DoCS4Design

Doctoral Courses System for Design

Supporting the PhD in Design

6 Programmes in DoCS4Design

Delft University of Technology
Delft, the Netherlands

Politecnico di Milano
Milan, Italy

Imperial College
London, UK

Aalto University
Helsinki, Finland,

Carnegie Mellon University
Pittsburgh, PA, USA

Illinois Institute of Technology
Chicago, IL, USA

Over the past two decades, the PhD in Design is coming of age, and in the middle of a change process. When compared to established disciplines, design research is building on the methods of various disciplines and treading new ground. PhD programmes in different universities vary on many dimensions, and those active in those programmes are usually less familiar with what is done in other places, or how to connect there.

In the DoCS4Design project we focus on **understanding** the different ways in which six established PhD in Design programmes organise their practice, explore ways to **connecting** learners in these programmes, and to support them at **training** new competencies, such as entrepreneurship.

This folder points the way in what we found, and how you might use it.

PhD in Design Engineering
Dyson School of Design Engineering
IMPERIAL COLLEGE

Doctoral Programme of Aalto
School of Art, Design and Architecture
AALTO UNIVERSITY

Graduate School
Faculty of Industrial Design Engineering
TU DELFT

PhD in Design, Institute of Design
**ILLINOIS INSTITUTE
OF TECHNOLOGY**

PhD in Transition Design
CARNEGIE MELLON UNIVERSITY

PhD programme in Design
POLITECNICO DI MILANO

for Learners
(PhD candidates)

Many PhD candidates started their PhD with some understanding of what to expect, provided in the setting of their local institution. Often this is the only perspective given.

It helps if you understand the differences, know what (other) models for the PhD exist. This can help you select a programme, or interact with other programmes, peer candidates, and advisers. For instance when taking part in an exchange, to build your peer network, or to find connections for after the PhD.

You'll enjoy the 'Map & Glossary'; look at the 'Provocations' tool which contain opinions and insights about the careers for whic the PhD (should) prepare(s). The "Vignette' and 'Representations' tools can help you identify where you stand, or connect to peers.

for Teachers
(PhD advisers)

Many PhD advisers are familiar with the programme in which they did their own PhD and the structure and regulations at the place where they now work.
Understanding the variety of practices can help understand the place where you now work better.
And it helps you prepare for collaborations with other programmes, e.g., in EU projects; or interacting with visiting exchange candidates and participants in PhD courses you teach.

You'll enjoy the 'Map & Glossary'; look at the 'Provocations' tools (and roundtable reports) for current views on the new career paths for PhDs in Design. The 'Vignette' and 'Representations' tools can be useful tools for starting workshops.
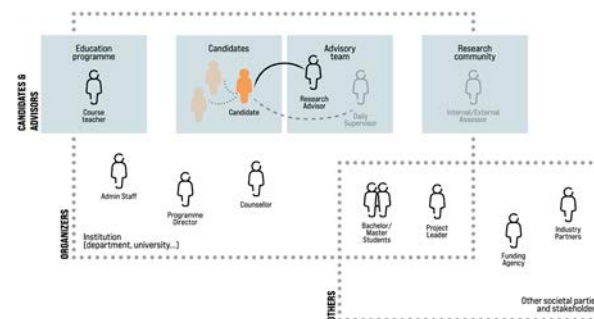

for Organisers
(PhD programmes)

Those who support graduate schools are often very familiar with the regulations that are being developed at their institution (often at the own programme, but under strict alignment with a university or national level). You may benefit from knowing the international practices from other institutions, especially if you have to deal with quality control, facilitating exchange, incorporating course credits from other organisations.
You'll probably recognize the glossary and the varieties of terms used in different places. You may benefit from comparing the regulations, and especially the support structures at the other institutions. In the project we all learned from each other's institutions, especially those who are different from ours in scale.

You'll enjoy the 'Map & Glossary'. If you organize courses, you may want to point your teachers at the 'Vignette' and 'Representations' tools.

What's in Design Research

Design research builds on traditions in various other disciplines, and is developing its own methods, sometimes in overlap with several of these.
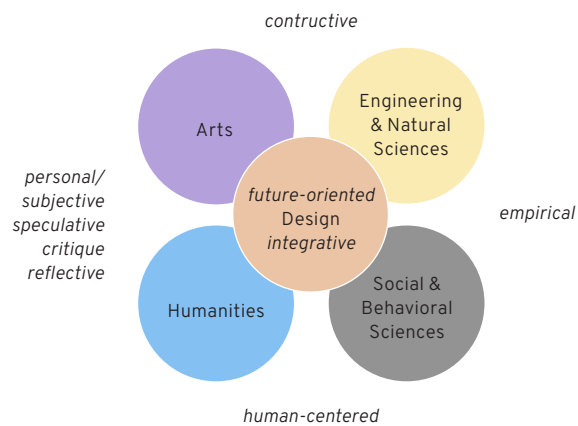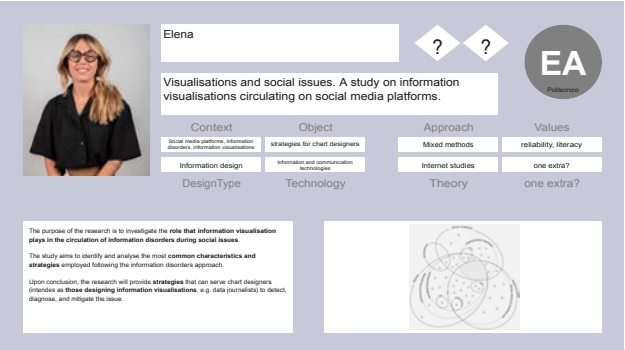

This diversity is a great basis for cross-fertilization, and creates a need for connecting within and between programmes.

See the 'Map & Glossary', the 'Representations' tool, and the Research through Design course.

What's a PhD in Design?

When compiling our glossary of terms used to describe our practices, one basic issue came back again and again: there is not a single definition of what a 'PhD in Design' is or what a 'PhD in Design' programme does. Here are four ingredients:
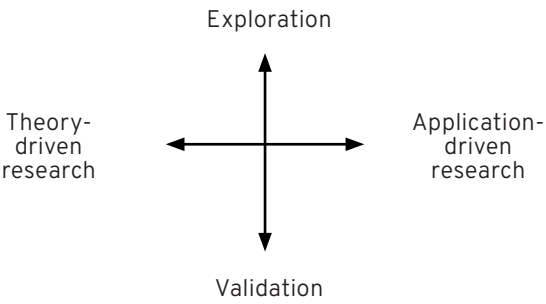
1. doing a PhD at an institution that researches and teaches design;

2. doing a PhD that extends an earlier master in design;

3. doing a PhD that raises one's design competencies;

4. doing PhD research that is about design.

Notably, only ingredient 1 held for all six of our programmes, ingedients 2-4 being present to some degree, but not everywhere and rarely required.

See pages 15-16 in the 'Map & Glossary'.

What can PhD graduates do?

In the recent past, the PhD was seen as the preparation for a career in academia. Recently it has indeed become a more regular requirement for an academic position, and currently about half of our PhD graduates continue in academia (in design or other disciplines).

But increasingly, as in other disciplines, PhD graduates continue in jobs in industry or elsewhere in society. And PhD programmes have to (1) prepare their candidates for such careers, (2) have a story toward societal parties (future employers) of the merits of the PhD in Design. For many, this is still a new perspective.

In roundtable discussions with different stakeholders, we found some 'selling points' for PhD graduates, and 'attention points' for programmes.

See the 'Provocations' tool, and reports on the round table discussions on non-profit, industry, and impact.

Vignettes help to introduce your work and find peers

Courses and events are great occasions for PhD candidates to build their network. One challenge, especially for new PhD candidates is to describe themselves and their work in terms that help finding interesting partners. The vignette tool is an 'introduction card' that can be easily filled in, and shared, either physically or online. The format is half-open, and users are invited to describe eight aspects of their work. To lower the threshold from 'correct answers' to 'inspiring discussion-starters', these aspects are explained with wordclouds of keywords from PhD theses, rather than formal definitions.

See 'Vignette' tool and the report and paper on 'theses analysis'.

Representations can help you position yourself

The research topic and method describe only part of a PhD's work and life. Placing oneself inbetween others can give a more holistic impression. The 'Representations' tool contains a number of archetypical examples of the approaches used in earlier PhD in Design projects. The tool has been used several times to kickstart a discussion about where candidate would see themselves, or where programmes feel they need to develop.

See the 'Representations' tool.

An overview of 350+ Theses

In order to get an overview of the topics, methods, and application areas that our PhD programmes cover (it is really broad), we collected 10 years of PhD theses from our institutions, and analysed the way their authors described their work through titles, abstracts, and keywords.

The analysis helped us to recognize some patterns in (past) research, and identify aspects to describe the work (which may help current and future researchers too),

The analysis is described in two reports and a paper. One spinoff is the 'Vignette' tool.

Training Events

We organized a series of training events, with some 50 PhD advisers and 150 PhD candidates participating. The trainings addressed general and new competencies for PhD in Design. These were:

- Competencies for Advising
- Competencies for Research
- Competencies for Entrepreneurship
- Competencies for Social Impact

and one extra,

- Research through Design

On the DoCS4Design.eu website we have placed training reports describing the purpose, method of the course. Some of these reports come with learning materials and references.

The Map & Glossary

A founding effort for DoCS4Design was to describe and compare the practices in our programmes. This required gathering descriptions and data, and especially harmonizing the jargon that is used at each institution.

We had already started gathering general descriptions, such as 'when did the PhD in Design start', 'how is supervision, education, and research organised', 'who goes into the programme, and what happens to those who come out'.
In part this was data collection, but quickly we found it was sensemaking. For example, the start of the PhD programme involved three dates: the start of the design education, the first PhDs, or the founding of a formal programmatic structure. Similar diversity was found in the amount, content, and structure of education, and the amount and freedom of the research component.

We compiled our insights into a brochure called 'Map & Glossary' which we shared within our programmes, and with the academic community in the DRS 2022 conference.

The Map & Glossary is a 85-page brochure which can be downloaded from DoCS4Design.eu

EU Directions

Many of us involved in PhD programmes see mainly the local policy, sometimes the national policy. It is helpful also to understand the larger-scale directions, as can be found in the EU Salzburg recommendations. These indicate existing constraints (e.g., programmes take 3 or 4 years, original research is an element) and (future) directions which are now seen at some programmes, such as:

- interdisciplinary and international experience
- preparation for a career outside academia
- formal training for advisers
  a desire for critical mass and diversity of programmes, and mobility of candidates and advisers between programmes

See page 12 in the 'Map & Glossary'.

Enterpreneurial Skills

PhD candidates in Design often develop skills and research projects that allow them to enterprise a variety of extra-academic paths in different sectors, such as industry, government, civil society, and research & education.
For the PhD in Design, we believe that an entrepreneurial approach to create professional value from the results of the PhD research in different sectors of interest could be further explored.
For this reason, we proposed a training event (C3) to support both PhD candidates and programmes in the exploration of multiple career possibilities.

The course materials of training event C3 provide useful starting materials, and can be downloaded from DoCS4Design.eu
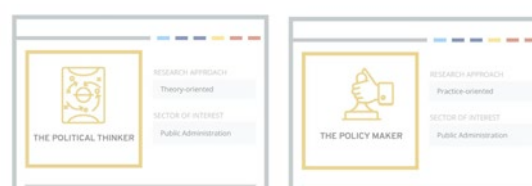
We designed a first career development model that uses the results of the PhD research as the primary driving input. In the model, PhD candidates bring their own design knowledge and individual aspirations at the interface with the external system of stakeholders to discover potential professional opportunities through the implementation of PhD research' results.
Therefore, the activity shows participants how to design and organize that interface, by focusing on the definition of mutual value exchange between candidates and potential stakeholders to enable the development of professional opportunities.
We believe that the model could be a starting point for increasing awareness in the community of the PhD in Design about the potentials of doctoral design knolwedge when enterprised. The model also invites to expand the discussion around the relevance of value relationships within a multi sectoral professional context.

The WunderLibrary

In the new networked world, there is increasing emphasis on PhD candidates to gain interdisciplinary and international experience. There is also more opportunity to make use of Open Educational Resources (OERs) that are made available outside one's own institution.

For the PhD in Design, we believe that learning paths will increasingly use varied materials selected by the PhD candidates themselves from the offers of inside and outside institutions.

To support both candidates and programmes, we envisage the WunderLibrary, a repository of learning materials where institutions can offer OERs, and candidates can compile their own collections. As the name suggests, the WunderLibrary unites the inspirational, exemplary, and instantiated qualities of a Wunderkammer (cabinet of curiosities) with the informative, organized, relational structure of a Library.

Within the project we developed a first prototype for such a WunderLibrary, and evaluated the concept and possible interaction modes with PhD candidates and academics.

The prototype is now being continued toward a usable system at Politecnico.

On the website DoCS4Design.eu we shared documentation about the development of the prototype.

One support activity for the WunderLibrary was to create a set of the PhD theses from 10 years at the six institutes. The theses came with sets of keywords, titles, and abstracts, which we analysed to see if these showed themes across our programmes.

The analyses are found in two reports and one publication. One spinoff from the keyword analysis is the 'vignette' introduction template (see there).

Related projects

A lot is happening regarding design education, and the PhD in design. DoCS4Design focused on mapping existing practices of the PhD in Design at six established schools. But there's more:

Erasmus+ projects: The project D-Doc collected an overview of 173 European doctoral programmes in design, with some descriptors. Graduate Spirit documented ways of international exchange for the PhD in the social sciences. Creator Doctus explored a '3rd level' alternative to the PhD for the arts. There have been several efforts at setting new directions for design education in general, sometimes addressing the PhD. One is the IF foundation's 'Designing Design Education' (2021) which features discussions with educators from all continents. Another is the Future of Design Education effort led by Norman, Davis, and van der Waarden, which reported in a special issue of She Ji journal (2023).

Impact of Social Design and of the PhD in Design

As design research grows, both in number researchers and the job opportunities for them in different areas, it is important that we understand the impact of our work on people and societies. We have asked graduates from design PhD programmes across our institutions to first, tell us about their career paths and how they have reached their current positions, and second, tell us what capabilities they believe are more important to achieve positive social impact in their work.

The results of this research can help students to reflect on their own capabilities and their career prospects, as well as staff to develop courses and activities that prepare students better for their future work.

Some results of this research can be found in the publication "Faint Traces of Social Impact in Design Ph.D." .

Publications

- Mattioli, F., Figoli, F.A., and Stappers, P.J. (2024) Connecting the PhD in Design: How PhDs Label Their Thesis Research, in Proceedings of Learn X Design 2023: Futures of Design Education. <Accepted for publication; to appear in January>.

- Stappers, P.J. & van Boeijen, A.G.C. (Eds.) (2022) PhD in Design - A Map & Glossary. Delft: Delft University of Technology. http://DoCS4Design.eu

- Stappers, P.J., Teixeira, C., Rampino, L., Baxter, W., Hyysalo, S., and Chapman, J. (2022) Guiding the PhD in design: Experiences from six programs, in Lockton, D., Lenzi, S., Hekkert, P., Oak, A., Sádaba, J., Lloyd, P. (eds.), DRS2022: Bilbao, 27 June - 3 July, Bilbao, Spain. https://doi.org/10.21606/drs.2022.845

- Stappers, P.J., Sleeswijk Visser, F, & van Boeijen, A. (2023) Design Labels: The words that Divide and Unite Us. Proceedings of the 15th International Conference of the European Academy of Design. Espoo, 19 October 2023. Blücher, p728-736. <invited for The Design Journal, 2024>

- Nader Sayúna, M., Hodson, E., & Gulaya, E (2023) Faint Traces of Social Impact in Design Ph.D. Proceedings of the 15th International Conference of the European Academy of Design. Espoo, 19 October 2023. Blücher, p748-758.

See website DoCS4Design.eu

Imperial College London

Carnegie Mellon University

IIT Institute of Design