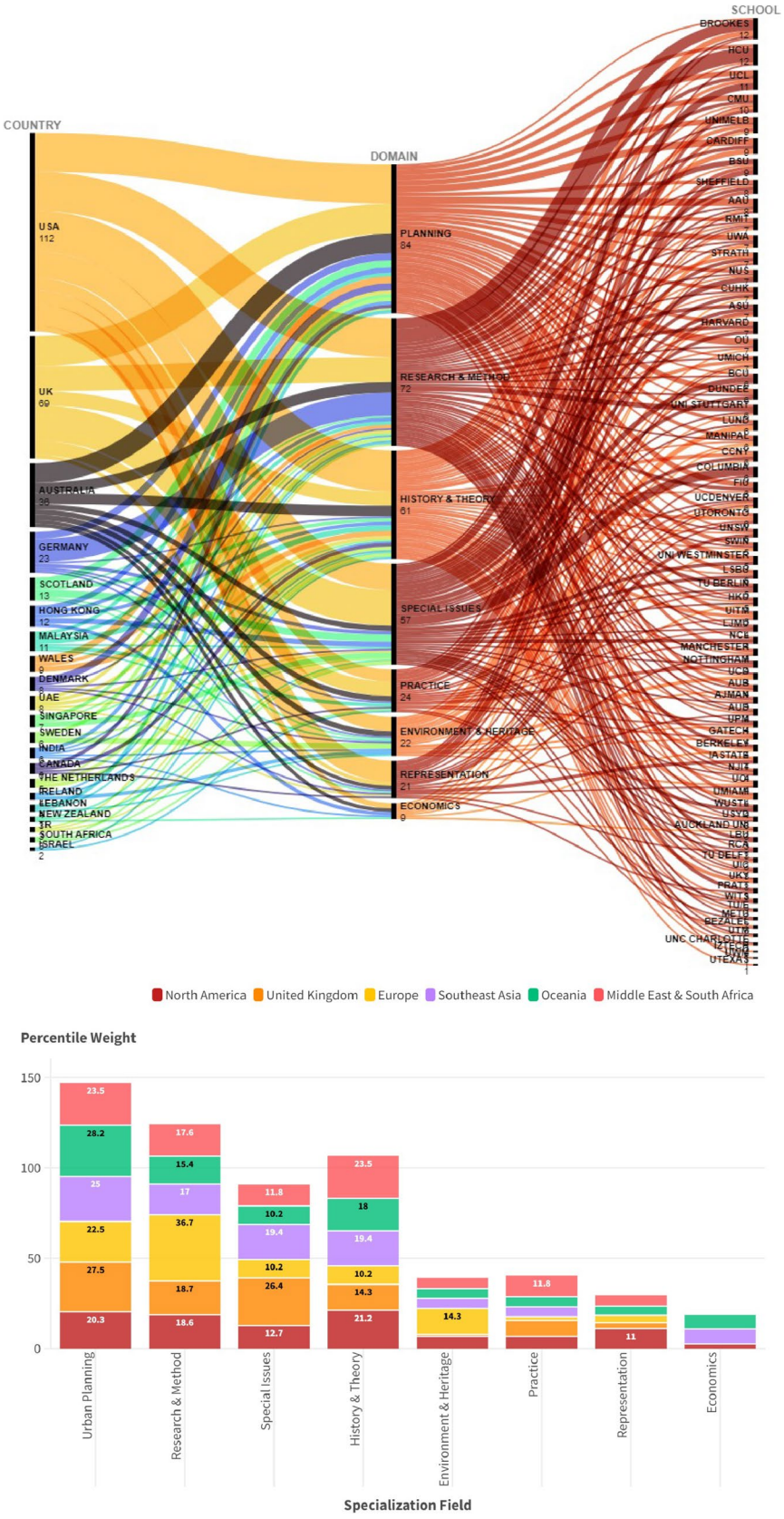


Fig. 5 Alluvial diagram of core domains included in the urban design curriculum by country and school (*above*) and stacked column chart depicting percentile weight of domains per region (*below*)

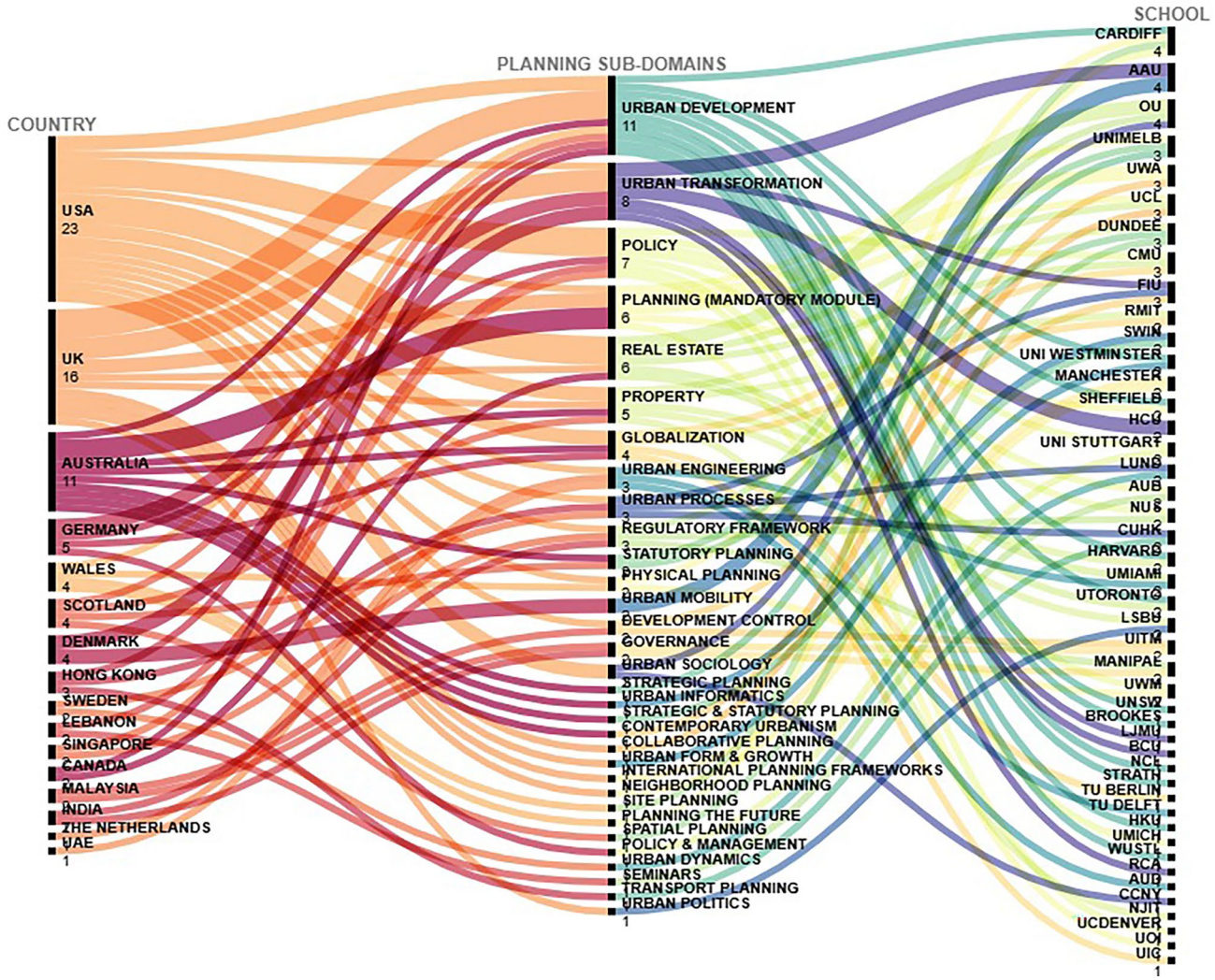


Fig. 6 Alluvial diagram of sub-domains of the planning field by country and school

2. Theme-based programming,
3. Strategy-based programming,
4. Methodology-based programming.

This characterization based on the program, the structure, the methodology and the outputs of studio courses indicates that the organization of urban design studio education entails a significant degree of complexity (Table 2).

Accordingly, geography and scale-based organization of the studios draw on the location where the program has been founded and approach cities as laboratories. Place-based knowledge production and collaboration with local communities lay at the core of the studies conducted in these studios. For instance, Carnegie Mellon University Urban Systems Studio[10] stands as an example of geography-based programming where Pittsburgh is focused on as a post-industrial laboratory. Furthermore, this approach could be seen in the Chinese University of Hong Kong Urban Design Collaborative Studio[11] where "research + design studio is built upon the foundation of fieldwork, community engagement and participatory design, with a focus on the issues of

[10] See:https://www.architecture.cmu.edu/mud, accessed in September 2024.

It was also indicated that CMU has "a strong legacy of participatory urban design. Beginning in 1964, the School of Architecture pioneered the Urban Laboratory concept, wherein students and faculty work in the field and engage with citizens on neighborhood revitalization projects.".

[11] See: http://urbandesign.arch.cuhk.edu.hk/wp-content/uploads/2023/01/Studio-Outline-UCS2022.pdf, accessed in September 2024.

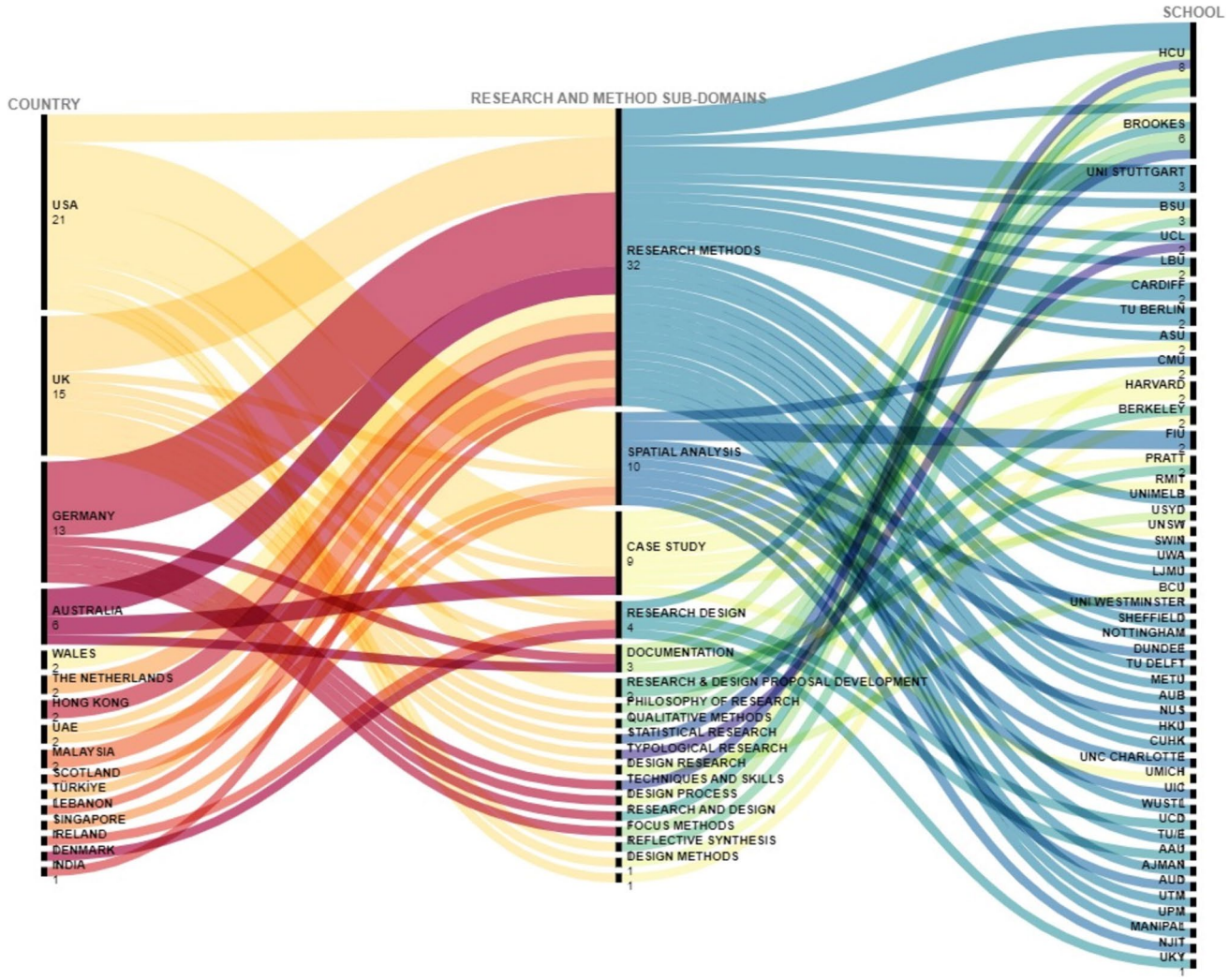


Fig. 7 Alluvial diagram of sub-domains of the research and method by country and school

urban conditions in Hong Kong". Arizona State University, Master of Urban Design Program[12] focuses on the Phoenix metropolitan area as a learning laboratory regarding the local challenges such as "*the rapidly expanding metropolis, the scarcity of water resources, the extreme heat and climatic conditions, and the area's unique ecological and cultural diversity*" in the developing innovative design strategies for urban environments.

Another geography-based approach in urban design studio education is based on internationalization of the context. There are different modes of conducting international urban design studios. One of the modes is setting the context of study through the university's multiple locations around the world. For example, RMIT University Master of Urban Design Studio at Melbourne connects with the campuses located in Vietnam[13] and Barcelona[14] throughout the years (Fig. 10).

Similarly, the University of New South Wales Master of Urban Development and Design Studio defines its context in various locations through an "International Studio" setting involving 2 weeks of intensive overseas studio and fieldwork.[15] It is claimed that the internationalization of studio education allows urban design students to deepen their knowledge on the historical, contextual, and political influences on a site; to consider the needs of the community

[12] See: https://design.asu.edu/masters-degrees-phds/majorinfo/ARMUDMUD/graduate/false/39, accessed in September 2024.

[13] See: https://architecture.rmit.edu.au/projects/ben-thanh-ho-chi-minh-city/, accessed in September 2024.

[14] See: https://architecture.rmit.edu.au/projects/inclusive-city/, accessed in September 2024.

[15] See: https://unsw-production-internal-handbook.factor5-curriculum.com.au/postgraduate/courses/2023/UDES0003/, accessed in September 2024.

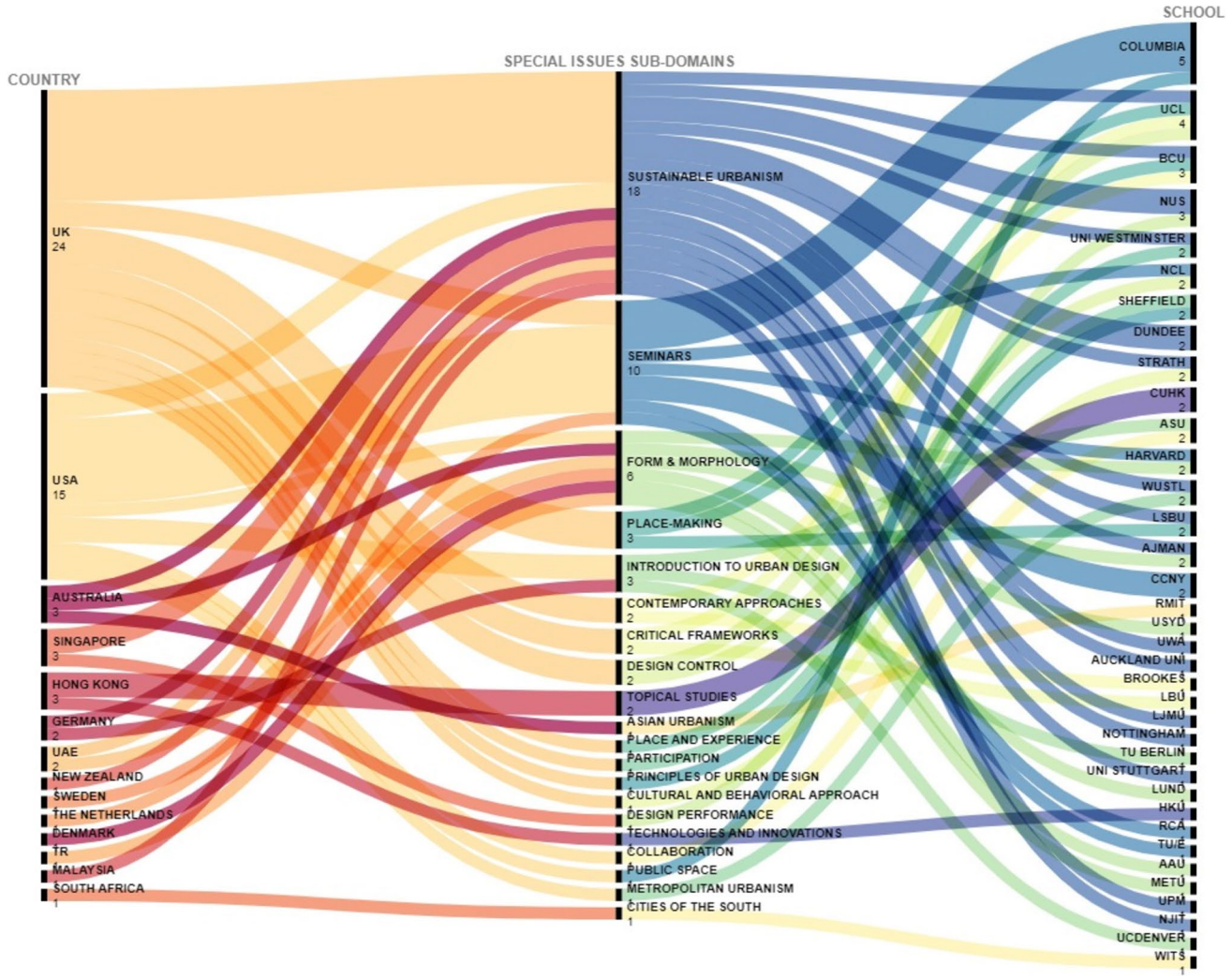


Fig. 8 Alluvial diagram of sub-domains of the special issues by country and school

in the design of the site; and to think critically about how various design solutions can be applied to future projects. These approaches to learning are seen as innovative and are considered to provide models for creating a new generation of urban designers who meet the needs of communities (Lara and Evans-Cowley 2016).

Joint double-degree programs form another category of internationalization. To elaborate, the bilateral agreements between universities that facilitate student exchange, cooperation among institutions or programs, and double diploma after graduation become influential in the designation of the geographical context of studios. For example, bilateral agreements between universities in Germany and Middle Eastern or Far East countries come to the forefront in this regard. To illustrate, a joint double-degree program in MSc. Integrated Urbanism and Sustainable Design reflects the collaboration between the University of Stuttgart in Germany and Ain Shams University in Egypt. The program offers an international studio setting for students who are required to take studio courses in the first two semesters at Stuttgart and the following semester at Cairo.[16]

Another mode of internationalization is presented through programs located at core countries focusing on the Global South. In University College London MSc Building and Urban Design in Development, the first part of Critical Urbanism Studio focuses on "Learning from Informality"[17] through selected case studies from peripheral countries.

The second part "Designing Investigative Strategies for Contested Spaces" underpins design as insurgent activity performed in the informal urbanism setting (Fig. 11). As seen above, one of the projects conducted in this course

[16] See: https://www.iusd.uni-stuttgart.de/programs/, accessed in September 2024.

[17] Please also see Kamalipour and Peimani (2019) for the pedagogical experiences on learning from informality.

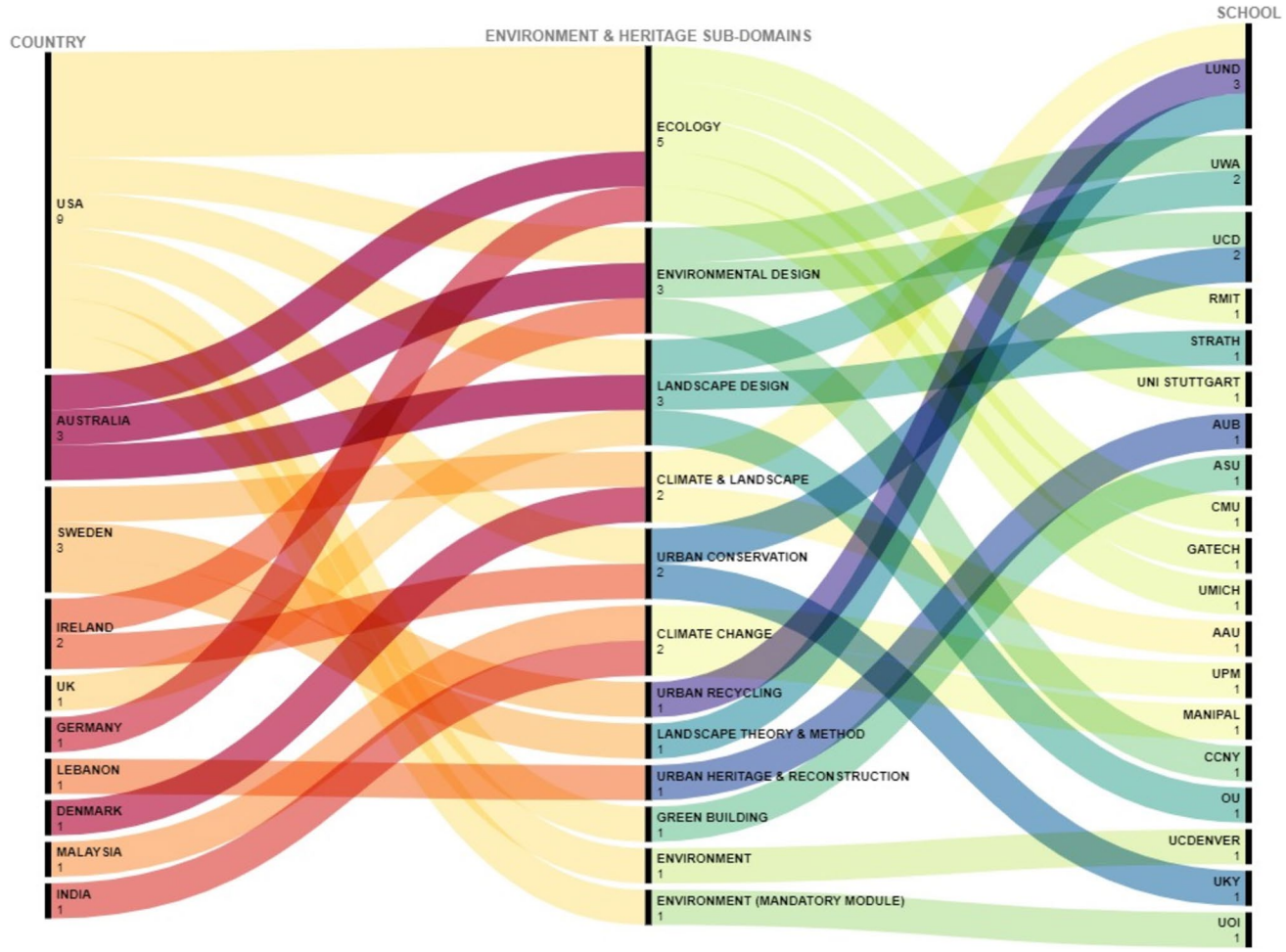


Fig. 9 Alluvial diagram of sub-domains of the environment and heritage by country and school (*left*) and alluvial diagram of core domains included in the urban design curriculum by country and school (*right*)

Table 2 Different approaches to context and scale in programming urban design studio education

Types	Approaches	Studios	Schools
Context-based	Local/Cities as Laboratory	UD Studio	Carnegie Mellon University
	Global/International	International Design Studio	RMIT, UNSW
		Integrated Research and Design Project Joint Double Degree	Stuttgart University
		Critical Urbanism Studio	UCL, MSc BUDD
		Global Urbanism Studio	Washington University in St. Louis
	Context-free	Research Clusters	UCL, UD MArch
Scale-based	Mono-scalar	Urban Design Studio	University of Manchester
	Multi-scalar: Scaling Up and Down	Sustainable Urban Recycling/Urban Landscape/Urban Dynamics Studio	Lund University

critically approaches the contested relocation of a community living in the flood-prone, informal settlement located in the Peruvian Amazon and proposes a holistic framework which claims residents as decision-makers.

Another standing on internationalization was created at Global Urbanism Studio at Washington University in St. Louis, which focuses mostly on the reflection of global



Fig. 10 Melbourne RMIT University Master of Urban Design Studio 2014 Ho Chi Minh City, Vietnam Studio introductory poster (*left*) and 2015 Barcelona Studio introductory poster (*right*) (*Sources* URL-1, URL-2)

dynamics' influence on various local contexts such as global tourism industry, climate crisis or COVID-19.[18]

As illustrated above, the scales and the spatial framework of enquiries vary from globe, oceans, regions, metropolises and urban public spaces (Fig. 12). Accordingly, projects reveal both analytical approaches through the review of the spatial typologies related to global phenomena or events and critical perspectives regarding their local and global impacts.

Scale-based programming of urban design studio education demonstrates two types of approaches. In a mono-scalar approach, singular scalar understanding where urban design is conceived as a matter of scale becomes a dominant tendency. In the University of Manchester MSc Urban Design and International Planning program, Urban Design Project course is aimed "… *to design and communicate an urban design scaled intervention.*"[19]

On the other hand, the multi-scalar approach entails a systematic shift between scales of study. The consecutive structuring of urban design studio courses at Lund University Master of Sustainable Urban Design demonstrates this approach.

This could be traced via project booklets which inform about the spatial frameworks of studio works (Fig. 13). Studio 1: Sustainable Urban Recycling[20] draws on "street design" and street-oriented development with a particular focus on mixed use and public space.[21] Studio 2: Sustainable Urban Landscape[22] incorporates regional landscape as the scale of inquiry where strategies for growth are developed.[23] Studio 3: Sustainable Urban Dynamics[24] considers global dynamics in cities where the pressure for change is challenged through developing strategic visions as well as strategies for renewal.[25]

Context-free design studios constitute an alternative to geography-based approaches in studio education. In this context, conceptual frameworks come to the forefront rather than place-based attributes. Context may appear as a ground where certain applications or methods are tested. There is flexibility in the definition of the context of the design problem or solution by each student or student groups. Some of the Research Clusters in University College London Urban

[18] See: https://samfoxschool.wustl.edu/academics/international-programs/global-urbanism-studio, accessed in September 2024.

[19] See: https://www.manchester.ac.uk/study/masters/courses/list/09915/msc-urban-design-and-international-planning/course-details/PLAN60722#course-unit-details, accessed in September 2024.

[20] See: https://kurser.lth.se/kursplaner/senaste%20eng/ASBN02.html, accessed in September 2024.

[21] See: https://issuu.com/sudesprogramme/docs/2021_urban_recycling_booklet, accessed in September 2024.

[22] See: https://kurser.lth.se/kursplaner/senaste%20eng/ASBN16.html, accessed in September 2024.

[23] See: https://issuu.com/sudesprogramme/docs/sustainable_urban_landscape_book_2020, accessed in September 2024.

[24] See: https://kurser.lth.se/kursplaner/senaste%20eng/ASBN31.html, accessed in September 2024.

[25] See: https://issuu.com/sudesprogramme/docs/urban_dynamics_2020, accessed in September 2024.

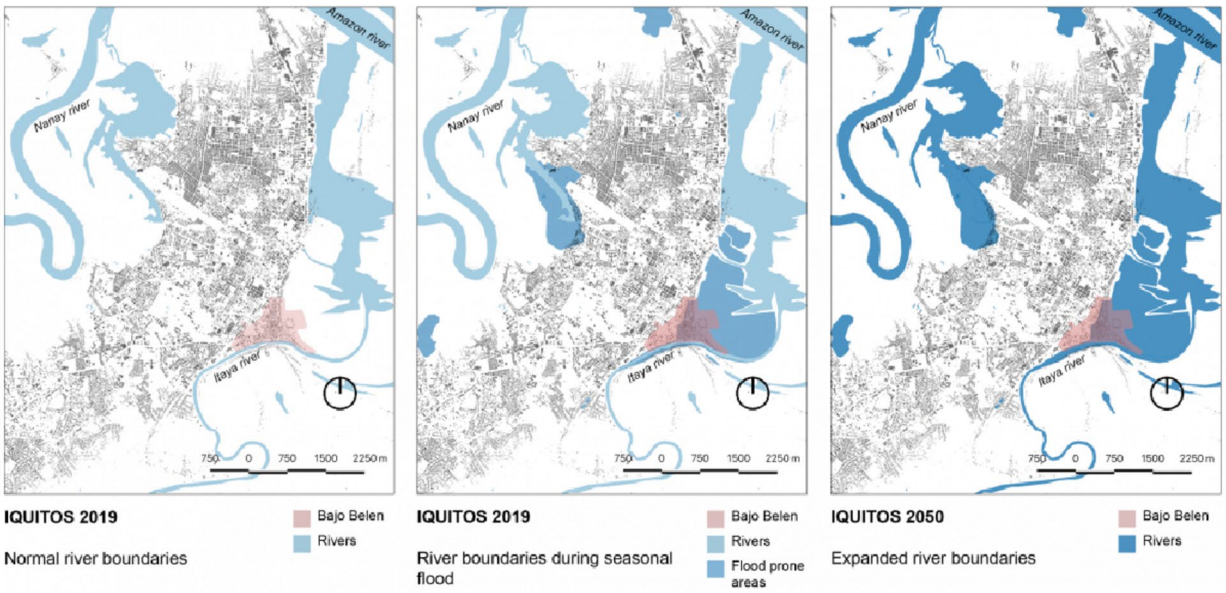




Fig. 11 A student-led project "Ethos Periodismo" in Critical Urbanism Studio questioning the contested relocation of a community living in the flood-prone, informal settlement of Bajo Belen, located in the Peruvian Amazon (*Source* URL-3)

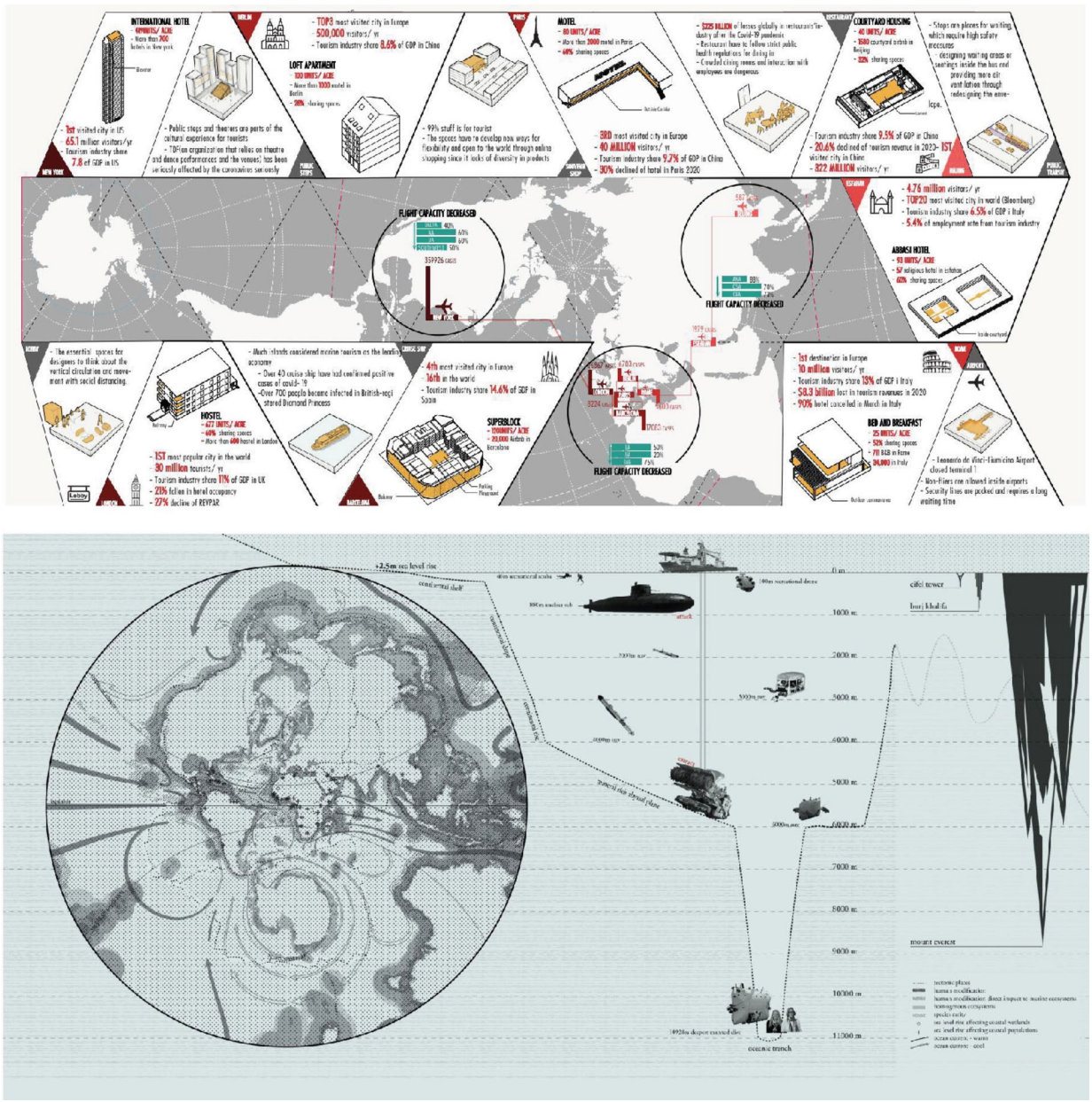


Fig. 12 Inquiries into the spatial bases of the global tourism industry by K. Aljohani and J. Qiang (above) and contemporary shipping and monitoring practices in terms of ecological spaces of deep-sea habitats by E. Kim (below) (*Source* URL-4)

Design MArch Program adopt context-free design studio approach.[26]

The second category of characterization is the theme-based programming of urban design studio education (Table 3). In theme-based organizations, consecutive arrangements of studio courses in the curriculum are based on urban, rural, or planetary contexts, special themes or certain functional programs. Columbia University MS Architecture and Urban Design Fall Studio,[27][28] sets the studio context on the city-region, especially focusing on the rural character of the Hudson Valley in terms of its ecological, topographical, infrastructural, and social conditions.

[26] See: https://www.ucl.ac.uk/bartlett/development/study/building-and-urban-design-development-msc, accessed in September 2024.

[27] See: https://power.buellcenter.columbia.edu/media/117, accessed in September 2024.

[28] See: https://storymaps.arcgis.com/stories/d447e2f3d730461fbc1690ae001d1b8e, accessed in September 2024.



Fig. 13 Design frameworks, contexts, and scales addressed in the studios of the Master's Program in Sustainable Urban Design at Lund University. Project area for street-oriented transformation in Gåsebäck, Sweden (*above left*), project area for new urban development and regional landscape design in Barkåkra, Sweden (*above right*), project area for sub-center design where global urbanization and migration dynamics are integrated in the context of Dujiangyan City, China (*below*) (*Sources* URL-5, URL-6, URL-7)

Table 3 Different thematic approaches to programming urban design studio education

Main orientations	Thematic focuses	Studios	Schools
Urban/rural context	Rural/Countryside	Summer Studio I	Columbia University
	Urban/The City	Fall Studio II Hong Kong Urban Design Studio	Columbia University Hong-Kong University
	Planetary Urbanism	Spring Studio III	Columbia University
Special themes	Technology	Fall Studio	University of Michigan
	Justice	Winter Studio	University of Michigan
	Climate	Fall Studio	University of Michigan
Program	Housing	Housing Alternatives	Newcastle University

Whereas Summer Studio[29] dwells on biophysical infrastructures, conflicting public and private interests, and the ongoing socio-spatial change against the urban backdrop of Five Boroughs of New York. Similarly, Hong Kong Urban Design Studio[30] develops its discourse within highly dense and vertical multi-level urban forms. While the studio works of Summer Studio at Columbia University display tactical interventions at the urban-scape, Hong Kong Urban Design Studio incorporates structural interventions through transit-oriented development, mega block development, and mixed-use activity patterns. Lastly, Spring Studio at Columbia University MSAUD[31] sets its context where the blurring of urban and rural boundaries gives rise to planetary conditions of urbanism. Surpassing the conventional urban and rural dichotomy, the geographical scope of studio works are related to global urbanism, including the challenges and scales of climate emergency.

The Master of Urban Design curriculum at the University of Michigan Taubman College consists of consecutive studios based on special thematizations. In order, Fall 1 Studio focuses on Technology, Winter 2 Studio specializes in Justice, and the following Fall 3 Studio is organized around the theme of Climate.[32]

[29] See: https://www.arch.columbia.edu/programs/9-m-s-architecture-and-urban-design, accessed in September 2024.

[30] See: https://foa-media.arch.hku.hk/media/upload/2014/11/HKU-MUD-pamphlet-2024-25_small-copy.pdf, accessed in September 2024.

[31] See: https://www.arch.columbia.edu/programs/9-m-s-architecture-and-urban-design, accessed in September 2024.

[32] See Sample Schedule section at: https://taubmancollege.umich.edu/academics/architecture/master-of-urban-design/.

Table 4 Different strategic approaches to programming urban design studio education

Strategic approaches	Studios	Schools
Growth-Based/Developmentalist	Sustainable Urban Landscape Studio	Lund University
Transformation-based/Re-structuralist	Sustainable Urban Dynamics Studio	Lund University
Tactical	Urban Design Studio	TU Berlin



Fig. 14 Proposals on growth and development in the countryside by J. Axén (left) and O. Garcia (right), Lund University MSUD Sustainable Urban Landscape Studio (*Source* URL-8)

Newcastle University offers a design-based studio education as a compulsory Urban Design MA module called Housing Alternatives. Governed around the theme of housing, the module aims to "*develop an understanding of the design parameters of neighborhood development in context, and the nature and processes of urban residential development and design*."[33]

The third category of characterization is the strategy-based programming of urban design studio education (Table 4). While the student works of Sustainable Urban Landscape Studio at Lund University MSUD[34] aligns with growth-based and developmentalist strategies, Sustainable Urban Dynamics Studio[35] demonstrates transformation-based and re-structuralist strategies.

Student works presented above inform that the former entails an expansion into the countryside by the design of new living environments, new urban landscapes, and new patterns of development in the peripheral areas (Fig. 14).

[33] See: https://www.ncl.ac.uk/postgraduate/degrees/module/?code=ARC8069, accessed in September 2024.

[34] See: https://issuu.com/sudesprogramme/docs/sustainable_urban_landscape_book_2020, accessed in September 2024.

[35] See: https://issuu.com/sudesprogramme/docs/sustainable_dynamics_2017_book, accessed in September 2024.

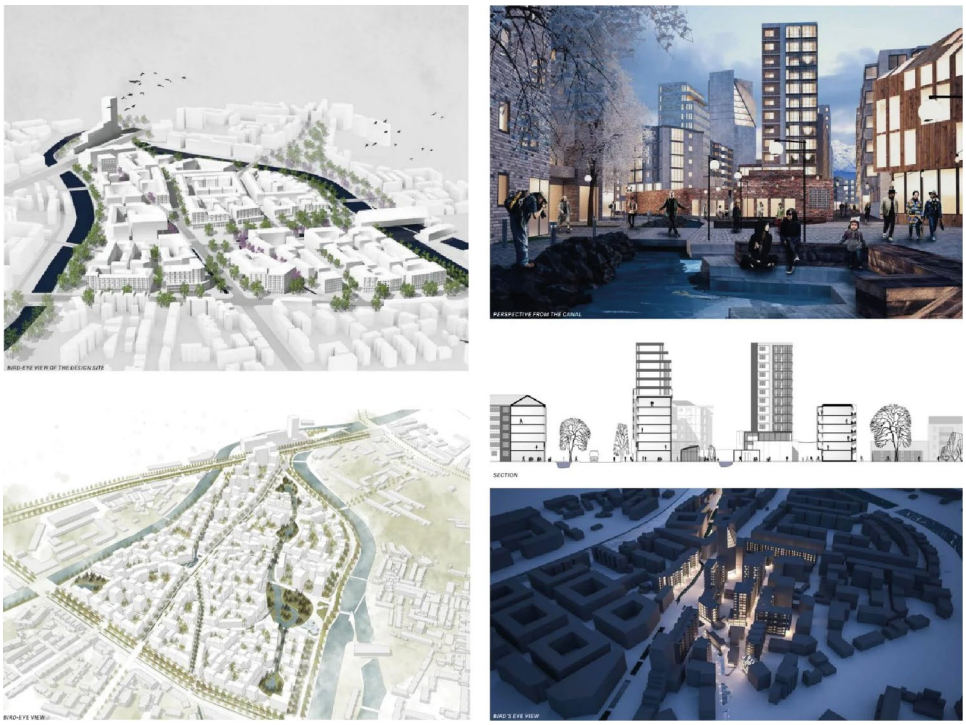


Fig. 15 Proposals on transformation and reconstruction in the city centre by M. Drapisz, M. Rodrigues (left) and V. Wallström (right), Lund University MSUD Sustainable Urban Landscape Studio (*Source* URL-9)

Table 5 Different methodological approaches to programming urban design studio education

Approaches	Studios	Schools
Research-Based	Urban Design Project	Hafencity University
Practice-Based/Real World	Urban Design Masterplan to Public Realm	Oxford Brookes University Ball State University Birmingham City University
Form-Based Morphological	1st Quarter	TU Delft
Computer-Based Digital	Research Clusters	UCL UD MArch

The latter integrates transformation of old systems and reconfiguration of the urban layers following the designated problem within dense urban centers (Fig. 15).

Rather than developmental or transformation-led strategies, place-based tactical interventions could be given as another strategy-based design of urban design studio education (Loukaitou-Sideris and Mukhija 2016). In TU Berlin, the process of Studio Urban Design[36] integrates a sensibility towards the context, scales of the context, clashing interests of different actors while developing a storyline. This is reflected in studio works where tactical interventions are proposed in various scales.

An alternative characterization could be based on methodological distinctions between urban design studio education within different universities (Table 5). MSc Urban Design at Hafencity University offers a studio education that prioritizes reading, understanding, mapping, and modelling socio-spatial practices in urban space rather than design and interventionist framework. Ultimately, such an endeavor necessitates the placement of various methodologies embedded in diverse disciplines at the core of urban research. In that sense, Urban Design Project course is supplemented by a curriculum gravitating towards research methods, techniques, tools, and theories.[37] Research-based studios focus on an inspection of a theme within a defined context. Liminality in cities, standards and ethics of the "minimum", alternative modes of inhibiting in the Anthropocene, planning in the times of uncertainty and unknown, luxury and spatial

[36] See Take Actions: https://www.urban-design.tu-berlin.de/studio-1#, accessed in September 2024.

[37] See: https://ud.hcu-hamburg.de/about, accessed in September 2024.

politics of comfort have been some of the themes extensively researched annually.[38]

Alternatively, there are practice-based and real-world-oriented methodology-based 'Living Labs', 'Live Projects', 'Live Studios' in urban design studio education (Butina-Watson 2016). Practices of master planning, project management and real-time execution come to the fore as the distinctive characteristics of this type of pedagogy. Often referred to as Live Project Education in UK or Designbuild Projects in USA, students are expected to engage in proxy-professional practice where the home university collaborates with external practitioners. Although reality might have a higher degree of complexity, this education offers an experience of a negotiation of a brief, timescale, budget and product between educational organization and an external collaborator (Anderson and Priest in Harriss and Widder 2014, p 13). The transformative learning processes integral to live project education is claimed to develop contemporary professionalism in two ways: first, the personal development, knowledge-basis and technical capacity of students soon to be professionals is supported; second, co-creation practices between researchers, scholars and practitioners are adopted within contemporary professionalism.[39]

Oxford Brookes University MA Urban Design highlights in the description of Urban Design Masterplan to Public Realm module that "The design studio offers a live design site where the application of theory and practice can be tested… Theory and practice are learned through application of design to produce professional quality master planning strategies."[40]

Similarly, Birmingham City University MA Urban Design offers Collaborative Laboratory [Co.LAB] as a core module in which live client design projects are conducted.[41] Co.LAB as an interdisciplinary design and research initiative "*create and co-produce projects that engage with the dynamic context of our city and explore the extremities of artistic disciplinary boundaries – all through an ongoing process of collaborative practice.*"[42]

Live projects are asserted to enable universities to form ties with local or abroad communities.[43] Focusing on this aspect, Ball State University MUD Urban Design Studio 3 is formulated to promote Community-based Sustainable Design practices where critical thinking is embodied in the exploration of the relationship between ethics, politics, and development.[44]

Another category is form-based morphological programming as an adopted methodological framework of studio education. Although not directly affiliated with Urban Design, TU Delft Urbanism Track 1st Quarter R&D Studio is formulated on the basis of Analysis and Design of Urban Form. This studio offers an urban design and landscape perspective in understanding and designing urban form and its spatial structures.[45] Morphological analyses of physical fabric and form-based propositions to shape the physical environment of cities are located at the core of the studio course description.

Alternatively, design research through computer-based simulations using digital technologies sets another category in terms of methodology-based organization of studio education (Dovey 2016; Mapua Lim, et. al, 2016; Speranza 2016).

Digital imagery is predominantly utilized as a method of communication and representation in studio works. The selected student work above shows that Research Clusters at University College London MArch Urban Design could provide an example of this type of pedagogy (Fig. 16). Program Director Botazzi[46] addresses conflation of digital and physical domains and gaming culture among the contemporary conditions that are investigated. The impact of big data and machine learning algorithms for design, biocomputing, planetary urbanization, and metaverse consist major topics covered in different clusters. It is highlighted that students "*… are introduced to advanced computational methods to analyze and generate new urban programs and morphologies. Each cluster acts as an incubator for new spatial ideas in which design and digital technology merge, giving rise to proposals which consider new ways of inhabiting and experiencing urban environments.*"[47]

[38] See: https://ud.hcu-hamburg.de/projects/annual-theme, accessed in September 2024.

[39] See: https://radar.brookes.ac.uk/radar/file/2d3edee7-f89b-4594-be1d-1a70d0126f58/1/Live%20project%20education%20-%202019%20-%20Anderson.pdf, accessed in September 2024.

[40] See: https://www.brookes.ac.uk/courses/postgraduate/urban-design, accessed in September 2024.

[41] See Course in Depth: https://www.bcu.ac.uk/architecture-and-design/courses/urban-design-ma-2024-25#course_in_depth.

[42] See: https://collaborative-laboratory.org/, accessed in September 2024.

[43] See: https://radar.brookes.ac.uk/radar/file/2d3edee7-f89b-4594-be1d-1a70d0126f58/1/Live%20project%20education%20-%202019%20-%20Anderson.pdf, accessed in September 2024.

[44] See: https://bsu.smartcatalogiq.com/en/2023-2024/graduate-catalog/courses/ud-urban-design/500/ud-503/, accessed in September 2024.

[45] See: https://www.tudelft.nl/onderwijs/opleidingen/masters/aubs/msc-architecture-urbanism-and-building-sciences/master-tracks/urbanism/programme, accessed in September 2024.

[46] See. p. 122 https://issuu.com/bartlettarchucl/docs/bartlett-b-pro-2022, accessed in September 2024.

[47] Ibid. pp. 122–136.

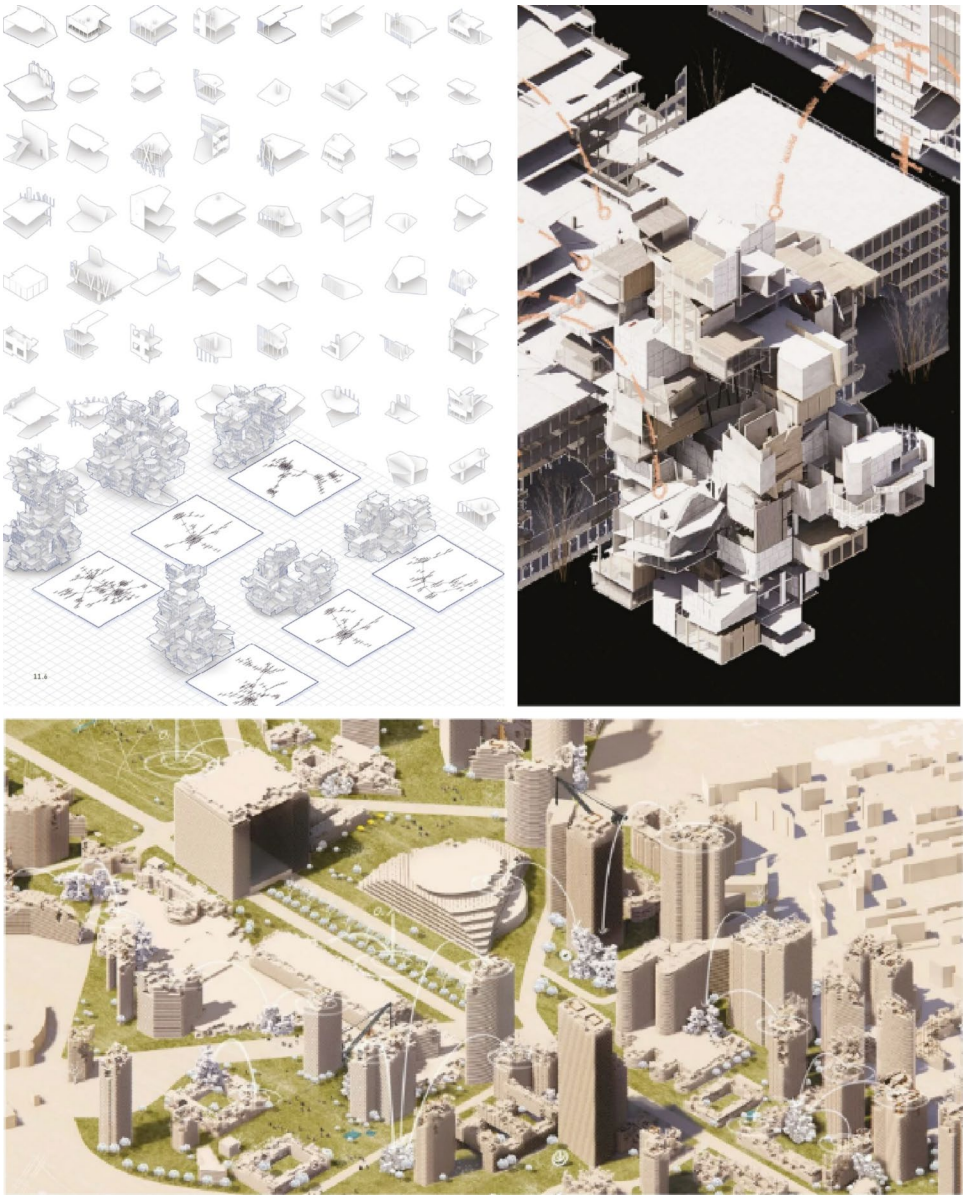


Fig. 16 "Metabolic City" by A. Dai, Y. Li, L. Mei, and X. Zhang, University College London Urban Design MArch Research Cluster 11 "Hidden Dimensions: Artificial Intelligence and the Future of Central Business Districts" (*Source* URL-10)

Discussion and conclusion: Towards urban design pedagogies

The findings of the research reveal that urban design education is organized in various ways. Firstly, the institutional identity of urban design education through its academic organization displays varieties in different contexts. The percentage of the Independent Model is higher than other models. Programs in the USA and Australia follow this model. The second highest percentage belongs to the Isolated Model. The number of programs isolated within the department of Architecture is larger. Programs located in the USA, the UK, and Southeast Asia exemplify this category. There are few programs in the USA isolated under Landscape Architecture. The organization of urban design as a part of the educational system and its institutional affiliation might reveal possible links with the practice of the profession which varies in different contexts. It also informs about the disciplinary formation of urban design field, which is still becoming. At that point, a closer inspection of the Independent Model with a time-sensitive perspective would provide insights into whether urban design sits as a full-fledged 'intellectually separate' discipline in these contexts.

Secondly, thematic focuses in program descriptions render urbanization as an area of inquiry or contemporary normative grounds as the field of operation. However, the themes addressed in these programs often have a global scope, making it challenging to identify what distinguishes them and what is unique. Despite this, outlining the scope

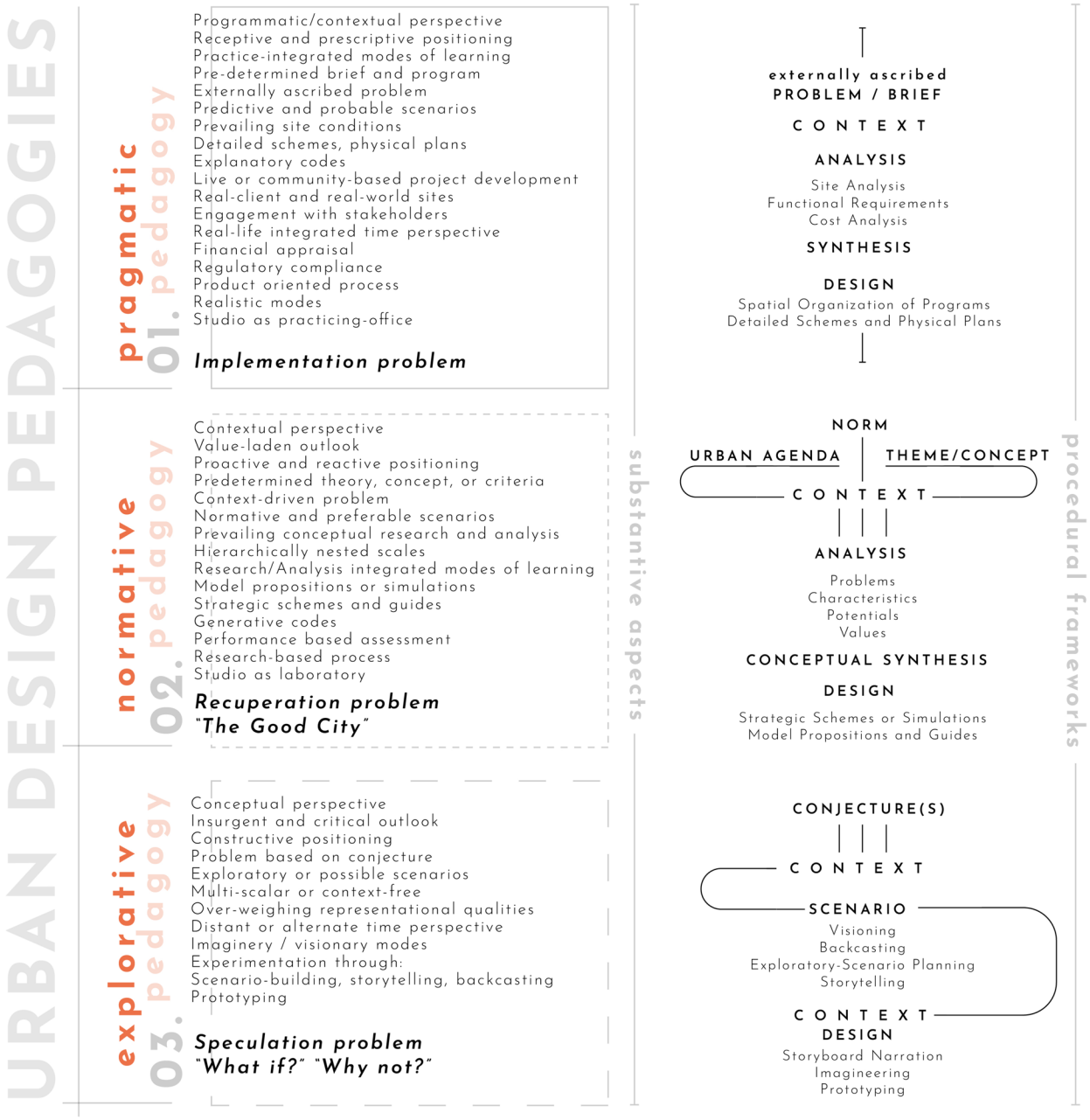


Fig. 17 Typology of 'urban design pedagogies' in terms of substantive aspects and procedural frameworks

of various programs in relation to global challenges or the thematic structuring of studio courses can potentially contribute to the disciplinary development of urban design. This is mainly because thematic focus or depth require customized inquiries and methods of research and forms of representation. On the one hand, theme-based organization of the program in general or studio courses in particular leads to certain pedagogical implications on the normative ground. On the other hand, it renders urban design as a demanded profession in public and private sector with an operational impact as an unfolding practical implication.

Thirdly, compulsory curricular configurations expose various fields of specialization and sub-specialization that are seen as integral to urban design. This could be related to theoretical knowledge of the field that is rooted in different domains and sub-domains, including urban planning, history and theory, research and method, special topics, environment and heritage, practice, representation, and economics. Alternatively, the weight of disciplinary domains in curricula might reveal whether a generalist urbanism or planning education was intended to be offered to other professions as complement, mostly architects, or a specialization was

offered for any practitioner who would like to build a career in this domain.

Lastly, studio education, as part and parcel of urban design teaching, displays various modalities in its organization. Studios, where the research and design are practiced, could be classified based on geographical and scalar, thematical, strategical, and methodological approaches and processes. The specified categories map the differences and peculiarities of the distinctive pedagogies of urban design studio education in an international context. These altogether put the possibility of a singular pedagogy applied in urban design education into question.

In undergraduate-level architecture or planning education, urban design itself could have a certain pedagogy directed from the parent disciplines settled educational methods and fields of knowledge. This is mainly backed up by the preceding accumulation of the way of knowing (*episteme*) within spatial planning and architecture. However, it is revealed that urban design, as a graduate program, does not have a generalizable pedagogy applied by different design schools. That indicates the diversity, multi-layeredness, and complexity in pedagogical approaches to contemporary education of urban design.

While each program and each studio has its own pedagogical orientation, three distinctive models stand out in terms of substantive aspects. Design protocols pertaining to each model also display diverging procedural frameworks (Fig. 17).

In this framework, if an educational approach is engaged in professional practice through clear-cut specifications, service-learning endeavours, live and simultaneous practice-led or oriented studies, the corresponding program offers the so-called *pragmatic pedagogy*. This entails (I) the taking of externally defined problems or goals; (II) the identification of programmatic and corresponding spatial needs; (III) the generation of detailed schemes, plans or plan alternatives depicting physical layouts of functional organizations; (IV) the provision of financial appraisal and guiding documents for implementation. Depending on the needs and requests of the real world outside through collaboration, the studios directed via pragmatic pedagogy intrinsically incorporate problem or program driven design frameworks that could be realized in a short span of time. Based on a high level of analytical and creative skills, this pedagogical model requires a widespread ground of application in today's design schools.

The adoption of context-based frameworks is another predominantly applied modality. The programs focusing on what constitutes a good city and urban form by prioritizing performative research and design studies could be called *normative pedagogy*. In this setting, studio functions as a laboratory where (I) systemic or emerging urbanization problems pertaining certain geographies are scrutinized in an analytical manner; (II) certain planning and design strategies are developed to overcome these problems; and (III) strategic schemes, design proposals and guidelines are put forward as models to be applied to similar contexts. The analysis and design processes are highly sensitive to the conditions of the context nested in scales whether urban, historical, peri-urban, natural, rural, or coastal. This approach has a limited ground in practice compared to pragmatic pedagogy since aims at responding to systemic problems which require longer span of time. Nevertheless, it is possible to argue that normative pedagogy in urban design will gain more prevalence in today's urban condition, where social and ecological urgencies call for a proactive role of planning and design.

Finally, practices that speculate and imagine new socio-spatial possibilities through hypothetical future scenarios with high representational capacity precede experimental processes and offer a kind of *exploratory pedagogy*. Various motivations across schools might lead this pedagogic orientation: to challenge and react against established traditions, introduce and offer variety, or experiment with new methods. Regardless of the motives, theme-based frameworks entail practices that envision and explore new socio-spatial possibilities through speculative future scenarios with strong representational depth. Entailing context-free or context-setter design practices unfolded in distant time-perspectives, and imaginary modes in spatial representation, the studio functions as a simulator of various scenarios or conjectures within this setting. In this approach, while "what if?" question serves for the construction of alternative scenarios, "why not?" question triggers the generation of novel solutions responding to the problem space within design thinking. It is noteworthy that this approach follows the paradigm shift in design methodology and design cognition through which the conception of design activity evolved from analysis-led problem-solving to problem-discovery oriented self-reflective process. Although it represents a kind of niche design research field compared to the first two models in the current state-of-the-art, it is worth emphasizing that the model corresponds to the education model that urban society and decision-makers will probably need more in the age of uncertainties.

Though such categorization would imply some limitations in the characterization of the idiosyncrasies of the graduate programs on urban design, it would suggest a working framework to identify the main orientations in contemporary urban design education. Considering the corresponding curricula and design studio, one could explore the required theoretical background and practical skills responsive to the specific pedagogical approach to urban design. Still, substantial and evidence-based studies on institutional and pedagogical practices in urban design graduate programs and how this impacts the making of an urban designer as well as the practice of the profession, are needed in this field.



Going further, temporality is another substantial dimension in the study of education considering the change in formal and informal ways of teaching and learning as a constructive practice as well as the emergent nature of urban design education. This could be studied through retrospective outlooks that inform about the formation and evolution of institutional and pedagogical practices in urban design programs. It would not only provide deeper insights into historical trajectory of the disciplinary formation of the field, but also, the knowledge necessary to develop robust studies based on comparative frameworks to identify the context, geography, or program-based idiosyncrasies and their professional or practical implications would be generated. At that point, to advance this inquiry, this research calls for more critical and self-reflective approaches in sharing experiences and disseminating knowledge on educational practices. Only this way can the graduate urban design education serve as a foundational building block of the disciplinary formation and praxis.

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Declarations

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