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The last 50 years of teaching and research

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Electronic version
URL: https://journals.openedition.org/paysage/27784
DOI: 10.4000/paysage.27784
ISSN: 1969-6124

This article is a translation of:
L’architecture de paysage à Wageningue (Pays-Bas) – Les 50 dernières années d’enseignement et de recherche

Publisher:
École nationale supérieure du paysage de Versailles-Marseille, Institut national des sciences appliquées Centre Val de Loire - École de la nature et du paysage, École nationale supérieure d’architecture et de paysage de Bordeaux, École nationale supérieure d’architecture et de paysage de Lille, Agrocampus Angers

Electronic reference
Martin van den Toorn, "Landscape architecture at Wageningen (Netherlands)", Projets de paysage [Online], Hors-série | 2022, Online since 05 July 2022, connection on 07 July 2022. URL: http://journals.openedition.org/paysage/27784 ; DOI: https://doi.org/10.4000/paysage.27784

This text was automatically generated on 7 July 2022.

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Landscape architecture at Wageningen (Netherlands)
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Introduction: context and approach

1 This article gives an overview of the evolution and some backgrounds in landscape architectural education in Wageningen since the second part of the 20th century. It will focus on headlines in the context of practice, theory, research and society. So far such an overview does not exist, although there are a number of studies and publications on specific aspects or periods. It is not a historical study but focuses on the evolution of content and context of teaching landscape architecture in Wageningen.

2 The most extensive and well documented study has been done by Vroom (2014): Leren kijken – Het Wageningse onderwijs en onderzoek in de tuin – en landschapsarchitectuur [Learning to perceive – Education and research in garden – and landscape architecture in Wageningen]. Debie (2011) did a study on Hartogh Heys van Zouteveen as one of the first teachers in Wageningen in the setting up of a program before WWII.

Wageningen, the university and landscape architecture

3 In this article, we focus on the last 50 years; beginning in 1966 when Vroom took over from Bijhouwer as professor of landscape architecture. In the historical development and evolution of the department, we have distinguished three main periods on the basis of changes in content of the program and its educational foundations. We start
with the succeeding of Bijhouwer by Vroom in 1966, a period of growth of the number of students started. Even though Vroom was formally succeeded in 1994, he continued to do research and publish. A new period emerged for the department in which new challenges for the discipline as a whole emerged such as energy transition, the improvement of water systems and the creation of comfort and healthy environments for people. This development became explicitly part of the evolution of the program under Van den Brink (2010-2019) and is since 2020 lead and directed by Lenzholzer while Geuze as professor focussing on teaching and research from the viewpoint of practice.

Goal, research questions, methods and material

4 Primary goal is to give a first overview of the evolution of landscape architecture education at Wageningen in its relation to practice, research & theory. The general research question comprises: what are the backgrounds of the ways landscape architecture education developed at Wageningen?

5 Within this general goal, two specific research questions can be distinguished:
   • How did practice influence education in landscape architecture at Wageningen?
   • How did research and theory influence this education?

6 The research methods are based on the principles of case study research, logical argumentation and comparative analysis. The research material is diverse and largely Dutch; publications, description of programs, projects, direct information of people involved.

7 The research method is guided by an analytical framework in which three issues further define the scope and content; the context of society, relation to practice, role of research and theory.

Terminology and definitions

8 In this article we distinguish between “land”, “landscape” and “landscape architecture”.

9 “Land” stands for the physical properties of the surface of the earth and relates to ground, ground level and grounding. Measuring takes place in geodesy, cartography and mapping while the material qualities and form are studied in geology, geomorphology, soil science. Water, vegetation and plantation in specific climatic conditions are equally defining and influencing “land”.

10 “Landscape” refers to the interaction between people and their environment, dominated by the dynamics of natural, socio-economic and cultural forces. Many disciplines are engaged in the study of landscape but only in landscape architecture the landscape is object of planning and design.

11 Landscape architecture. We use a definition by the European Council of Landscape Architecture Schools (ECLAS) which includes many aspects of others and is coherent and up-to-date1:

   “Landscape architecture is the discipline concerned with mankind’s conscious shaping of his external environment. It involves planning, design and management of the landscape to create, maintain, protect and enhance places so as to be both
functional, beautiful and sustainable (in every sense of the word), and appropriate to diverse human and ecological needs.” (...) The exceptionally wide-ranging nature of the landscape means that the subject area is one of unusual breadth, drawing on and integrating not just material from the two sides of the traditional divide between the creative arts and the natural sciences, but incorporating many aspects of the humanities and technology as well. This complexity is closely reflected by the diversity of approaches to the discipline which can be found throughout Europe, a diversity which is clearly illustrated by the range of different types of higher education institutions across Europe in which landscape architecture teaching has been established. These range from universities specialising in the fine arts to those dedicated to agriculture and forestry, and encompass technical universities as well as the more broadly-based “general” universities.”

So, landscape architecture comprises three basic types of interventions that can be distinguished but not separated; planning, design, management. These three types of interventions are applied to three main types of landscapes; urban, rural and infralandsapes. Infralandsapes are landscapes that are directly or indirectly influenced by infrastructure (Toorn, 2001).

Consequently the approach and work domain can be represented in a matrix of nine relations (figure 1).

Figure 1. The main types of landscape and the types of intervention in contemporary landscape architecture

<table>
<thead>
<tr>
<th>Landscape types and types of intervention</th>
<th>Planning</th>
<th>Design</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>The rural landscape</td>
<td></td>
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<tr>
<td>The urban landscape</td>
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<td>Infralandsapes</td>
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Design influencing knowledge and vice versa; Vroom and the rise of design knowledge (1966-2010)

The context of society

The 60s and the beginning of the 70s were still a period of economic growth but the publication in 1971 of the report “Limits to growth” (Meadows et al., 1972) made clear that exponential economic growth and increase of the population with a finite supply of global resources would threaten the economy and society at large. Although the study was criticised on specific points and methods, the overall approach and forecast remained valid.

In October 1973 the first oil crisis broke out, induced by the Fourth Middle East War (Yom Kippur War), when the members of the OPEC, led by Saudi Arabia proclaimed an oil embargo. The embargo targeted also the Netherlands. By the end of the embargo in March 1974, the price of oil had risen nearly 300%, while prices in the US were even higher. Rising oil prices resulted in skyrocketing inflation that disrupted the economy worldwide and had a direct impact on consumers and industry. In the Netherlands, the
government had prohibited car traffic on sundays due to shortage of fuel, which stimulated cyclists, skaters and walkers to take over streets and even motorways. It made people aware of the dependency on cars and oil in daily life. It might have caused the first ideas and thinking about alternative forms of energy and on being independent of outside suppliers of energy.

An earlier study by Carlson in 1962 (*Silent Spring*), analysed the detrimental effects on flora and fauna in the natural environment caused by the use of pesticides. All three did not have a direct influence on design disciplines in general but did have an influence on society at large, especially for the landscape development in the long run in a densely populated country like the Netherlands.

Another aspect in the 70s, we see in the Netherlands a growing interest and importance of new participation processes which did have a major effect on daily practice in all design disciplines.

During the beginning of the 80s there was an economic crisis in the Netherlands with increased unemployment and a shrinking economic production. The government started to cut on expenses and public spending which caused also less work for landscape architects and offices had to lay off some of their staff.

The issue of climate change started to emerge in the 90s but has become more serious since. In the beginning of the new millennium the number of people that considered the climate change a serious threat increased steadily, even in politics some politicians got more concerned.

**Relation to practice**

In his inaugural address, Vroom (1967) gave an overview of the evolution of garden architecture in the past, towards landscape architecture in the 20th century. It meant the design of gardens as private space was complemented and extended to the planning and design of the landscape of public space. In the Netherlands the landscape architecture group in the State Forest Service has had a great influence in that transition by the making of hundreds of landscape plans for land consolidation plans, motorways, the new polders and regional projects in general.

Practice grew exponentially; both in number of projects, in number of offices and in diversity of work domains. In the rural landscape, the land consolidation plans (Groeneveld, 1985; Landschapsarchitectuur, 1985; Visser, 1997) were a major work domain. The same goes for the landscape plans for the new IJsselmeer polders (Bijhouwer, 1933; 1938; Overdijkink, 1953; Jonge, 1963; Boogert, 1996) and in the infralandscales and spaces of flow (Harsema et al., 1991; Toorn, 2001). Especially the work of landscape architects of the State Forest Service [Staatsbosbeheer (SBB)], has played a major role in the development of the regional tradition in Dutch landscape architecture.

In the cities the need for design of new parks, urban green space and the design of urban public space in general gave work to many landscape architects both in the municipalities and in offices (Boer, 1982; 1990; Harsema et al., 1996; 1998; 2000; 2002; 2004; 2007; 2009) (figure 2).
In the baroque period – as defined in landscape architecture (Jellicoe & Jellicoe, 2006; Vercelloni & Vercelloni, 2009) – the structure was carefully laid out by making use of two elevated parts in the topography that got a special mark in the axial structure. In the second step the park was extended and was designed in the same baroque style. In the third step the park was transformed into the landscape style but remnants of the baroque style remained. In the fourth step the landscape style was further imposed and the baroque structure disappeared almost completely except for the central axis. In the final plan Van Gessel has chosen not to restore the park to one historical style but instead to redesign a new ensemble in which the historical development was “readable” but at the same time the new function of the ensemble as museum was integrated (Twaalf, 1991).

When in 1992 a first overview of recent practice was published in a study edited by Vroom “Outdoor space – Environments designed by Dutch Landscape Architects since 1945” [Buitenruimten – ontwerpen van Nederlandse tuin – en landschapsarchitecten in de periode na 1945] (Vroom, 1992), projects were organised in three sections; gardens, parks, landscapes, including urban, rural and infralandscapes.

In 1996, Harsema as editor of the Dutch Journal “Blauwe Kamer”, started a series of yearbooks on Dutch projects in landscape architecture and town planning which published a selection of projects from practice (Harsema et al, 1996; 1998; 2000; 2002; 2004; 2007; 2009). For every book a special selection committee was set up to make the selection. All together a magnificent overview that also gives an idea of some long term trends and developments and growing of the work domain. For students in landscape architecture this is a great resource, not only as a source of inspiration but on the basis of the description and documentation they can also visit and study these projects after realisation. From the first yearbook on I have always used these publications in my teaching, research and organising of fieldwork and excursions (Fekete & Toorn, 2021). For my teaching and research abroad I use in addition the European yearbooks of
landscape architecture and town planning (Fieldwork, 2006; Diedrich et al., 2009; 2015; 2018)

Role of theory and research

25 So far, theory in landscape architecture was limited to special issues such as ecological theory and applied planting design, environmental psychology and the experience of space. There was very few theory specifically oriented towards the core of the profession and discipline, design. Actually, only McHarg's study “Design with nature” was based on an overall theory of analysing the landscape as first step in plan development, a distinction between different levels of intervention and a design process based on a conceptual approach. This theory was not explicitly described but was a general theoretical basis for all plan making in the study.

26 In the Netherlands, in the development of research in landscape architecture the department took the lead by setting up research projects, mostly on the demand from outside, in which students and staff participated. In some cases the projects were also part of design studio's at advanced levels. Some examples are: “Helmond” (Landschapsonderzoek, 1974) was a study on a systematic landscape analysis for a new urban extension of the settlement of Helmond; both students and staff participated in the study. A similar study for new urban extensions for the city of Utrecht “Kring Midden Utrecht”, students participated in the research through their final projects for their landscape architecture diploma (Boekhorst & Boekhorst-van Maren, 1971). In the case of the study “Mergelland” (Vrijlandt & Kerkstra, 1976), a study on the planning of a large scale new site for mining marl, students participated in the research in a design studio as part of their Master's.

27 Not always were students involved, in the study “Volthe de Lutte”, a study on regional plan for rural development in the eastern part of the country, Vroom collaborated with other departments and with the organisation for land consolidation and rural engineering [Cultuurtechnische Dienst, Landinrichtingsdienst] (Bijkerk et al., 1971). All these projects were based on demands from outside the department and on the regional scale, students could gain insight into contemporary landscape problems and approaches.

28 In a first overview of practice, Vroom (1992) gave a first coherent but brief overview of the state of the art and theoretical backgrounds of Dutch landscape architecture. It gives an overview of what landscape architecture is as profession and discipline, what it stands for as approach and its relation to society. Vroom distinguished three strategies in Dutch landscape architecture: historical continuity, functionality, flexibility.

29 In the regular teaching at the department of landscape architecture the teaching of theory was till the 80s not a specific subject but part of studio teaching, lecture courses and seminars. From the 80s on, Vrijlandt was in charge of teaching design theory, design methods and theoretical backgrounds of landscape architecture. Due to his participation in many research projects, his broad experience in practice that he gained in practice while working as a landscape architect for the State Forest Service, he was the right person on the right place to teach this subject. In one of his first lecture notes (Vrijlandt, 1991) he gave an overview of literature, projects and designers; this overview was mainly based on foreign sources. Later on he elaborated and
extended this lecture notes into a more comprehensive publication for Master students in landscape architecture in which he included a number of Dutch projects (Vrijlandt, 2000). This last version pays special attention to the conceptual approach in both design and research – which was mainly developed by himself in different projects, especially the research project on planning and design of high tension lines in the landscape for the national organisation responsible for electricity transport on a national level, KEMA (Vrijlandt et al., 1980). Another issue that was part of the overview, is on design methods related to structure of the landscape and the issue of networks, spaces of flow and infrastructure. It is clear that Vroom and Vrijlandt were two key figures on theory and design knowledge in Dutch landscape architecture.

From 1995 till 2000, Oldenburger published a first overview of the history of Dutch garden and landscape architecture in a series of four books that covered the whole country (Oldenburger-Ebbers et al., 1995; 1996; 1998; 2000). Oldenburger was educated as an art historian with a special focus on plants, planting design and gardens. She was head of the “Special collections” department in the Wageningen University Library that had a collection of old books, plans and other documents on Dutch garden design. It gave a first historical dimension to Dutch garden and landscape architecture based on historical studies, plans, biographies of garden and landscape architects.

In this period also the number of PhD studies increased gradually. Vroom’s first PhD candidate was Meeus who did a study on the evolution of design approaches in Dutch landscape architecture and finished in 1984 (Meeus, 1984). Goal of his study was to provide a theoretical basis for design critique which was so far anecdotal, personal and not systematic. The study was published in Dutch. The first PhD project to be published in English was the study of Baljon (1992) on design principles of park design, finished in 1992. Baljon analysed 50 plans sent in for the international competition of La Villette in Paris. From the 90s on, the number of PhD studies increased every year.

**Design and research in new context; Van den Brink and the influence of climate change (2010-2019)**

**The context of society**

The Paris Agreement of 2015 has been of major importance for creating awareness and proposals for action on climate change. It is a legally binding international treaty on climate change, adopted in 2015 and covers climate change mitigation, adaptation, and finance. It was adopted by 196 participants at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. So, climate change became more and more an issue that affected society at large but also the academic and professional communities, including landscape architecture (Lenzhölzer & Brown, 2013).

In the 70s of the last century the limits to the growth economy, as developed after WWII, became gradually apparent and are becoming more and more an issue nowadays. The attention for climate change in the last decades, is partly related to more attention for the principles of circular economy because of lower production and more recycling. On the other hand there are also independent aspects related to climate change such as the rise of average temperature that is also a threat to global health. The alternative of
the “circular” economy became more influential. It is clear that this would require a fundamental change in lifestyle which would influence all parts of society. Such a fundamental change would also require a different approach to education in general and a different planning and design of the daily environment; as such it would also affect and influence landscape architecture (Andrews, 2015).

34 The so-called liberal democracy became politically more and more influential; dominance of the market forces over government influence became the new trend in large parts of society. In the Netherlands, the closing down of the Ministry of Housing and Planning in 2010 is a clear example. Dutch planning, for years being famous because of its tradition on policies and advanced ideas, was all of a sudden taken from one of its important pillars; policies and practice, diminishing the work domain and implementing policies were the result. Even though the planning programs in the universities remained, the prospects for their students became a lot less attractive. Just recently, there have been signs in the political spheres to reopen the ministry but at a much more limited scale. Apparently the market could not solve the problems which was the background of this reversal of interventions of only ten years ago.

35 For the Netherlands, the still growing population and the ever higher densities of use are an ongoing development which affects all issues mentioned above.

Relation to practice

36 Practice continued to grow with a rise in new projects for landscape architects both nationally and internationally, also showing in the still growing number of landscape architecture offices. Not only the number of projects have increased, its scope has widened and design and research are becoming more and more integrated. Moreover, many architectural offices are now searching for landscape architects because architecture and landscape is getting more and more attention (Brink, 2010).

37 In 2012 Geuze was appointed as Professor of landscape architecture with a special focus on the relation to practice. In this way the University and the Department strengthened the relations with practice and brought new design knowledge from the field into the educational program.

Role of theory and research

38 In 2010 Van den Brink was appointed as professor of landscape architecture. In his inaugural address, he already put forward the importance of research in a design discipline (Brink, 2010). Research at the department in Wageningen got increasingly focussed on climate change, energy transition, creation of comfort and healthy environments for people. In 2017 Van den Brink and colleagues edited a book on research in landscape architecture with a focus on methods and methodology (Brink et al., 2017). They distinguish six methods of research; case studies, landscape biography, social media, virtual environments, walking, design guidelines. The study is not specifically focussed on the Netherlands but global.

39 The BSc/MSc/PhD system has not only resulted in more attention for research during the MSc but also in a growing number of PhD studies. In Wageningen there are six Doctoral schools, for landscape architecture two are most important; the Wageningen
Towards knowledge-based design; Lenzholzer and the new challenges for landscape architecture

When Lenzholzer in 2020 was appointed as new professor of landscape architecture in Wageningen, Covid-19 was still ruling daily life. Most university buildings were closed and part of the teaching was online, students stayed at their dormitories or went home and followed online courses.

The context of society

At the moment climate change is at the top of the agenda both politically and for landscape architecture at large. The still growing population in the Netherlands and density of population will add a new dimension and complexity to this climate change.

European integration became more and more prominent, not only in the international student population but also in exchanges of experiences and research in a European context (Williams, 2013). In the recent decades new European challenges have emerged that are of particular interest for landscape architecture.

Relation to practice

Gradually it becomes clear that climate change will be influencing also the practice of landscape architecture and soon be one of the dominant work domains (Blauwe, 2020). In the appointment of Geuze as Professor of landscape architecture with a special focus on the relation to practice, the relation between education and practice has been formalised.

A growing number of research projects done by practicing landscape architects in offices is showing the increasing influence of specific research on design knowledge in landscape architecture. Here we mention just a few examples;

• Slabbers et al. (1993) did a study on large forests in a European context;
• Geuze & Feddes (2005) on polders, a first study from the viewpoint of a designer on the rich history of a characteristic phenomenon in the Dutch landscape; the polder also as object of planning and design;
• Bos & Bosch, 2008 did a study on the backgrounds of the landscape development at Walcheren and the landscape plan of just after WWII with later developments in agriculture, leisure & tourism and the National disaster in 1953;
• Pleijster & Veeken (2015) did a major study on dikes as part of the Dutch landscape and the relations to planning and design.

Role of theory and research

Gradually, research and theory in landscape architecture became part of a coherent body of knowledge for the discipline at large, design knowledge.
Archer (1979), at the end of the 70s describes the transition in architecture from design methods to research and considers this development as process of becoming a discipline. In landscape architecture the growth of research and its impact on practice and education were not only focussed on methods but also on developments in philosophy of science with the emergence of different types of knowledge. In general, landscape architecture as a discipline is founded on the intertwining and interrelating between science, art and engineering (Vérin, 1991; Brisson, 2000). Before the 20th century, design knowledge in landscape architecture was largely implicit even though there were quite a number of treatises (Vroom, 1992; Jellicoe & Jellicoe, 2006; Vercelloni & Vercelloni, 2009; Turner, 2011; Jakob, 2018).

In philosophy of science, the development from one scientific method towards the idea of different types of knowledge emerged. Starting with Ryle (1946), followed by Polanyi (2009) and in the eighties by Popper, Kuhn and Feyerabend, it resulted in the viewpoint that there was not “one road to scientific knowledge” but that there were different types of knowledge; declarative, procedural, and tacit knowledge as a basis for scientific practice. These new viewpoints opened also interesting perspectives for design disciplines (Donadieu & Toorn, 2014).

For design knowledge, we use a general epistemological distinction between declarative, procedural and tacit knowledge as used for instance by Stillings et al. (1998). Consequently, the distinction between different types of knowledge also affects research. In design disciplines in general, a distinction between three types of research is made; research in design (during the design process), design as research and research on design (figure 3a, b, c).

Figure 3. Research in landscape architecture

The emergence of different types of knowledge was a first step in the foundation of explicit design knowledge (3a). The rise of design knowledge has also influenced the different types of research in landscape architecture (3b). Next to different types of research, acquiring new design knowledge is based on different types of reasoning (3c).

In this context, Lenzholzer published an important article as book chapter on the relation between research and design (Lenzholzer et al., 2017). Even though in landscape architecture research has always played a role in form of site or landscape analysis, Lenzholzer puts forward a new viewpoint on the special relation between research and design in the approach of “research through design” also referred to as “design as research” (figure 4).
In a competition for the city of Rotterdam, where both students from different landscape architecture schools participated, research was an explicit part of the competition. A typical example of “research as design” or “design as research”, in which eight different design principles are applied to a fictitious model – in this case – an urban plaza. The design principles are from left to right: completion, dissection, knitting, dominance, the fictitious model is in the centre, superposition, weaving, hinging, collage. (Vroom & Meeus, 1990).

It not only reflects the key role of design knowledge, that comprises different types of knowledge but at the same time design as a special type of knowledge. For education it means that also in landscape architecture we see new developments that are influenced by research such as: the key role of design thinking (Rowe, 1987), the importance of research on evidence as basis for evidence-based design (Brown & Corry, 2020) and the importance to learn from earlier experience in the form of systematic analysis of plans by precedent analysis (Toorn & Guney, 2011; Donadieu et al., 2012). Theory development gets more and more founded on the growing body of knowledge in landscape architecture which we call “design knowledge”.

Conclusion

The Department of Landscape architecture developed in a context of agricultural education at Wageningen, since 1918 at an academic level and since 1947 with its own specific program and a professor of landscape architecture. The context of an agricultural university – nowadays “life sciences” – gave the department a firm foundation in knowledge and understanding of the landscape as a natural system due to its scientific approach.

The rise of research took off in the 60s when Vroom succeeded Bijhouwer by starting new research projects within the Department in which students and staff participated.
It laid the foundation for the first contours of design knowledge. The research was directly linked to problems on the regional scale. Together with the long tradition of making landscape plans, gave Wageningen a strong orientation on planning and design on the regional scale.

In this context it is strange that the influence of geography and geographers has not been particularly strong in Dutch landscape architecture. Compare this to the French situation where geography – both physical, social and historical – has played a key role in the development of landscape architecture such as exemplified in the work of Deffontaines (2013) which is often referred to by French landscape architects and in a comprehensive overview of French geography by Brunhes Delamarre et al. (1975) in which also Deffontaines was one of the authors.

Over the 50 years of evolution of education in garden design and landscape architecture, the relations with practice have always been strong and remain so in the present with a special professor of landscape architecture from practice. Education in landscape architecture in Wageningen developed in close relation with practice and later research in institutes and offices; teaching, practice and research were mutually influencing each other not only because of practitioners teaching at the department.

In landscape architecture – and for that matter also other design disciplines – theory is in the practice; there is no theory independent of practice as for instance in physics. Hence teaching and research are both heavily influenced by practice, such as “learning by doing”, the importance of fieldwork and excursions, learning from precedents, and research on evidence.

Teaching has evolved from learning by doing through individuals or small groups towards a more systematic approach based on experience in projects, research and publications (Lenzholzer & Brown, 2013). The studio has remained the core of landscape architectural education in Wageningen and elsewhere.

Even though in the past the creative and conceptual approaches as a design discipline were not always considered to be fitting in a scientific environment of the university, in the last decades this viewpoint has slowly faded away in the larger scientific community also outside Wageningen university. Not in the least because of a gradual change of viewpoint among scientists that design can be an autonomous and specific type of approach for problems that cannot be solved in other ways. Early examples of this “paradigm shift” have been the article of Ferguson (1977) in which he puts forward the primary role of visual thinking and imagination in engineering. Besides, there have been examples of “cross-overs” between science and the role of imagination and conceptual thinking in the writings of Feynman (2000).

For landscape architecture as design discipline, there are three important issues in this context. First of all the emergence of the systems approach that can be seen as a “bridge” for the relations between the foundations of landscape architecture; science, art and engineering. The holistic approach brought them together in a unified view of the landscape as a natural, socio-economic and cultural system (Meadows, 2008). Secondly the rise of the cognitive sciences that have put forward the importance of the hand-brain relation such as in hand drawing, sketching, diagramming for the acquiring of new knowledge (Latour, 1986). A third important issue was the work of Cross on design methods. Cross and colleagues argued that attempts to model the design method on the scientific method seem to be misplaced (Cross et al., 1981). Later on Cross developed the concept of “designerly ways of knowing” for conceptual approaches that
were specific for design problems that could not be achieved in other ways (Cross, 1982).

I thank the reviewers for their suggestions, remarks and corrections; it has greatly improved the content and readability of the text.

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In this article, I will give a brief overview of the development of teaching and research in landscape architecture in Wageningen by studying the relationships between practice, education and research over the past 50 years. The purpose of this article is to provide a first explorative overview. So far, few – if any – publications exist on this issue in an international context. The research method is based on the principles of case study research, logical argumentation and comparative analysis. The research material is largely Dutch; publications, projects. The outline is made up of three main sections, based on development over the last 50 years of landscape architecture education in Wageningen. New design knowledge and work domains for a growing number of landscape architects have emerged over the last 50 years. The academic environment

NOTES


ABSTRACTS

In this article, I will give a brief overview of the development of teaching and research in landscape architecture in Wageningen by studying the relationships between practice, education and research over the past 50 years. The purpose of this article is to provide a first explorative overview. So far, few – if any – publications exist on this issue in an international context. The research method is based on the principles of case study research, logical argumentation and comparative analysis. The research material is largely Dutch; publications, projects. The outline is made up of three main sections, based on development over the last 50 years of landscape architecture education in Wageningen. New design knowledge and work domains for a growing number of landscape architects have emerged over the last 50 years. The academic environment
of Wageningen University has strengthened the position of landscape architecture in meeting the new challenges of climate change; the combination of knowledge of the landscape as a natural system and conceptual ways of thinking seems to be a unique and solid basis for the future.

L’article dresse une synthèse du développement de l’enseignement et de la recherche en architecture de paysage à Wageningue, au prisme des relations entre pratique, éducation et recherche au cours des 50 dernières années. L’objectif de cet article est de donner un premier aperçu exploratoire. La méthodologie est basée sur les principes de la recherche par étude de cas, de l’argumentation logique et de l’analyse comparative. Le corpus de recherche est en grande partie néerlandais et comprend des publications et des projets. Le plan s’articule en trois sections principales, basées sur l’évolution chronologique des grandes étapes de l’enseignement à Wageningue. De nouvelles connaissances en conception et de nouveaux domaines de travail pour un nombre croissant d’architectes-paysagistes ont émergé au cours du temps. L’environnement académique de l’université de Wageningue a renforcé la position de l’architecture de paysage face aux nouveaux défis du changement climatique ; la combinaison de la connaissance du paysage en tant que système naturel et des modes de pensée conceptuels semble être une base unique et solide pour l’avenir.

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Keywords: epistemology, design knowledge, design as research, practice, climate change
Mots-clés: épistémologie, connaissances en conception, la conception comme recherche, la pratique, le changement climatique

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