

# The PhD x-Ray: a European survey into doctoral training in Architecture

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**ABSTRACT:** Since the signing of the Bologna Declaration in 1999, third cycle education, or, most specifically, doctoral training, has been growing in number of candidates and in relevance in most European schools of Architecture. The European Association for Architectural Education (EAAE), through its Research Academy group (RA), created a questionnaire with the purpose of understanding the possibilities and challenges of the current third cycle education programmes within the range of the EAAE full-member schools. The questionnaire was prepared in 2016 and sent to all the EAAE 's full-member schools throughout 2017. The questionnaire was conceived as a survey, including both quantitative and qualitative questions, thus providing a broad understanding of the third cycle education programmes assessed. This paper aims to present the first results assessed through a comparative analysis of the answers to the questionnaires. Thus far, the EAAE-RA has received answers from 39 schools; however, we have limited this initial paper to the analysis of 23 schools. The results arising from this questionnaire aim to initiate a debate on architectural research based not on assumptions but on actual data. We wish to disseminate these original findings in the ARCC-EAAE 2018 conference to invite a broader group of schools and researchers into this discussion. These results can later be used, on one hand, to support a further global interconnection and research network and, on the other hand, to promote a European policy paper in support of the doctoral training in architecture, identifying good practices and strategic possibilities within a global architectural research community that is, today, united in diversity, safeguarding local culture while seeking a common ground for dialogue and change.

**KEYWORDS:** EAAE, Research in Architecture, PhD, doctoral training, third cycle education

## INTRODUCTION

“Architectural research is original investigation undertaken in order to generate knowledge, insights and understanding based on competencies, methods and tools proper to the discipline of architecture. It has its own particular knowledge base, mode, scope, tactics and strategies.” This is stated in the Charter on Architectural Research, approved by the General Assembly of the European Association for Architectural Education (EAAE) on the 3rd of September 2012.

The specificity and the cross disciplinary nature of Architectural Research, which the EAAE's Charter sought to define in 2012, was developed four years later into the document edited by the European League of Institutes of the Arts (ELIA). This document focused on the doctoral training in the arts, where architecture was seen as one of the artistic disciplines: “The Florence Principles on the Doctorate in the Arts”, (The Florence Principles, 2016). The “Florence Principles” document was inspired by the Salzburg Principles, established in 2005, which laid the ground for discussing doctoral education as part of the Bologna process.

Since the EAAE's Charter's approval in 2012, there have been several initiatives to push forward the challenges of finding common ground for research in architecture at a European level, including an International Forum on Doctoral Education in Europe, held in Riga, in 2013, which gave rise to the book “Doctoral Education in Schools of Architecture across Europe” (Voyatzaki, 2014), supported by the European Network of Heads of Schools of Architecture (ENHSA). This publication compiles, on one hand, descriptions of selected PhD programmes, and, on the other, a general overview of the evolution of architectural research in Europe. In this overview, the editor, Maria Voyatzaki, argues that architectural research in Europe has gone through three paradigms: Attachment, Autonomy and Ambivalence.

According to Voyatzaki (2014, pp. 19-30), the “Attachment paradigm” describes the initial phase of architectural research, when it remained attached to the methodologies of other fields of knowledge. Research developed in the earlier stages was characterised by the strong influence from the positive

sciences and engineering focusing on the measurable inputs of architectural production. In the later stages, the research methods began shifting into the fields of humanities, looking into the effects of the output of architectural production on society.

In the second phase, the “Autonomy paradigm”, the architectural research developed referred to the architectural design process itself, seeking ways to stand on its own field, thus, no longer attached to other fields of knowledge. The Autonomy phase refers to the research-by-design discussion, or research by practice, bringing forth its possibilities, but remaining aware of the underlining “myths” of practice as research, as stated by Till (2007). This discussion allowed for the emergence of creative research methodologies, such as those presented in the research network ADAPT-r (Architecture, Design and Art Practice Training-research) where borders of traditional research methods are questioned by a “supra-disciplinary” field of possibilities, seeking how research can trigger transformation in the behaviour communities (Zupancic, 2017).

In the current phase, the “Ambivalence paradigm”, the lines between research and practice, between academia and the profession, appear to be undefined. As stated by Voyatzaki (2014, p.24), “This new situation creates an unclear and vague middle ground. One of its extremities is a handsome-hybrid understanding of this match where social needs, material constraints and creative gestures can meet in an experimental environment. The other extremity is an impure alloy amalgamating, in a confusing and unclear way, aspects of thinking and making presented as innovation and as creative experience and original knowledge. We are already in a new paradigm of doctoral research, which we can define as the Ambivalence paradigm.”

In 2014, the general feeling was that “Schools of Architecture in Europe have not yet made significant progress on this subject” (Voyatzaki, 2014, p14). Today, we believe that, in 2018, almost 20 years after the Bologna agreement, and 12 years after the development of the Salzburg principles, this statement cannot stand as true any more. What we see on the ground, in the schools through the data collected thus far, is that schools have made progress, after having started, reinvented or restarted their PhD curricula following Bologna.

Today, we believe there is a need to provide an overview of doctoral training in Europe supported by an extensive survey of all EAAE member schools. This overview aims to go both beyond a listing of a limited number of PhD programmes and beyond a general overview created without the support of empirical data, namely without a survey of what is really happening on the ground. That is the result this research group hopes to provide; thus, in 2017, we began mapping systematically the progress of doctoral training in Architecture throughout Europe.

## **1.0 TIME, PEOPLE AND COSTS**

### **1.1. Quantitative and Qualitative Survey**

The questionnaire was conceived as a survey, including both quantitative and qualitative questions, thus providing a broad understanding of the third cycle education programmes reviewed.

The quantitative analysis of the questionnaire aims to assess the quantities of time, people and costs. The quantitative answers inquire into: the year the PhD training began; the number of students enrolled; the number of researchers, supervisors, staff or professors involved in the program; both the hours per week and the total number of years dedicated per student to the research; enrolment costs; and, the year each third cycle program began.

The qualitative analysis aims to understand: the profile of the professors, supervisors and tutors involved; the program’s specific field of study within the field of architecture; the language/languages spoken; the research methodologies used, through the outputs expected; and, finally, the main challenges and / or opportunities detected by the school answering the questionnaire.

### **1.2. When did doctoral training in Architecture in Europe begin?**

From the data collected thus far, most schools place the beginning of their formal PhD training in Architecture within the timeframe that ranges from 1990 to 2010. We aim to focus on this formal training for this research, considering the common ground provided by the signing of the Bologna Declaration. Nevertheless, there are

indications that Doctoral degrees in Architecture were awarded decades earlier than 1990, albeit being in different formats and with different definitions.

The earliest PhD degree in the schools assessed can be traced to 1960, to the Faculty of Architecture of the University of Ljubljana. Three of the assessed schools trace the origins of their doctoral training to the 1980s: the Aarhus School of Architecture (1988), the Politecnico de Milano (1983); and in the Royal Danish Academy of Fine Arts, Schools of Architecture, Design and Conservation (1980). From the formulation of the questions that refer to the 3<sup>rd</sup> cycle education, it can be assumed that some answers are related to the 3<sup>rd</sup> cycle programme introduction after Bologna renewal, and that earlier attempts are not indicated in some questionnaires though they might exist.

Of the schools 23 assessed thus far, only one, the École Nationale Supérieure d'Architecture de Bretagne (ENSAB), did not provide 3<sup>rd</sup> cycle education programmes as of 2017.

### **1.3. How can the doctoral student community be described?**

The purpose of assessing the number and profiles of the students enrolled is to understand the diversity of the schools assessed and, thus, the critical mass potential of each scientific community. With this purpose in mind, we have tried to assess the quantity of students, the requirements to enter a PhD programme, and the international relations fostered by the programmes.

Regarding the scale of the doctoral student community measured in quantity of students, in 2017, there was an extreme gap between the school with the highest number of students enrolled, the Politecnico di Milano, with 1030 third cycle students enrolled, and the school with the lowest number, the University of Liechtenstein, Institute of Architecture and Planning, with only 6 students enrolled.

These 23 schools reviewed, with the exception of Politecnico di Milano, had an average of 691 students enrolled in the bachelor studies per school and 488 students in the Master studies per school. There was an average of 127 students enrolled per school in 3<sup>rd</sup> cycle courses in the 23 schools assessed; hence, just looking at averages, the 3<sup>rd</sup> cycle students accounted for only 10% of the total student population in the assessed schools, the Master students for 37% of the total student population in the assessed schools, and the bachelor student numbers account for 53% of the total student population in the assessed schools. It is also important to note that the average duration of the PhD studies was at 4.5 years from the register to the final completion, with a minimum of effective duration of 3 years and a maximum of 11 years.

The minimum enrolment requirement for students is the same for most schools: a Masters degree, even if some may accept candidates if they provide exceptional previous experience (in research or practice). This common ground in third cycle requirements falls in line with the three cycles of study, which arose from the Bologna Agreement.

Of the schools reviewed 10, of the 23, provide a double degree with another university for 3<sup>rd</sup> cycle education, mostly considering a specificity of the research topics, and of these double degrees, most of have less than 10 students.

In synthesis, on one hand, there is a great disparity in scale, between schools with less than 10 students enrolled in doctoral training and schools with more than 1000, and on the other hand, there is a common understanding of the minimum requirements. It is also important to note that the third cycle students provide for an average of one tenth of the total number of students in the schools.

### **1.4. Who is supervising the research?**

The criteria to become a PhD supervisor within the PhD programmes are also diverse within the range of school reviewed. Of the 23, 10 schools state that supervisors must hold a PhD degree and 13 of the 23 schools require that the main supervisor must be a member of the school staff (full and/or associate professor). Only 2 of the 23 reviewed schools state that an expert in field can be a supervisor, even if he/she is not the holder of a PhD degree.

Regarding the scale of the possible supervisors within the faculty, of the 23 schools reviewed there are schools with as little as 4 possible supervisors (University of Liechtenstein, Institute of Architecture and

Planning) and as many as 147 (Universitat Politècnica de València). In 16, of the 23, reviewed schools a third cycle diploma is formal requirement for achieving a senior position in the faculty.

If there seems to be a majority of consensus around the need to have at least one of the supervisors as a PhD holder, and/or member of the Faculty, some diversity of the supervisors' profile is still present. For some schools, the PhD degree is the only requirement to be a supervisor, while, for other schools, supervisors must prove they hold both a PhD and significant body of research in the field (such as articles published in peer reviewed journals, or experience teaching in postgraduate studies).

### **1.5. How much does it cost?**

The average of the 20 schools that have provided this information is a payment of around 1375 EUR of yearly fee per year of enrolment. There are some schools charging nothing to both national students and EU citizens and other schools charging 5000EUR a year (Delft University of Technology Faculty of Architecture and the Built Environment). The Royal Danish Academy of Fine Arts, Schools of Architecture, Design and Conservation, in Denmark, was excluded of these averages as it provided a yearly fee of 33000EUR per year, much above the general range of payment.

## **2.0 THE RESEARCH WORK**

### **2.1. What are the main Areas of Research?**

The focus areas of research in the 23 schools assessed are listed in Table 1, providing an overview of the diverse range involving research in Architecture, which is in line with the stated "fertile" ground for "trans- and inter-disciplinary endeavours" stated in the Charter (2012).

All of the schools include Architecture and most schools include Urban Studies in some form (Urbanism, Planning, Urban Design). The specifics of each school can be seen in Table 1, providing both a wide range of themes and an intentional interdisciplinary nature.

Some schools are closer to History, Heritage and Conservation (Politecnico de Milano, Universitat Politècnica de València), other schools to the Social Sciences (Ecole Polytechnique Fédérale de Lausanne), to the Arts (The Royal Danish Academy of Fine Arts. Schools of Architecture, Design and Conservation) or to Technologies and Engineering (University of Pécs Faculty of Engineering and Information Technology School of Architecture) or to embracing a broad variety of methods and approaches (Delft University of Technology, Faculty of Architecture and the Built Environment, University of Ljubljana, and the Faculty of Architecture of the University of Lisbon). From the answers reviewed, we can assume these differences in the nature of the research work are initially related to the origins of each school, considering each school's emergence from either a Technical University or a Beaux-Arts Academy; nevertheless, some faculties manage to include both the technical and the Beaux-Arts traditions.

This comparative Table 1, describing the areas of research, aims to establish links between schools that share common (or complementary) interests and may possibly connect in future PhD programmes. It is important to note that English has established itself as the common language binding all programs, as most schools accept both English and the country's original language and some schools only accept English.

### **2.2. How can the Research Work be described?**

Regarding the contents of the research work, training includes both course work and individual work, but mostly focuses on individual work. The majority of schools indicate that most of the work required (more than 50% of the research work) is divided between individual research work and the development of the delivery of a thesis. Only the University of Pécs Faculty of Engineering and Information Technology, in Hungary, indicates less than 45% of the workload for both these activities, having the rest of the research time divided by the Coursework, Course on Scientific Integrity, Generic skills, Course on Research Methods, the delivery of an exhibition, delivery of at least one peer reviewed paper, and a conference participation.

Only 3 of the assessed schools require teaching hours as a mandatory part of the 3<sup>rd</sup> cycle training and only 4 of the schools reviewed include a mandatory stay at another research institute.

**Table 1:** Focus areas of research. Source: 23 questionnaires

COUNTRY	UNIVERSITY / SCHOOL / FACULTY / INSTITUTION	FOCUS AREAS OF RESEARCH
Belgium	KU Leuven, Faculty of Architecture	Architecture, Interior Architecture, Urban Design, Landscape
Belgium	KU Leuven, Faculty of Engineering Science	Architecture, Urban Design, Planning
Czech Republic	Czech Technical University in Prague - Faculty of Architecture	Architecture, Urban Design, Planning, Product Design, History of Architecture and Monument Conservation, Architecture, Building and Technology
Czech Republic	Brno University of Technology, Faculty of Architecture	Architecture; Urban Design; Planning
Denmark	The Royal Danish Academy of Fine Arts. Schools of Architecture, Design and Conservation (KADK)	Architecture, Interior Architecture, Urban Design, Planning, Landscape, Product Design, Design, Conservation
Denmark	Aarhus School of Architecture	Architecture, Urban Design, Planning, Landscape
France	Ecole Nationale Supérieure d'Architecture de Bretagne (ENSAB)	(no 3rd cycle course)
Hungary	University of Pécs Faculty of Engineering and Information Technology (PTE MIK) School of Architecture	Architecture, Interior Architecture, Urban Design, Planning, Heritage protection, Building Energetics
Italy	Politecnico di Milano	Preservation of the Architectural Heritage: Culture and Practice; Diagnostics of Materials and Structures and Rehabilitation of Historic Buildings; Methods and Themes of Historical Research; Construction History; Historical Territory and Cultural Landscapes
Italy	University of Ferrara, Department of Architecture	Architecture, urban design, planning, product design, landscape
Liechtenstein	University of Liechtenstein, Institute of Architecture and Planning	Architecture, urban design
Lithuania	Vilnius Gediminas Technical University, Faculty of Architecture	Architecture, urban design, product design, landscape
Netherlands	Delft University of Technology, Faculty of Architecture and the Built Environment	The Architectural Project and its Foundations, Computation & Performance, Design & History, Geo-information Technology & Governance, Green Building Innovation, Housing in a changing society, Innovations in Management Built Environment, Urban and Regional Studies, Urbanism
Poland	Cracow University of Technology / Faculty of Architecture	architecture, urban design, planning, landscape
Portugal	Faculdade de Arquitetura da Universidade de Lisboa	Architecture, Urban Design, Planning, Product Design
Portugal	Faculty of Architecture / University of Porto	Architecture; Urban design; Planning; Product Design
Slovakia	Slovak University of Technology, Faculty of Architecture	Architecture, interior architecture, urban design, product design
Slovakia	Faculty of Architecture, Slovak University of Technology, Bratislava, Slovakia	Architecture interior architecture, urban design, product design, monument and cultural preservation
Slovenia	University of Ljubljana, Faculty of Architecture	Architecture, interior architecture, urban design, digital design, architectural technology
Spain	Universitat Politècnica de València	Architecture; Urban design; Planning; Landscape; History, Theory, Heritage; Graphic Expression in Architecture; Building Engineering
Switzerland	Ecole Polytechnique Fédérale de Lausanne - EPFL	Architecture, Urban Design, Planning, Landscape
Turkey	Yildiz Technical University, Faculty of Architecture, Department of Architecture	Architecture; History & Theory of Architecture; historic preservation; project and construction management; building physics; building construction
Turkey	Atılım University / Graduate School of Natural & Applied Sciences / Architecture Department	Architecture

### 2.3. Is there Research by Design?

As stated in the introduction, Voyatzaki (2014) claims we have entered an “Ambivalence” phase, where practice and academia cross-over; however, design work is only obligatory in one of the 23 schools (Slovak University of Technology, Faculty of Architecture, in the Product Design Programme) and a practice based experience throughout the research is not required by any school.

This can be interpreted in three ways: that design has not yet found its place in the schools reviewed, that the programmes are open and not exclusive to research by design, or that any kind of inquiry in which design is the substantial constituent of the research process is referred to as research by design. At this stage, conclusions should be supported by a further inquiry into each school's proposed research methods.

## CONCLUSION

This paper stands at the beginning of a systematic PhD survey, promoted by the EAAE and thus developed at European level, which hopes to become thorough in order to identify common ground, without overlooking the diversities and specificity of each culture. The initial results arising from the questionnaire, stated in this paper, do not aim to provide definite conclusions, but hope to initiate a debate on architectural research based not on general assumptions, nor on the characteristics of a few specific PhD programmes, but on actual data collected from as many different countries and programmes as possible.

The purpose of this first paper is to disseminate these original findings in the ARCC EAAE 2018 conference in order to invite a broader group of schools and researchers into this discussion. These results can later be used, on one hand, to support a further global interconnection and research network and, on the other hand, to promote a European policy paper in support of the doctoral training in architecture, identifying good practices and strategic possibilities within a global architectural research community that is, today, united in diversity, safeguarding local culture while seeking a common ground for dialogue and change.

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