

## **Doctoral Programs at the School of Design at PolyU:**

### **Tips and instructions for applicants**

Please, read this file if you consider applying to the School of Design's doctoral studies. It instructs you towards a solid application and answers typical questions coming from potential applicants. Professors maybe too busy to answer your questions; this file is meant to take some workload off from them.

November 2014, IK

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## About These Tips

This file gives some tips for people who consider applying to the School of Design's doctoral program. The reason is simple: over the last couple of years, we have received lots of applications, but accepted very few. The reason is in applications. They have been too unspecific to be understandable and evaluable. Actually, most applications are so undetailed that they would not be competitive even for applying to our MA program.

This file does not give tips about the formal process; it deals with the plan only. However, keep in mind that the plan is the most important thing.

## Research Office

Before proceeding, please read the PolyU Research Office Web site at:

<http://www.polyu.edu.hk/ro/e-prospectus/#.VGRg9N6jOhQ>

## The basic requirements for an application

Basic requirements for a competitive DA application are actually quite simple. You need a competitive research plan. Minimally, it has to do the following things:

- + present the topic of the research and its research question
- + justify why the topic is important
- + possibly, describe the main hypothesis
- + tell in detail how the problem is researched, and why the answer produces a

valid answer that the reader can trust

+ in addition, you may need to think about ethical issues, esp. when studying children, seniors, or patients

Technical parts of the plan are like in any project plan: schedule (plan for 4 full-time years), budget, etc.

Keep in mind that the difficulty lies in details. Outlining the topic is crucial, but often a few sentences are enough. Justifying the topic, on the other hand, requires lots of more work.

The plan has to show that the topic is relevant for design in general, but this is not enough. It also has to fit into the research strategy of the School of Design. If it does not, the response to your application may well be that it is interesting and valuable, but the School recommends that you apply to another university with interests that suit you better.

### **Match to the School's research strategy**

As of December 2014, the School does not have a topically defined research strategy. In practice, this means that you can suggest any topic you think is interesting to you and would be interesting to design audiences outside PolyU.

Having said this, the School encourages you to take a serious look at its Web site to make sure

+ your interests align with the School's: this guarantees interest and support at the School and makes sure you won't fall on empty

+ you have at least one possible Chief Supervisor at the School, but preferably two in case you do not get along with your first preference

+ your work finds support from the labs of the school

In the application process, we will ask you to explain these connections, and will use this information as one of the most important evaluation criteria.

In practical terms, this work means roughly this:

+ what comes to the first point, the best way is to browse through recent PhD

theses, the research students' topics, and the School's key supervisors CVs

+ more details about possible supervisors are at the end of this file

+ more information about labs is on the School's Web site at

<http://www.sd.polyu.edu.hk/en/> -> Research.

Roughly, labs focus either on the human side of design (Asian Lifestyle and Asian Ergonomics Labs), on the embodiment side of design (Digital Entertainment, Information Design, Interaction Design, and Public Design Labs), or on conceptual issues (Urban Environments Lab). One lab also focuses on design education (Creativity and Design Education Lab).

## Types of Research

Now, before you sit down to write a plan, you have to make a few decisions about how you aim to do your research. The single most important thing to understand is that there are different ways to do research and, correspondingly, no one right way to plan it. The first step is to decide what kind of research tradition is yours, and situate your work into it. For School of Design, three models are particularly relevant. The list is not exhaustive, leaving aside such things as the formal sciences.

### 1. Traditional hypothetico-deductive research

This is the most typical research format. Basically, your job is to read all relevant existing literature, find problems in it (i.e. identify your claim), develop a hypothesis that you test in your study, and devise a research design that makes it possible for you to test whether your hypothesis is right or wrong. "Hypothesis" is *your theoretical answer* to the research question; you do not know whether it is true or not before you gather data and analyze it.

This tradition comes from the natural sciences, but is the mainstream in most other field of research. Typically, the proof takes a statistical form.

If this is your choice, read methods literature from this tradition, go to library, study literature carefully to see whether it does answer your question, and only then sit down to write a hypothesis (or a series of hypotheses). After this work, you can get to methodology: how to gather data (statistically or through controlled experiments or quasi-experiments), whether you want to construct something, which method to use to analyze data (tip: post-it notes won't do, you need statistics), and what is the crucial test for your hypothesis.

## 2. Interpretive research

In particular when studying people, this is an alternative. Under various names, most research in 20thC humanities, the social sciences and philosophy is interpretive in nature. Briefly, you do not try to theorize how people behave and use obscure theoretical language to write down your hypothesis, but begin with people: their language, their terms, their behaviors, and so forth, and try to explicate data you have gathered.

Don't fool yourself. If this sounds like an easy alternative, it is not. You need to know exactly what you are doing. You need to read yourself into some interpretive tradition - like interactionism - and its methodology, write down a claim to justify your research, plan data gathering carefully and in detail, and

describe your analytic plan carefully. I have given several doctoral level classes about qualitative research, and even written books about them. Check them - or anything else - to get the basics right.

### 3. Constructive research

Under various guises - most misleading - many designers think that they need to do something "new" outside the traditional sciences. Typically, they want to construct something and integrate it into their research. Actually, there is nothing complex here. This is how most sciences proceed. What, after all, is the difference between constructing an interactive table and a vaccine, and testing it with people? Most work in engineering proceeds exactly like this.

There are all kinds of ways to conduct constructive research. Software engineers and business studies talk about constructive research; social scientists about quasi-experimental research, policy research, or action research; medical researchers about clinical research; artists about practice-based research; and so forth. The question is really what kinds of new knowledge the construction helps to gain: it is new knowledge that justifies time and effort put into construction. Also, what is important to decide is how the construct is integrated into your study: is it like a "treatment" in medical research, a "breaching experiment" like in ethnomethodological sociology; or what. Also, you need to decide how you gather data, and how you analyze it to test your hypothesis, or to create an interpretation.

At the School, a constructive approach is more than welcomed, unless you make ridiculous claims about novelty, when in fact design researchers have invented very, very little new things.

### 4. A note on artistic Research

It is also possible to work on artistic topics in the School, as long as your proposed art arguably has design implications. Support for artistic work, however, can be difficult to find, and we would encourage you to study other options before applying to PolyU. The reason is practical: we may not have supervisors who are competent to supervise your work.

## **Research plan: structure**

Research plan has several functions. At best, it informs evaluation, functions as a working plan, and convinces foundations and other funding bodies. Above all, it has to be logical: if you say something on one place, and something else in another, how can one evaluate your aims and plans?

Research plan has a few main components; I'll only describe the essentials here.

### **Two PolyU specificities**

PolyU has a template you have to use. It is on page <http://www.polyu.edu.hk/ro/forms/Rdc1a.pdf>. Its components are

- Project Title
- Project Objectives
- Scope and Background of Research
- Research Methodology
- Project Significance and Value
- Details of External Collaboration

As you see, the format forces you to explicate the context of your work, clarify your aims, and explain your methodology.

In addition, there are two more things to be considered.

First, you need to have a statement of Ethics Approval. Usually this is a formality, but if you deal with children or other fragile populations, you may need to explain how you protect these people in section Human Research Ethics. Organizing a statement may take some time.

Second, you need to have a temporary supervisor whose signature guarantees that you have a space and access to any research facilities you may need.

### **1. Introduction and literature review (normally, about 1-1,5 pages)**

Introduction typically describes the topic of the study, its objectives, and its research question. Keep in mind, research question is the main question that should ideally guide your study for 4-5 years into the future. It has to be pretty wide, but not too much so.

The same applies to objectives. Typically, the objective decomposes your question into subtasks. Even if you cannot solve famine through design, you may try to do that in one village in Laos.

Literature review is not just routine. The only way to **SHOW** that you are actually doing something new is to go through history and show that no one has answered your question yet, or has provided unsatisfactory answers. Literature review is a crucial component in any serious piece of research, and an essential part of any research.

Finally, you need a perspective for your research. Unlike in MA thesis, this has to be based on literature. Typically, it is a theory, but it can be a looser thing called framework or frame of reference. The difference is that in theory, concepts are defined in relation to each other; in frameworks, these relations are looser.

## **2. Perspective (<1 page)**

After topic and research question, perspective is the single most crucial thing in your study. It specifies how you will answer your question. Even more importantly, you get a vocabulary: accurate concepts, how to relate them, definitions for these concepts.

Selecting perspective wisely solves many problems in your research. Examples are Esko Kurvinen's ethnomethodology, Katja Battarbee's symbolic interactionism and Anna Valtonen's sociology of professions (specifically, Andrew Abbott's theory of the system of professions).

Thus, even though it may feel like reading takes lots of extra time, and learning a theory take something away from you, this is not the case. By spending a few weeks in library, talking to experts, and giving yourself time to assimilate new knowledge cuts off years from your research.

An old adage attributed a German-born social psychologist Kurt Lewin says that there is nothing as practical as a good theory. Lewin manages to establish two fields of science in his lifetime.

## **3. Data and methods (normally, <1 page)**

This section gets to the specifics of how you aim to answer your question through your research. It must show competence in methodological issues. If

you realize when reading this page that you do not know what I am talking about, you have some learning to do.

### 1. Hypothetico-deductive research

If you plan experiments or gathering quantitative data, you must describe your research design. How many experiments you plan; what are your independent, dependent, control and intervening variables; how many people you study; how you randomize them; what is your null hypothesis and also alternative hypotheses; what kinds of laboratory procedures you follow; which methods of analysis you use (typically ANOVA, ANCOVA, but usually even t-tests will do), and so forth.

In statistical studies, you need to tell where you get your data - secondary sources, or questionnaires -; what are their main sources of errors; which kind of model you aim to test (again, you need to specify independent, dependent, and so forth variables); which method you use (typically some form of regression analysis or logistical regression); sample size; sample selection; analysis of bias; etc.

If you consider doing quantitative research, please take at least three classes before writing the application. These classes are an introduction to statistics (at least a three-month class), statistical inference, and linear models.

Understanding probability, matrix algebra and calculus is a plus. Keep in mind that in statistics you can actually do mistakes.

### 2. Interpretive research

If you build on some interpretive tradition, description has to be extensive as well. You have to tell: which methods are you going to use and how (for example, participant observation for how long, where, and when); how you

control for errors and biases; how you gather and process data; how you analyze it; how you plan for validity and reliability, including generalization; and how you tackle ethical problems. You also need to tell how you plan to relate your interpretation to previous literature.

### **3. Constructive research**

When doing constructive research, this section needs to specify your construct; how you aim to embed into your research; how you gather data; analyze it; what is your "test" or criteria for deciding whether the construct actually does what you intended; etc.

What is particularly important is to decide which scientific tradition you want to follow when doing constructive work. You can experiment (hypothetico-deductive model), but can also be interpretive.

### **4. Note on Artistic Research**

If your work has a clear artistic component, please specify things you would specify in constructive research. In addition, please specify your working methods using art world terms, especially if your work is conceptual, processual, or participatory/collaborative in nature. Finally, specify the context in which your work has meaning.

Without these, our reviewers may be baffled with your work, and unable to assess it properly. This may lead to rejection regardless of the merits of your work.

### **4. Technical parts (2-3 pages)**

After data and methods, the plan typically goes to technical sections. These are

just like in any plan you have written, so I do not waste time for them, but this time you should plan for four years. Typically, this section is fairly short. It has to be realistic, though: it is important in evaluating whether the proposal is realistic and doable.

- + time for doctoral studies
- + Gantt / flowchart of research
- + possible "work packages"
- + budget
- + cooperation
- + ethical questions, etc.

In most cases, the first year ought to be reserved for reading, studies, and specifying the research proposal; the second and the third for research; and the final year for writing. In construtive studies, the second year is typically for construction and for technology, and the third for evaluation.

## 5. References (<1 page)

Finally, references (or literature) closes the plan. It must list **ONLY SOURCES USED IN THE PLAN**; there is no point in adding lists of books you aim to read. This is academic work, after all.

The idea of a research plan is to express your resaerch idea, to communicate it to outsiders, and to help you to plan it in sufficient detail. Do not use too much literature, but make sure you have read and understood the most important pieces of literature in your field of research, and have placed them into proper use.

References are important in evaluation. One of the things any evaluator with any experience does is to check through the references section to see whether

the applicant is able to think through his or her problem in relation to existing knowledge. This section is a crucial resource in evaluation, so make sure that it is in good shape.

Use some commonly used style in formatting the references. If you do not find anything else, google "Chicago Manual of Style" and get instructions for the social sciences or the humanities. A good alternative is ACM style. Do not use APA style, it is minimalistic; it is better to start with a more informative style.

### **Research plan: length**

There is no appropriate length to a good plan, but as a rule of thumb, you cannot survive the evaluation process with three pages. On the other hand, writing more than 10 pages probably means that you have written too much, and either repeat yourself, or get too much in details. Typically, plans we accept have about 5-7 pages, spacing 1, 12 pts, plus possibly images.

### **Evaluation process at the School of Design**

This page describes what happens to the application when it gets to the School of Design. The evaluation typically takes about 3-4 months.

After the School receives your application, it evaluates its merits and then decides whether you are accepted or not.

From the School's side, the most important principle in this process is expertise. The best expert available reads the application.

If the plan requires expertise from several fields, or the application is a borderline case (almost but not quite good enough to pass), it goes to two or

more evaluators. Typically, this is the case with artistic pieces of work that are evaluated by a team of one researcher and one artist (or a designer).

Typically the evaluators consist of a pair of a senior professor and a reviewer who is less experienced, but has expertise on your topic. If no expertise is available, the head of research typically concludes that the application is so far out of the School's interests that it will not be submitted to evaluation at all.

When associate dean gets the plans and evaluations back to his desk, he does several things: he reads the plans; collects evaluations; evaluates them from the School standpoint; writes feedback statements; convenes a School meeting; orchestrates interviews; and writes a recommendations to Research council.

Evaluating applications from the School standpoint means two things: does the application fit to the School's research agenda of other interests; and are there resources to support the research, or would it be better to apply to another program.

## **Evaluation schema**

Over the last couple of years, the School of Design has used the following schema to assist decision-making. As you see, it basically studies two things, contribution (point 1), and believability (points 2-4). In addition, it poses a separate question about the quality of art work submitted (essentially, portfolio). Some professors do not follow this, some do.

Additional criteria involve things like contradictory premises, contradictions in methodology, etc. These issues inevitably show up in evaluation.

### *1. Relevance*

Is the topic important. For which field of design, and how?

*2. Plan: theory*

Is theoretical background solid, and does the plan review literature enough? Is something missing?

*3. Plan: accuracy*

Is the plan accurate enough so that we can evaluate it?

*4. Plan: execution*

Is the plan realistic? Scheduling, tasks, the order of tasks, the applicant's background. (DA requires about 4 years of full-time work)

*5. Art, if applicable*

Is the artistic quality of the plan and artwork high enough? (If there is an artistic component, it has to be good!)

Typically, reviewers rank your application on these criteria from 1 to 5, five being the best value. To be accepted, an application should average around four (4).

Decision-making proceeds in two phases. If you fail in Q1, there is little hope with even the best of plans. If Q1 gets 4-5 points, then the rest ought to get an average at least 3 points. Technical problems can be fixed, if the idea is good; the other way round is far more difficult. Always keep in mind that we are tackling about doctoral work: everything is evaluated against the best

international standard. Being interesting is not enough; when you graduate, you ought to be the best in your field for a couple of years at minimum.

Over the last few years, the head of research has rejected several applications without submitting them to the evaluation process. This happens if the application is so wanting in detail that it would not have a chance of survival, or if its topic clearly has a better match with the interests of another university.

### **Comments from the School: possibly, but only once**

When writing a plan, it is always a good idea to talk to professors at the School of Design. They are there to help you, and have experience that helps you through many difficulties you can't even think about.

However, keep in mind that they are also evaluating your application. Therefore, there is a potential conflict of interest.

To manage this conflict of interest, The School has used the following policy logic. A professor can discuss with the applicant once before writing the plan begins. Also, she can read and comment the plan, **but only once**, for two reasons. Since she is a part of the evaluation process, getting more involved to the process would implicate her to the process: she cannot evaluate papers that reflect my thoughts. Also, it is not her job to write applications to a doctoral program, this job belongs to you. It is you who have to clarify thinking, not a professor.

The School is fairly small, and professors talk to each other, so do not try to shop around for comments from many professors. It may ruin your chances.

Also, keep in mind that professors may read your application and give you feedback, but this is not a promise.

## **Key tips: start early and get feedback**

The most important tip we can give to you if you consider applying is that start early enough. There is no chance of getting in if you start two weeks before the application deadline.

Reserve at least 3-4 months for the application. Start slow; talk about your plans with your former teachers for content; and show your plan to university professors outside design as well. Only feedback identifies problems in basic layout and in details.

## **Reapplying**

You can always reapply; however, when you are resubmitting, make sure you have learned from critiques you got on the first time.

However, you can count on only 1-2 resubmissions: the idea is not that you submit a bad proposal, get feedback, correct, resubmit, correct again, and so forth. The plan has to be yours, show your abilities; the university won't coach you until it finds your application good. It lurks a conflict of interest here.

## **Write your own plan**

Our School works on the premise that every research proposal that has been submitted to us is conceived, planned, and written by the applicant. For us, it represents the most important sample of the abilities of the applicant. Nothing predicts success at doctoral work better than a thoughtful, knowledgeable, and well-laid-down plan.

We know that people try to swindle occasionally, and we have certainly accepted people who clearly have not written their own research proposal. Usually, the gap between the abilities of the student and the plan is blatant almost immediately.

Sanctions vary. Naturally, if we learn later that this has been the case, we will discard the student. In cases of doubt, we simply stop helping the student. There is no point in wasting time on students who will not succeed, and even less on students who cut the corners and will use our basic premise to their advantage. If the student is salaried, this is a serious offense, and will lead to cutting the salary off. Even harsher legal actions are possible, if the student has thus stolen a place from a more talented competitor.

## **Funding and tuition fees**

Funding is one thing the School will ask you in an interview; being a student is free, but Hong Kong is an expensive town to live in.

Information about tuition fee is on this page:

[http://www.polyu.edu.hk/ro/newROFAQ\\_adm.html#q7](http://www.polyu.edu.hk/ro/newROFAQ_adm.html#q7)

You are encouraged to apply for Hong Kong PhD fellowships and funds from foundations.

## **Full-time and part-time studies**

One thing you need to indicate is whether you want to be full-time or part-time student.

## Typical reasons for rejections

### 1. Problems in plans

#### a. "Expression of interest" is not a research plan

Over the last few years, a good deal of applications have been what I call "expressions of interest" rather than proper research plans. By this I mean that they are more like applications artists write for foundations to get their art work funded rather than serious analytic work. Since most professors at the School are nice people, they typically say that these plans are interesting, and raise interesting and sometimes even important issues, but the plan is too unspecific to be taken seriously - and give you failed, sometimes encouraging you to reapply.

#### b. The question is too wide or ambiguous

It is difficult to write a good research question. It has to be specific to be understandable, and to guide your thinking, but simultaneously, it has to be "large" enough to raise your level of ambition to a level required in doctoral work - essentially four years of work. One of the problems in design is that people try to solve too large problems. As a rule, you should not try to work on one concept, but to outline a question that works in the intersection of a few concepts (in Boolean terms, AND operator with 2-4 concepts).

### **c. Lack of theory/perspective**

This is the worst problem. Without a perspective even a good researcher only has lay imagination to rely on. Saying anything intelligent without a conceptual frame is hard.

### **d. Lack of specificity**

Even if the topic is interesting and relevant, we cannot evaluate whether your plan is realistic and believable, unless you tell exactly: what literature you build on, which you criticize; what is your methodology; details of methods (get specific: who are you going to interview and how you process your data; how many experiments you plan to conduct; how your exhibitions relate to each other, and how they contribute to your research problem; etc.). These details always change when you do your research, but if you ask us to trust you, you're on shifting sands. Research world is all about skepticism, not faith.

### **e. Contradictory premises and methodologies**

Doing serious research requires that you learn from countless predecessors. Do not try too much. Perhaps the most crucial problem is methodological: combining hypothetico-deductive and interpretive research styles is basically impossible, unless you know your history of science really well.

### **f. Overblown claims**

We have had people who want to take two classes of philosophy at PolyU and then contribute to philosophy. There is no way to succeed in this effort, unless you have a MA or M.Sc. in philosophy. Or, you cannot solve overpopulation through design.

### **g. Trying too much**

One sure way to spoil a plan is to promise too much. Do not try to make a philosophical, theoretical and design statement in the same thesis, and work your way through your problem with qualitative, quantitative, and formal methods simultaneously when you try to make them - using Nigel Cross's horrible word "designerly." You fail. No one can know everything. This is not a place to show off with your reading (and if you are a design student, you are not probably very well educated in sciences anyway).

### **h. Mistaking practical problems for theoretical ones**

One problem is that research questions are often interesting on practical rather than research terms. Practical problems are for the government and engineers, not for researchers to solve.

## **2. Mismatch with the School's interests**

Even if the plan is fine, it may be turned down if it does not match with the School's research interests. The reason this match gets a lot of weight in making decisions is this guarantees that the School can actually support your research.

## **3. Wanting supervisory resources**

Even if your plan might pass the previous hurdles – that is, it is solid and has a decent match with the School's strategy – it may be turned down because the School cannot find you a supervisor.

Its professors have a heavy workload, and its senior professors in particular usually supervise five to eight doctoral students.

## Expressing a preference for supervisor and co-supervisors

In applying, you are asked to suggest supervisor and co-supervisor(s). The School's current policy is the following.

### 1. Chief supervisor

*Chief supervisor* is the key person in your application. The supervisor's job is to help you in your work. As a rule, the supervisor must be the best available expert in the community, given your topic. Typically, they are senior people with lots of experience in examining PhD theses and in supervising them.

As a rule, the chief supervisor must have supervised at least one PhD thesis until completion. Currently, there are about 10 possible supervisors in the PolyU community. Supervisors are typically old hands who keep distance to your work to be able to have a wide perspective on its direction, progress, and significance. If your topic fits their profile they can take a more active role, however.

### 2. Co-supervisor(s)

*Co-supervisor* is typically a younger academic, either from the School, or from other departments. Ideally, co-supervisors are technical experts in your topic, and they are active researchers. Currently, there are about 30 possible supervisors in the PolyU community. Also, co-supervisors have to be accessible. The School does not encourage having co-supervisors from the other end of the world; select someone you can talk to on a regular basis.

As a principle, co-supervisors should have a PhD, or merits equivalent to PhD (please note that it is the School's job to decide whether these merits qualify: this is not your decision).