

Some Thoughts on Obtaining a PhD

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Some Thoughts on Obtaining a PhD

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In this short paper, we share our thoughts with respect to the process of obtaining a PhD degree in the Faculty of Engineering at the Katholieke Universiteit Leuven. We focus on what we believe to be the requirements of a PhD candidate, after which we give some reflections on the hassles in the doctoral training programme every graduate student is expected to participate in.

I. PRELIMINARIES

- This note was written in the pluralis majestatis for aesthetic purposes, furthermore, we use the words '*must*' and '*should*' liberally and interchangeably, but a negative connotation is never implied.
- The **vision** set forth in this note, is mainly based on the process of obtaining a doctoral degree in the Faculty of Engineering (Katholieke Universiteit Leuven). Other faculties focus on other aspects, putting more or less emphasis on some of the points touched upon in our train of thought.

"Be passionate about your scientific field, feel driven by your research."

II. REQUIREMENTS OF A PHD CANDIDATE

PhD candidates are those among the few people in the world who can do research at any time. They can pursue own interests, noble causes, ... all in the name of research. But, at the same time, this great **freedom** also implies a **sense of responsibility** which we think is a **necessary** ingredient !

Consider the following implicit minimal requirements ('*implicit*' meaning that a mature PhD candidate will take the following points for granted); a PhD candidate:

- must be **aware of the structure** in which he/she is expected to work/operate; here we are talking on the level of the research group, the department, and to a lesser extent the university's structure (more specifically about financial possibilities/opportunities for funding, et cetera), be **concerned** with his/her working environment.
- must, to a high degree, be **able to work independently**.
⇒ Additionally, a PhD candidate should not be

afraid of talking to other people, in fact, he/she should consult others if necessary (*note here that one of the roles for the promotor is to point out possible persons*).

- closely related to the previous point, a PhD candidate must **construct a research network** in which he/she actively creates and manages contacts at several levels (e.g., locally within the research group, globally with fellow researchers in other departments, and even at conferences et cetera).
⇒ Conferences are mainly intended as a means to develop and sustain your network.
- must be able to coordinate a project, i.e., **have organisational skills** (with initial guidance if needed), and **have a (broad) sense of responsibility**, taking initiatives, et cetera. Behaving in a **professional** way is mandatory when interacting with other people.
- must be **enthusiastic about his/her research**, and **have ambition** (the optimal situation is when the candidate 'lives' by his research, thinks about it at the most odd occasions, is absorbed by the scientific field... but is still able to draw a line!).
- must be **interdisciplinary minded** (i.e., being interested in all kinds of knowledge, not only those within the own field of research), in contrast to this, a PhD candidate should be able to fluently handle the large doses of incoming information by selecting the relevant parts.
⇒ This implies that a PhD candidate is supposed to be extremely curious: **he/she is like a sponge**, absorbing as much knowledge as possible. In this respect, a PhD candidate should strive for an almost encyclopaedial knowledge of literature.

Furthermore, we believe a PhD candidate:

- should **have a critical attitude** towards science, research, and triviality,
- should **have a global world view**, and his/her position in it,
- should **be creative** about his/her research,

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- should **adopt his/her own research style**, create a personal profile, have a unique character (as opposed to the default grey mass in which most PhD candidates seem to dissolve).

Note that independence comes in at least two degrees: taking initiatives, coming (1) from the promotor and (2) from oneself. Furthermore, we acknowledge the fact that there are different kinds of doctoral students, with respect to being able to work independently. In the case where the PhD candidate needs guidance, this should be initially provided by (1); the promotor is not obliged to guide the candidate in persona, but should at least be obliged to **provide** the means for guidance.

With respect to this last item, we partially agree with the K.U.Leuven's '*Profile of a good promotor*'[1]: a promotor can only guide a limited number of doctoral students; if this number increases, this requires other means of guidance (e.g., post-doctoral researchers). The exception we make, is when the PhD candidates are able to function **truly independently**. But do note that in any other case, the primary role of the promotor is to 'take care' of the PhD candidate, such that in the end, the same results are achieved as if the candidate was working independently.

Universities are not large scale PhD factories; instead, PhD's craft themselves to a certain degree, with a careful eye for detail.

To end, we would like to draw some attention to the following question:

"What is the initial motivation for starting as a PhD candidate ?"

We believe each individual should think about this question at one time or another, and be able to give a definite answer for him/herself. Doing a PhD is certainly not a 'nine to five job', as it entails a whole philosophy in a certain sense. Obtaining the PhD degree is a daunting task, in which the candidate learns to plan over a course of three to six years, getting more mature in the process.

III. ABOUT THE DOCTORAL TRAINING PROGRAMME (DOCOP)

(note: *DOCOP* means '*DOctoraatsOpleiding*' in Dutch)

Consider the original intent of the regulations:

1. "*The first goal of the DOCOP regulation is to broaden the knowledge of the PhD candidate and to immerse him/her in the field of research.*"
2. "*As a secondary goal of the regulations, they allow the process of obtaining the doctoral degree more efficiently by providing better guidance and tracking abilities.*"

3. "*The regulations also aspire to play a supportive role, in that they want to prepare the PhD candidate for his/her later professional functioning.*"
4. "*They furthermore stimulate the research dynamics and contribute to a doctoral culture.*"

Putting these intentions into practice, the doctoral training consists of the following requirements that reflect the expectations towards a '*good PhD candidate*':

- publications at an international level,
- giving and following of doctoral seminars,
- actively participating to international congresses,
- and reporting on the doctoral research on a regular base.

In contrast to this, we claim that:

- this regulation should, in principle, be **redundant**, because a '*good*' PhD candidate:
 - will spontaneously follow courses, go to conferences, publish in journals, et cetera, when it's interesting to him/her, it should not necessarily be directly related to the field of research (although it can sometimes be preferred),
 - should not be obliged to take doctoral exams (except of course the thesis defence).
 - ⇒ This means that the famous requirement of 'following a doctoral course with evaluation' is dismissed on the grounds that when a course (or part of it) is interesting to the researcher, he/she will already try to master it, *without* the need for an evaluation. There are many more courses, and the fact that the DOCOP rules stipulate that only one course is necessary, also reflects the artificial sounding to this rule.
- the DOCOP rules **don't** guarantee the fulfillment of the second intent: guidance is not provided at all, tracking the research progress is done in a way that is too artificial (grading),

Note that our claims are based on the preposition that many things that are *stipulated* in the original DOCOP regulation, are in fact expected to be *automatically satisfied* by the PhD candidate. This means that we ask the following central question:

"Should a PhD candidate be enforced to obtain these goals ?"

We say **no**, because in our opinion, the other PhD candidates are 'unworthy' to obtain their doctoral degree. **In order to receive the PhD title, one has to earn it.** This last remarks clearly goes beyond

the requirement of a thesis with an accompanying dissertation. From our point of view, we believe this is the original motivation from which the DOCOP regulation took root. However, the current regulation has a pertinent fixation on the grading system, and not as much appreciation of the qualitative content.

Addendum:

Other universities base their doctoral training requirements on more or less the same philosophies:

- “*To deepen the PhD candidate’s knowledge of the discipline and scientific field and to broaden his/her knowledge outside this discipline.”*
— Universiteit Antwerpen
- “*To deepen and broaden the PhD candidate’s knowledge and skills.”*
— Universiteit Gent
- “*To stimulate a high research quality, and to provide a increased level of support for PhD candidates.”*
— Vrije Universiteit Brussel
- “*To provide profound, systematic, and functional guidance for PhD candidates, to provide a thorough education in all aspects of the research methodology, to learn to work independently.”*
— Universiteit Hasselt

Note that at the Universiteit Gent, following the doctoral training is *advised*, but *not made obligatory*. And at

the Vrije Universiteit Brussel, they internally challenged the use of the doctoral training programme, changing it from a mere administrative task of obtaining points, to a more dedicated guidance of PhD candidates (by means of peer support, knowledge management, . . .).

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[1] See <http://www.kuleuven.ac.be/doctoreren/profiel.htm> for more information.