

Article

Learning to Design with Stakeholders: Participatory, Collaborative, and Transdisciplinary Design in Postgraduate Landscape Architecture Education in Europe

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Abstract: Over the last few decades, interaction and collaboration with stakeholders and communities in the design and development of our environment have become integral parts of landscape architecture practice. This article explores the position of this kind of designing in postgraduate landscape architecture education in Europe. An analysis of the international master's curricula in landscape architecture of 29 universities across Europe shows there is some attention paid to participatory, collaborative, and transdisciplinary design in several, but not all programs. However, participatory, collaborative, and transdisciplinary design is an important topic in the current discourse amongst landscape architecture scholars. This may indicate an increase in attention to the topic in European landscape architecture education curricula in the (near) future.

Keywords: participatory design; collaborative design; transdisciplinary design; ECLAS; landscape architecture education



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1. Introduction

Interaction with communities, stakeholders, and other parties during the design process has become an integral part of landscape architecture practice over the last few decades. This is reflected in, for example, the tasks of landscape architects described by Oldham [1] in his recent report for the Council of Europe on the “Professional Recognition of Landscape Architects”. As part of the tasks and skills of landscape architects, he includes “consultation with clients, management and other stakeholders”, “raising of aspirations for quality environments through demonstration of excellence and public engagement”, and the “connection of spatial strategies and visions to specific proposals, through the planning and consultation processes, acting as expert witnesses at public inquiries, leading, co-ordinating, mediating and contributing to multidisciplinary design teams” [1] (p. 16). Various eminent scholars in landscape architecture also see the interaction with communities and stakeholders as an integral, if not essential, part of landscape planning and design [2–4].

In Europe, the introduction of the European Landscape Convention (ELC) in 2000 and its adoption and ratification by 40 (out of 47) member states of the Council of Europe since then [5] has fueled the active participation of communities and stakeholders in landscape planning and design. The ELC defines landscape as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” [6] (p. 2). Furthermore, in article 5c it states that each country that signs and ratifies the treaty agrees to “establish procedures for the participation of the general public, local and regional authorities, and other parties with an interest in the definition and implementation of the landscape policies mentioned in paragraph b above” [6] (p. 3). As such, the ELC provides a solid base for a widespread practice of participatory and collaborative design in landscape architecture across Europe.

This article aims to explore the position of participatory, collaborative, and transdisciplinary design in postgraduate landscape architecture education in Europe. Various

scholarly publications indicate that participation and collaboration with non-designers (communities, specialists, companies, special interest groups, etc.) in design and planning projects can take different forms, and calls for specific knowledge and skills [7–9]. Many experienced landscape architects have learned such knowledge and skills in practice [10], but what about current graduates in landscape architecture? Do their educational programs provide them with a strong theoretical and methodological basis, and practical training for a practice in which participation and collaboration are integral parts of their daily work? This article investigates this topic with the following research question: what is the position of participatory, collaborative, and transdisciplinary design theory, methodology, and practical training in international landscape architecture master's programs across Europe?

2. The Inclusion of Non-Designers in Landscape Architecture

Interaction and collaboration with non-designers is not a new thing in landscape architecture. Landscape architects have always developed their designs and proposals on behalf of, and in interaction with, clients. However, in current landscape architecture practice many commissioners ask the landscape architect or design team to include various parties and actors in their design process; in particular, those who have a stake, or are affected by the design, such as (representatives of) communities, landowners, businesses, and user groups. The variety in focus and scale of landscape architecture projects make that this inclusion of stakeholders in the design process takes many forms. It can range from close interaction with a community for a detailed (re)design and development of their neighborhood [11,12], to large scale explorative “research by design” processes with various actors, representing businesses, (non) governmental organizations, landowners, and other professional organizations that have an interest in the future spatial development of a region [13,14].

Moreover, as projects have different goals and aims, the motivation for inviting stakeholders into the design process as well as the selection of invitees differs per situation [15]. For example, a focus on innovative ideas needs the participation of actors who carry relevant knowledge, whereas the creation of public support is benefitted by interaction with various interest groups, and the emancipation or empowerment of marginalized communities calls for interaction with these communities.

What all these processes have in common is the close collaboration and interaction between the professional landscape architect (or design team) and a varied group of non-designers. In the discipline of landscape architecture, participatory design, collaborative design, and transdisciplinary design are terms that are regularly used to refer to the interaction with various actors during a design or planning process. These are briefly introduced below.

Participation or participatory design is often used in the context of empowerment, advocacy, or the emancipation of communities [7,16]. Ever since the publication of Arnstein's seminal article “A ladder of citizen participation” [16], public participation in planning (and design) has become an important topic and subject for discussion. In her article, Arnstein distinguishes eight levels of participation of which only three (partnership, delegated power, and citizen control) pass as genuine participation in which power over the outcome of the process is shared with, or handed over to, the participants. The term “participation” is often used in relation to the inclusion of citizens, inhabitants, or communities in planning. This is in line with the use of the term participatory design in the field of Design Research, where it is used to refer to the inclusion of end-users in the design process of products and services [17,18].

Collaborative design and co-design represent a second perspective for design processes with the inclusion of non-designers in landscape architecture. The term “collaborative” is much used in the domain of planning, where collaborative planning refers to government-led planning processes that involve key non-governmental stakeholders in policy-making, decision-making, and implementation [19]. These stakeholders are generally parties or groups that already have an established position in planning and policy

arenas [15]. Although the intention of collaborative planning processes is to create inclusive planning processes, they are often not very open to newcomers or outlying perspectives, and tend to confirm existing (institutionalized) structures [20,21]. In landscape architecture, large scale and strategic (regional) design processes frequently relate to this “collaborative” perspective on including non-designers in the design process [13].

Transdisciplinary design is rooted in the idea of transdisciplinarity, which finds its origin in the discourse on research and knowledge production [22]. Next to multidisciplinary, in which multiple academic disciplines look at a similar research issue from their disciplinary perspective, and inter-disciplinarity, in which multiple academic disciplines collaborate in a joint project, transdisciplinarity is concerned with the collaboration between multiple academic disciplines and non-academics [23]. The latter transcends the traditional boundary between academic and non-academic knowledge, and includes locals, various stakeholders, and other non-academics in the research process. In landscape architecture academia, the notion of transdisciplinarity is reflected in various research [24] and educational concepts [2,25] and is also used to refer to the inclusion of non-designers in the design process.

Notwithstanding the differences in terminology and perspective, the inclusion of stakeholders, actors, or communities in the design process of real-life projects often has comparable characteristics. The challenges and capacities for landscape architects in a joint interactive design process with non-designers are very similar. For example, how can differences between the various participants be overcome, whether these are cultural, organizational, institutional, disciplinary, or otherwise? What interactive methods and techniques can best be used? What is an effective use of visuals during the interactive process? How can participants be given “a real say” in the outcome? What is your personal position as an expert-designer in a collaborative process in which everybody contributes to the design outcome? The inclusion of non-designers in a design process calls for a specific knowledge and skill set, which can be beneficial in participatory, collaborative, and transdisciplinary design processes. Therefore, each of the three perspectives can be suitable for introducing landscape architecture students to designing with various kinds of stakeholders, guiding their education, and preparing them for future practice.

3. Materials and Methods

This study into the position of designing with stakeholders in Landscape Architecture education across Europe included 29 educational institutes offering international or English based master’s programs in landscape architecture (see Table 1. for an overview). The list of members of the European Council of Landscape Architecture Schools (ECLAS) [26] was the starting point for the selection of programs. This study only included international master’s programs that had the term “landscape architecture” in the title of the program; other titled programs were left out. The focus on international master’s programs is built on two reasons.

Firstly, master’s-level programs tend to include, and pay attention to, higher levels of complex knowledge and skills compared to bachelor’s programs. Since the inclusion of various stakeholders in a design or planning process is considered to add significantly to the complexity of a project [27], it is more likely to be included in the later stages, and thus master’s programs, of the education of landscape architects. In addition, there was a second, more practical reason to focus on master’s programs and this has to do with language. Europe has many different languages. The vast majority of bachelor’s programs in landscape architecture are taught in the local language. Although current technology allows easy and fast translation of texts, and, as such, would allow the inclusion of bachelor’s programs in this analysis, this option was not pursued. Such machine-based translations lack accuracy, which can lead to major misunderstandings and misinterpretations. Unfortunately, there were no funds available for extensive text translations. However, many master’s programs in Europe have a greater international focus and are taught in English. This enabled the researcher, who is proficient in only a very limited number of European

languages, to analyze and compare master's programs in landscape architecture taught across Europe. Moreover, the international landscape architecture master's programs are open to students from other (European) countries and therefore often provide extensive information on the program and various courses on their website in English. This made the information needed for the analysis of the programs easily available.

Table 1. List of institutional ECLAS members with an international master's in Landscape Architecture.

	University	Title of the Master's Program	Website
1	BOKU; University of Natural Resources and Applied Life Sciences (Austria)	Master's program Landscape Architecture and Landscape Planning	https://boku.ac.at/en/studienservices/studien/master/uh066419/lv-angebot (accessed on 8 October 2020)
2	University of Copenhagen (Denmark)	MSc in Landscape Architecture	https://studies.ku.dk/masters/landscape-architecture/programme-structure/ (accessed on 9 October 2020)
3	Emü Estonian University of Life Sciences (Estonia)	MSc in Engineering, Landscape Architecture	https://www.emu.ee/userfiles/emu2015/file/master%20annotation.pdf (accessed: accessed on 11 October 2020)
4	Aalto University School of Arts, Design and Architecture (Finland)	MSc (Landscape Architecture)	https://www.aalto.fi/en/study-options/masters-programme-in-urban-studies-and-planning-msc-in-landscape-architecture (accessed on 11 October 2020)
5	Anhalt University of Applied Science (Germany)	MA Landscape Architecture	https://www.hs-anhalt.de/nc/en/study/orientation/study-guide/detail/landscape-architecture-master-of-arts.html (accessed on 12 October 2020)
6	Hochschule Wittenstephan—Triesdorf (Germany)	Master of Engineering	https://www.imla-campus.eu/ (accessed on 12 October 2020)
7	Szent István University (Hungary)	MA in Landscape Architecture and Garden Design	https://tajk.szie.hu/en/current-students/mla-courses (accessed on 14 October 2020)
8	Politecnico Milano (Italy)	MSc in Landscape Architecture, Soil, Landscape, Heritage	https://www.landscape.polimi.it/ (accessed on 14 October 2020)
9	Sapienza University of Rome (Italy)	MSc in Landscape Architecture	https://corsidilaurea.uniroma1.it/en/corso/2020/30813/home (accessed on 14 October 2020)
10	Latvia University of Life Sciences and Technologies (Latvia)	Professional Master in Landscape Architecture	https://www.llu.lv/en/landscape-architecture (accessed on 14 October 2020)
11	Academy of Architecture Amsterdam (Netherlands)	MSc in Landscape Architecture	https://www.bouwkunst.ahk.nl/en/study-programmes/master-in-landscape-architecture/study-programme/ (accessed on 14 October 2020)
12	Wageningen University (Netherlands)	MSc in Landscape Architecture and Planning	https://www.wur.nl/en/Education-Programmes/master/MSc-programmes/MSc-Landscape-Architecture-and-Planning.htm (accessed on 14 October 2020)
13	Oslo School of Architecture and Design (Norway)	International Master of Landscape Architecture	https://aho.no/en/intmasterlandarchitecture (accessed on 15 October 2020)
14	Norwegian University of Life Sciences (Norway)	Landscape Architecture for Global Sustainability	https://www.nmbu.no/en/studies/study-options/master/landscape-architecture-global-sustainability (accessed on 15 October 2020)

Table 1. Cont.

	University	Title of the Master's Program	Website
15	Cracow University of Technology (Poland)	Landscape Architecture	http://arch.pk.edu.pl/en/courses/landscape-architecture/second-cycle-study-programme-postgraduate/ (accessed on 15 October 2020)
16	University of Porto (Portugal)	Master's in Landscape Architecture	https://sigarra.up.pt/fcup/en/cur_geral.cur_view?pv_curso_id=1027 (accessed on 15 October 2020)
17	University of Ljubljana (Slovenia)	MSc Landscape Architecture	http://www.bf.uni-lj.si/en/deans-office/study-programmes/master-study-programs-second-cycle/landscape-architecture/ (accessed on 15 October 2020)
18	SLU Swedish University of Agricultural Sciences—Uppsala (Sweden)	MSc Landscape Architecture for Sustainable Urbanisation	https://www.slu.se/en/education/programmes-courses/masters-programmes/landscape-architecture-for-sustainable-urbanisation/ (accessed on 15 October 2020)
19	SLU Swedish University of Agricultural Sciences—Alnarp (Sweden)	MSc Landscape Architecture	https://www.slu.se/en/education/programmes-courses/masters-programmes/landscape-architecture/ (accessed on 15 October 2020)
20	VAN YUZUNCU YIL University (Turkey)	MSc in Landscape Architecture	https://obs.yyu.edu.tr/ogrenci/ebp/organizasyon.aspx?kultur=en-US&Mod=2&ustbirim=91&birim=1&altbirim=17&program=9184&organizasyonId=61139&mufredatTurId=932001 (accessed on 15 October 2020)
21	University of Edinburgh (United Kingdom)	Master landscape architecture	https://www.ed.ac.uk/studying/postgraduate/degrees/index.php?r=site/view&edition=2020&id=749 (accessed on 18 October 2020)
22	Leeds Beckett University (United Kingdom)	MA Landscape Architecture	https://www.leedsbeckett.ac.uk/courses/landscape-architecture-ma/ (accessed on 18 October 2020)
23	Manchester Metropolitan University (United Kingdom)	MLA Master of Landscape Architecture	https://www.msa.ac.uk/study/mla/ (accessed on 18 October 2020)
24	Birmingham City University (United Kingdom)	MA Landscape Architecture	https://www.bcu.ac.uk/courses/landscape-architecture-ma-2021-22 (accessed on 18 October 2020)
25	University of Greenwich (United Kingdom)	MA Landscape Architecture MLA Landscape Architecture	https://www.gre.ac.uk/postgraduate-courses/ach/lanarc (accessed on 18 October 2020)
26	Newcastle University (United Kingdom)	MA Landscape Architecture MLA Landscape Architecture	https://www.ncl.ac.uk/postgraduate/courses/degrees/landscape-architecture-studies-ma/#modules (accessed on 19 October 2020)
27	University of Sheffield (United Kingdom)	MA Landscape Architecture MArch Architecture and Landscape Architecture	https://www.sheffield.ac.uk/postgraduate/taught/courses/2021/architecture-and-landscape-architecture-march (accessed on 19 October 2020)
28	Writtle University College (United Kingdom)	MA Landscape Architecture MLA Landscape Architecture	https://writtle.ac.uk/MA-Landscape-Architecture (accessed on 19 October 2020)
29	Neapolis University (Cyprus)	MLA Landscape Architecture	https://www.nup.ac.cy/courses/master-of-landscape-architecture/ (accessed on 19 October 2020)

In a study on landscape architecture education programs, one could also opt for a survey, questionnaire, or interviews with representatives of various schools. These methods were, however, not chosen for this research as it aimed to grasp how the various institutes positioned “designing with stakeholders” in their program and courses amongst other topics. A survey, questionnaire, or interview might have revealed the opinion of only one or a few faculty members of a particular institute, or trigger a bias in the response due to the focus of the questionnaire, and, as such, not representing its true position in the program.

The comparison of master’s programs was further enabled by the alignment of the educational system in Europe over the last decades (e.g., the division in bachelor and master’s-level education), and the European Credit Transfer and Accumulation System (ECTS) [28] to indicate the number of hours or weight of the course in the overall program. One academic year corresponds with 60 ECTS credits, which equals a study load between 1500 to 1800 h. Thus, one ECTS equals 25 to 30 study hours.

To analyze the various master’s programs in landscape architecture, the researcher read the descriptions of the programs, the learning outcomes, and the descriptions of the various courses in the program. All institutes provided a description of the programs and the course content on their websites. However, the learning outcomes were not always shared, and not every program provided a detailed description of the compulsory and elective courses. Although this hindered a comprehensive and detailed overview of all programs, the information level and detail across all institutes was sufficient to provide a general insight into the position of participatory, collaborative, and transdisciplinary design in postgraduate landscape architecture education in Europe.

For the analysis, the researcher summarized the elements in the description of the programs and the learning outcomes that indicated attention to the interaction with stakeholders during the design process, whether from a participatory, collaborative, or transdisciplinary perspective. Next, the courses were analyzed. The initial selection of courses was based on the title or the nature of the course. At this stage, for example, all studio-based courses were included, since these tend to mimic professional practice and, as such, could include elements of interactions with various stakeholders in the design process. The selected courses were then further analyzed on their content based on the provided course descriptions. Only courses that included at least one element referring to either participatory, collaborative, or transdisciplinary design were included. A distinction was made between courses that paid attention to the theory and methodology of this kind of designing and courses focusing on practical training (studio- and project-based courses). Furthermore, all internship courses were included, since spending an extended period in professional landscape architecture practice will likely include an introduction to some kind of interaction with stakeholders during the design process.

Finally, the state of the art education and research projects, as well as the latest insights and initiatives of educators and professors, tend not to appear in general descriptions of programs and courses. Therefore, the researcher tried to develop an insight into the actual discourse amongst European educators on the topic of participatory, collaborative, and transdisciplinary design, using the following three sources: (1) the book of extended abstract of the ECLAS conference “Lessons from the Past, Visions for the Future; Celebrating one hundred years of landscape architecture education in Europe” held in September 2019 in Norway; (2) the Routledge Handbook of Teaching Landscape [29]; and (3) Teaching Landscape The Studio Experience [30]. The latter two were both written and published in collaboration with ECLAS. The following keywords were used to find contributions addressing participatory, collaborative, or transdisciplinary design in landscape architecture: *participat**, *community*, *collaborat**, *co-design*, *stakeholder**, and *transdisciplin**. After scanning the selected contributions, the contributions that did not focus on the topic of this research were eliminated. The remaining contributions were then read and used to develop an understanding of the current discourse amongst landscape architecture scholars in Europe on participatory, collaborative, and transdisciplinary design.

4. Results

4.1. Master's Programmes and Courses on Participatory, Collaborative, and Transdisciplinary Design

The descriptions of the various master's programs on websites, and in various documents (e.g., brochures, leaflets, and program documents) provided insightful information on the structure and content of all 29 analyzed programs. The majority of the program descriptions included attention to topics such as teamwork, leadership, interdisciplinary collaboration, and communication. This indicated that these programs provide courses that focus on the development of these kinds of general skills. However, in the context of this study, the search concentrated on notions that indicated explicit attention to the process of active interaction with stakeholders during the design process, including taking their information, knowledge, interests and other inputs into account in the design. Nine program descriptions included this attention to the interaction with stakeholders in the design process, using various kinds of phrasing. Table 2 gives an overview of the findings, including quotes from the program descriptions that relate to participatory, collaborative, or transdisciplinary design.

Next to the description of the programs, a closer look was taken at the courses relating to participatory, collaborative, and transdisciplinary design in the various programs. An overview of the results of this part of the study can be found in Table 3. Unfortunately, the websites of seven institutes did not provide sufficient information on the courses to include them in this part of the analysis. Of the remaining 22 institutes, nine provided compulsory courses that include, based on their description, theoretical and methodological aspects of participatory, collaborative, and transdisciplinary design, and four compulsory studio or project-based courses relating to the topic. Furthermore, five programs offered one or more elective theoretical and/or methodological courses, and two an elective studio or project-based course.

The descriptions of the theoretical and methodological courses addressed various topics related to "designing with stakeholders". Some focused particularly on participation processes, whether with children or more generally with the public or communities, and on specific participation methods and techniques, such as the organization of a participatory or public meeting or communication with communities. Another strand of these theoretical and methodological courses had a particular focus on co-creation with stakeholders. Balancing values and stakeholder interests, moderation techniques, mediation, and the position as designer between other power factors were topics in the descriptions of these courses.

Concerning the studio courses, although only six in total, similar topics were mentioned in the description. These included: design and proposal development with the community, exploring stakeholders' interests, developing skills of collaboration, engaging in a dialogue, and interacting with possible users and administrators. One studio description was very specific and included the name of the village where the students were expected to develop a design in co-creation with the community.

Six programs included an internship or training in practice as a compulsory element, and five offered this as an elective. Although the description of the internships in the various programs did not reveal any reference to participatory, collaborative, or transdisciplinary design, they were included in the analysis. This was based on the reasoning that spending a significant amount of time in landscape architecture practice would almost automatically lead to an introduction to and experience with interacting with stakeholders in actual design processes. However, this cannot be guaranteed, particularly not for courses with a limited number of credits (and thus time spent in actual practice). A unique situation in the relation to landscape architecture practice concerns the program of the Academy of Architecture Amsterdam in the Netherlands. Students have to hold a part-time job in landscape architecture practice to be able to join this four year part-time master's program. This situation explains the high total number of ECTS (240) and the high number of 120 ECTS for practical training in this program.

Table 2. Participatory, collaborative, and transdisciplinary design in the program descriptions.

	University	References to Participatory, Collaborative or Transdisciplinary Design
1	BOKU (Austria)	No reference
2	University of Copenhagen (Denmark)	No reference
3	Emü Estonian University of Life Sciences (Estonia)	No reference
4	Aalto Univeristy (Finland)	No reference
5	Anhalt University of Applied Science (Germany)	No reference
6	Hochschule Wiehenstephan—Triesdorf (Germany)	No reference
7	Szent István University (Hungary)	No reference
8	Politecnico Milano (Italy)	<i>“the transdisciplinary nature of the degree course”, “also included among intervention processes is the involvement of local operators and communities”, “Landscape Artist . . . is taught . . . to be able to produce projects, designs and visions, referring to different periods and considering . . . , interacting with various other professionals and authorities”</i>
9	Sapienza University of Rome (Italy)	The students’ skills include <i>“listen and reply to different point of views within work groups, in which a variety of social and professional figures participate, involved in the processes of analysis and design” and to “communicate ideas and proposals in an appropriate manner, with the aim of stimulating and promoting the understanding and participation of citizens (future users and/or customers) to the proposed choices in the project”</i>
10	Latvia University of Life Sciences and Technologies (Latvia)	<i>“the process of work in cooperation with the specialists of related sectors, plan and manage the work, work in teams in accordance with the project development time schedule”</i>
11	Academy of Architecture Amsterdam (Netherlands)	Attention to <i>“how to set a process in motion which an increasing amount of parties will latch on to”, “that also means gaining understanding of other factors than the spatial one: the users, the creators and the managers”</i>
12	Wageningen University (Netherlands)	<i>“Key elements of this programme are both the creative process of making plans and designs . . . , and the organisation of interactive and participatory decision making processes”</i>
13	Oslo School of Architecture and Design (Norway)	No reference
14	Norwegian University of Life Sciences (Norway)	The <i>“programme has a transdisciplinary focus”, the students’ “exposure to inter- and trans-disciplinary teamwork will prepare them to apply and assess knowledge from different disciplines to develop new landscape architecture solutions”, “The studio courses will prepare the students to independently communicate and disseminate their ideas . . . to the public through courses that incorporate workshop design and participatory methods. These two forums will additionally prepare the students to . . . communicate their problem-solutions to different types of audiences, while accepting and incorporating critical feedback”</i>
15	Cracow University of Technology (Poland)	No reference
16	University of Porto (Portugal)	No reference
17	University of Ljubljana (Slovenia)	<i>“The work takes place . . . with the cooperation of commissioning agents and the public”</i>
18	SLU—Uppsala (Sweden)	<i>“integrating different . . . user groups in design, planning and development processes”</i>

Table 2. *Cont.*

	University	References to Participatory, Collaborative or Transdisciplinary Design
19	SLU—Alnarp (Sweden)	<i>“integrating different . . . user groups in design, planning and development processes”</i>
20	VAN YUZUNCU YIL University (Turkey)	No reference
21	University of Edinburgh (UK)	No reference
22	Leeds Beckett University (UK)	No reference
23	Manchester Metropolitan University (UK)	No reference
24	Birmingham City University (UK)	No reference
25	University of Greenwich (UK)	No reference
26	Newcastle University (UK)	No reference
27	University of Sheffield (UK)	No reference
28	Writtle University College (UK)	No reference
29	Neapolis University (Cyprus)	No reference

Table 3. Compulsory and elective courses on participatory, collaborative, and transdisciplinary design in the master's programs.

	Title of the Master's Program (University)	Total nr ECTS	Compulsory Courses (ECTS)			Elective Courses (ECTS)		
	<i>Specialization</i>		Theory/ Method	Studio	Internship	Theory/ Method	Studio	Internship
	Master's program Landscape Architecture and Landscape Planning (BOKU, Austria)							
1	<i>landscape design and public space design</i>	120				4		
	<i>landscape architecture and landscaping</i>	120					6	
	<i>applied landscape</i>	120				2		
	<i>conservation/management</i>	120				5		
	<i>recreation planning</i>	120				6		
	<i>river basin management and planning</i>	120				10		
	MSc in Landscape Architecture (University of Copenhagen, Denmark)							
2	<i>urban design</i>	120				30	15	<i>Optional</i>
	<i>landscape design</i>	120				30	15	<i>Optional</i>
3	MSc in Engineering, Landscape Architecture (Estonian University of Life Sciences)							
		120	11					20
4	MSc Landscape Architecture (Aalto University, Finland)							
		120	<i>limited information</i>			<i>limited information</i>		
5	MA Landscape Architecture (Anhalt University of Applied Science, Germany)							
		120			25			
6	Master of Engineering (Hochschule Wiehenstephan—Triesdorf, Germany)							
		90–120	5		25			
7	MA in Landscape Architecture and Garden Design (Szent István University, Hungary)							
		120						
8	MSc in Landscape Architecture, Soil, Landscape, Heritage (Politecnico Milano, Italy)							
		120			8			
9	MSc in Landscape Architecture (Sapienza University of Rome, Italy)							
		120	13	3				
10	Professional Master in Landscape Architecture (Latvia University of Life Sciences and Technologies)							

Table 3. Cont.

	Title of the Master's Program (University)	Total nr ECTS	Compulsory Courses (ECTS)			Elective Courses (ECTS)		
	Specialization		Theory/ Method	Studio	Internship	Theory/ Method	Studio	Internship
		120	limited information			limited information		
11	MSc in Landscape Architecture (Academy of Architecture Amsterdam, Netherlands)	240	3	16	120			
12	MSc in Landscape Architecture and Planning (Wageningen University, Netherlands)							
	landscape architecture	120		9	24			
	landscape planning	120		9	24			
13	International Master in Landscape Architecture (Oslo School of Architecture and Design, Norway)	120	limited information			limited information		
14	Landscape Architecture for Global Sustainability (Norwegian University of Life Sciences)	120						
15	Landscape Architecture (Cracow University of Technology, Poland)	90	limited information			limited information		
16	Master's in Landscape Architecture (University of Porto, Portugal)	120						Optional
17	MSc Landscape Architecture (University of Ljubljana, Slovenia)	120	9			6		3
18	MSc Landscape Architecture for Sustainable Urbanisation (SLU-Uppsala, Sweden)	120	15					
19	MSc Landscape Architecture (SLU-Alnarp, Sweden)	120				15		
20	MSc in Landscape Architecture (VAN YUZUNCU YIL University, Turkey)	120						
21	Master Landscape Architecture (University of Edinburgh, UK)	120						
22	MA Landscape Architecture (Leeds Beckett University, UK)	60	limited information			limited information		
23	MLA Master of Landscape Architecture (Manchester Metropolitan University, UK)	120						
24	MA Landscape Architecture (Birmingham City University, UK)	60		20				
25	MA/MLA Landscape Architecture (University of Greenwich, UK)							
	MA landscape architecture	60	15					
	MLA master landscape architecture	120	15					
26	MA/MLA Landscape Architecture (Newcastle University, UK)							
	MA landscape architecture	60				5		
	MLA master landscape architecture	120	5					
27	MA/MArch (University of Sheffield, UK)							
	MA landscape architecture	120	limited information			limited information		
	MArch architecture and landscape architecture	120						
28	MA/MLA Landscape Architecture (Writtle University College, UK)							
	MA landscape architecture	60						
	Master of Landscape architecture	120	7.5					
29	Master of Landscape Architecture (Neapolis University, Cyprus)	120	limited information			limited information		

A comparison of Tables 2 and 3 shows that seven of the nine institutes that include a reference to participatory, collaborative, and transdisciplinary design in the description of the program also offer one or more compulsory courses that relate to the topic, and one offers an elective. One of the institutes did not provide course descriptions on its website. Furthermore, nine of the remaining 20 institutes without reference to participatory, collaborative, and transdisciplinary design in their program description, did offer a compulsory or elective course relating to the topic.

The analysis of both the program descriptions and the courses revealed there was some attention given to participatory, collaborative, and transdisciplinary design in landscape architecture master's programs across Europe. However, such a study has significant limitations as it is based on descriptions provided on institutional websites. It could well be that many more programs and courses pay (significant) attention to the topic, and that it is just not included in the descriptions. It could also be that, although the description of the program or course refers to the topic, in the actual teaching this attention is very limited. This is an important notion to take into account when looking at the results of the analysis.

Notwithstanding the limitations of the study, it indicated that around two-thirds of the studied programs paid some attention to participatory, collaborative, and transdisciplinary design. However, the analysis also revealed that this kind of designing does not have a strong position in European landscape architecture master's programs. It could be that attention to this kind of design in European master's level landscape architecture education is developing and will become more integrated in educational programs in the future. The topic is still, after all, relatively new compared to other important elements in the education of landscape architects (e.g., knowledge of landscape systems, planting and construction, artistic design skills, and visualization). Therefore, it is useful to explore the position of participatory, collaborative, and transdisciplinary design in the discourse amongst landscape architecture scholars in Europe.

4.2. Scholarly Discourse on Participatory, Collaborative, and Transdisciplinary Design

In 2019, the yearly ECLAS conference was held in Ås, Norway, marking the 100th anniversary of the first academic landscape architecture education program in Europe. Education was also a central theme in this conference, as reflected in its title: "Lessons from the Past, Visions for the Future; Celebrating one hundred years of landscape architecture education in Europe". One track during the conference focused on "Teaching transdisciplinary approaches to landscape", covering four (out of 27) parallel sessions with 15 contributions in total. Outside these thematic parallel sessions, another six contributions that paid attention to participatory, collaborative, or transdisciplinary design were determined, resulting in a total of 21 contributions. Ten contributions presented ideas and results derived from studio-based education courses that included interactions between students and stakeholders during the design process [31–40]. Four contributions had a focused on other kinds of courses in relation to participation and collaboration [41–44], and three contributions concentrated on pedagogical aspects and ideas for adjustments of curricula from a participatory, collaborative, or transdisciplinary design perspective [45–47]. The remaining six contributions did not focus on landscape architecture education, but reported on research projects and activities [48–51].

In addition to the parallel presentation sessions, the conference also provided the opportunity to organize special sessions and workshops. In these categories, one special session (out of six), and two workshops (out of six) were related to the theme. The special session discussed GIS-based 3D landscape visualization for collaborative planning. The two workshop sessions were organized collaboratively, and focused on meaningful collaborative practice in landscape architecture education.

The contributions at the 2019 ECLAS conference showed that considerable attention was paid during this conference to participatory, collaborative, and transdisciplinary design. It could indicate that this kind of designing is more embedded in actual teaching than what could be derived from the program and course descriptions. A relatively high number of

contributions addressed studio-based courses with engagement of stakeholders, of which some described explicit attention to theory and methodology as part of these courses. The contributions on pedagogy and the (re)development of curricula indicated that “designing with others” is seriously considered as a central part of landscape architecture education at these schools.

Particular attention is drawn to the contribution reporting on the three year EU-funded Landscape Education for Democracy (LED) project [42]. This project, a collaboration between five universities, enabled students “to engage critically with the theories, methods, ethics, and practices of participation” [42] (p. 31). It used e-learning tools to bridge the distance between students from different universities, to engage them in discussions, and to have them collaborate on assignments. The LED project, which was followed up by the LED2/LEAP project [52], is a valuable open resource for all educators in landscape architecture who want to take up a focus on participatory, collaborative, or transdisciplinary design in their courses.

During the 2019 ECLAS conference, “The Routledge Handbook of Teaching Landscape” [29] and the accompanying book “Teaching Landscape The Studio Experience” [30], both initiated by ECLAS, were presented. Landscape education was the topic of both books, as can be derived from the titles, with particular attention being given to studio-based education in the second. The various chapters of both books addressed a broad variety of topics related to landscape architecture education and the education on landscape in general. Both volumes also contained chapters that addressed “participatory”, “collaborative”, or “transdisciplinary” design.

The Routledge Handbook of Teaching Landscape [29] contains 30 chapters divided over three parts: the first on reading the landscape, the second on representing the landscape, and the third on transforming the landscape. The topic of designing or interacting with stakeholders is referred to across these parts. The key-word-based search resulted in a first selection of 20 book chapters. After scanning and reading these chapters, eight chapters showed true engagement with the topic of participatory, collaborative, or transdisciplinary design. Five of these eight chapters presented ideas on engaging with stakeholders as part of studio-based education [2,53–56]. The chapters elaborated on this from various perspectives ranging from studio-based education on location, to participatory methods and techniques, to a holistic contextual approach. The other three chapters addressed, amongst other things, the variety of actors in the landscape [57], value and ethics in landscape education [58], and a constructivist approach to landscape [59].

The second book, “Teaching Landscape The Studio Experience” [30], focusses explicitly on studio-based education. As expressed in the foreword of this book, this educational approach allows students to “have the chance to learn from existing problems, challenges and assignments in the landscape and to get into interaction with real stakeholders, such as municipality representatives or residents” [30] (p. VI). The book itself, however, contains few chapters that actually address the specific knowledge, skills, ethics, or struggles of organizing a studio-based design course that includes designing with stakeholders. Based on the keyword search, a promising 13 chapters (out of 18) emerged. Going through these chapters more in depth revealed that only two truly engaged with the topics of participatory, collaborative, or transdisciplinary design. One chapter reflects on an urban intervention studio, in which students live and work on site, and develop 1:1 mock-ups [60]. The other chapter focusses on the studio as a setting to educate “conductors”, or those who become leaders of diverse teams and who are trained to include input from various stakeholder groups in the design process [61].

5. Discussion and Conclusions

The analysis of the international master’s programs in landscape architecture, and their courses reveals that participatory, collaborative, and transdisciplinary design do not yet have strong positions in postgraduate landscape architecture education across Europe. However, the contributions to the 2019 ECLAS conference and the two books

on teaching landscape illustrate that engaging with stakeholders in the design process is an integral part of the current discourse amongst European landscape architecture scholars. This could indicate growing attention towards participatory, collaborative, and transdisciplinary design in European landscape architecture education curricula in the (near) future. It would be worthwhile to follow the development of landscape architecture curricula over the coming decades. Moreover, further research on the topic, for example, through a comparison with landscape architecture education curricula in other parts of the world, or an extensive survey of landscape architecture scholars could deepen and broaden the discussion and perspective on “learning to design with stakeholders” in landscape architecture.

Although only six compulsory and elective studio-based courses that included attention to designing with stakeholders were identified in the analysis of the master’s programs, studio-based courses received particular attention in the encountered conference contributions and book chapters as a suitable vehicle for the training and education of future landscape architects in participatory, collaborative, and transdisciplinary design. Several of these conference contributions and book chapters reported the inclusion of theoretical and methodological aspects as part of studio courses. Notwithstanding that practical training through studio courses is important to prepare students for future practice, giving significant attention to and having specific courses on theory, methodology, and ethics are key to raising awareness, and providing a broad knowledge base on the various perspectives and motives that inform “designing with stakeholders”. Such courses could, for example, address the differences and similarities between the participatory, collaborative, and transdisciplinary traditions in landscape architecture (and beyond). Furthermore, the use of various kinds of visuals in collaborative settings [9], the variety in participatory tools and techniques [62], and the critical choices that have to be made in structuring and organizing workshops, charrettes, or other kinds of interactive design processes [63] are valuable subjects to teach future landscape architects. Theoretical and methodological courses could also pay attention to knowledge on the conditions and processes that enable the uptake and implementation of ideas and proposals developed in co-creation processes [64,65]. Finally, students could benefit from specific skill-based training, as designing with stakeholders calls for strong social consciousness, knowledge, and skills [66,67].

Traditionally, landscape architecture education is rooted in the beaux-arts model, which is focused on promoting and developing individual creativity and originality [2]. This might explain the reluctance or uneasiness that is still encountered in landscape architecture on the topic of designing with stakeholders, and, as such, the limited attention to this kind of designing in many of the analyzed landscape architecture master’s programs in this study. To fully embrace the idea that those who live and work in a landscape also have to have a say in the design of their landscape calls for a (re)new(ed) design culture in landscape architecture (c.f. [8]); one that is less focused on the individual designer, but appreciates and promotes inclusiveness and the art of designing with stakeholders.

This is critically important, since landscape architecture, like other design disciplines, can contribute significantly to dealing with today’s global challenges, such as energy transition, climate change adaptation, and rapid urbanization [68–70]. These challenges require transitions, transformations, and structural change [71,72], in which being inclusive and developing ideas, proposals, and solutions in close collaboration with others is key. It underpins the critical position of designing with stakeholders in landscape architecture education, not only in Europe, but across the world.

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