

Doctoral education as catalyst for personal development in the third phase

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Twente Graduate School

The Twente Graduate School was established 2009 and currently consists of 19 doctoral programmes in 6 clusters. In 2011 a start was made to formulate a new PhD policy that will apply to all doctoral candidates from 01-01-2014 (employed researchers, bursary and self-financed candidates, and external candidates). Amongst others a PhD Charter was formulated describing the rights and obligations of both doctoral candidates and their supervisors. The existing Doctoral Regulations only covered the period from the acceptance of the manuscript to the oral defence. The Doctoral Regulations were adapted to include reference to the PhD Charter and its obligations. Finally, a doctoral monitoring system was designed (ProDoc) where the major milestones of the PhD trajectory will be documented (see next paragraph and Figure 1). The ProDoc system, based on PeopleXS software, is operational from 01-01-2014 for all PhD candidates. ProDoc gives reminders for upcoming evaluation moments, in first instance to the candidate (who is in charge of his/her own process), only when tasks are (almost) overdue the senior supervisor is warned.

Major milestones in ProDoc

- ✓ The Training and Supervision Plan (T&SP) to be submitted within 3 months containing :
 - the named supervisors and daily supervisors, and arrangements for supervision,
 - an educational programme of in principle 30 EC, with about equal parts in broadening and deepening courses.
- ✓ A Qualifier exam after 6-9 months (with a 3 months option for improvement) and first annual appraisal.
- ✓ Subsequent annual appraisals for the second and third year.
- ✓ The Graduation protocol.

Some background

Cook-Greuter (2004) formulated a Leadership Development Framework comprising lateral and vertical growth, also known as Maturity Model or (Staged) Growth Model (Figure 2). Learning in the doctoral phase should not only aim to expand the skills of the candidate in the horizontal direction, but primarily in the vertical dimension, implying that at the end the candidate can function independently on a higher, more complex level. This is also expressed in the Twente PhD-profile (see handout), the end-terms of the doctoral phase in the PhD Charter, that was based on international criteria such as the Dublin Descriptors, Salzburg declaration and the joint statement of the UK Grad Programme of the UK Research council.

Both PhD candidate and supervisory team should be aware of the need for both lateral and vertical growth, and avoid the pitfall to do "more of the same" without switching to a higher level. Even though it may be comfortable for both sides (more work is done, less barriers to be broken) it will not be effective. However it also involves more risks to give freedom to the PhD candidate. This demands also for excellence in supervision, in particular support for young staff on tenure track in PhD supervision (an initiative presently supported by the 'young academy' -JA@UT-). The variables risk and freedom are essential in doctoral projects, but are difficult to express in a monitoring system.

On the other hand, the steep growth in doctoral candidates that started in the second half of last century puts limits of what can be achieved in the traditional 1:1 supervisor-apprentice relation. Sharing supervision with other qualified scientific staff (PhD holders) is a way out, but ultimately the senior supervisor remains responsible. Furthermore disciplinary research is ever more specialized, while at the same time scientists try to bridge gaps in multidisciplinary research. In order to accommodate not only the lateral,

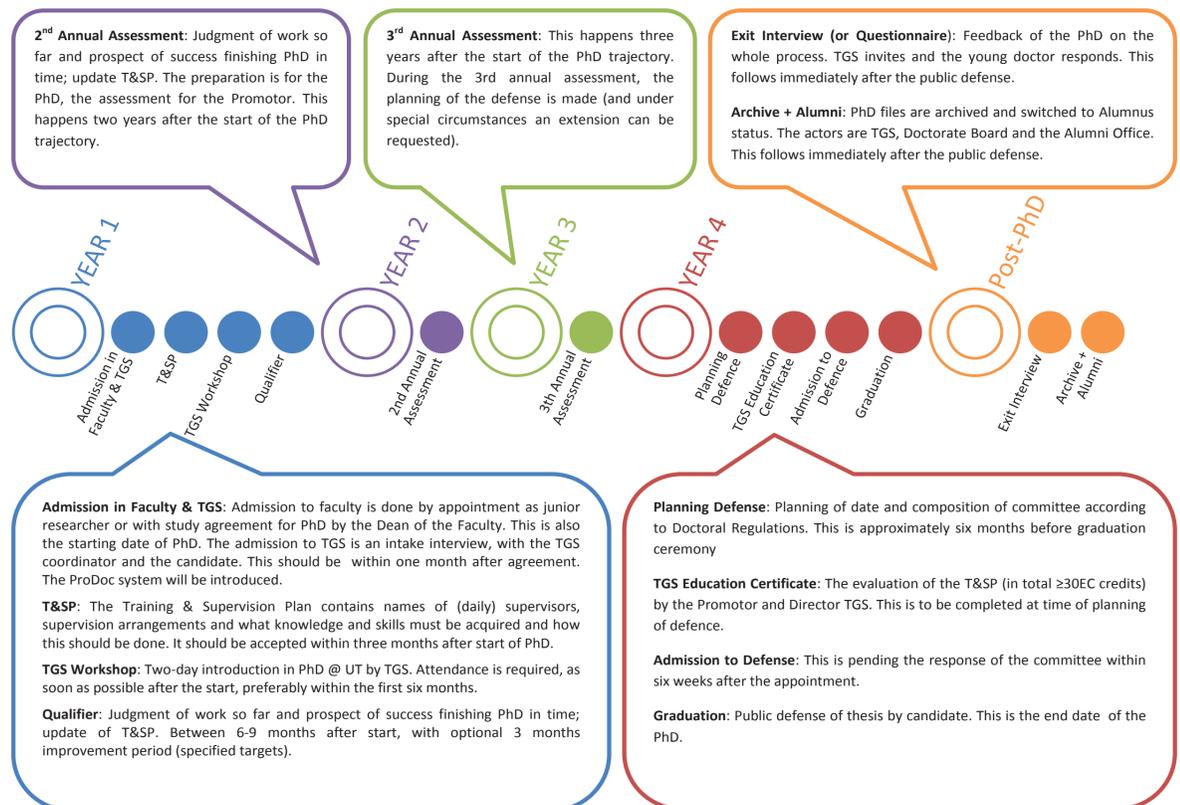


Figure 1: Schematic view of doctoral phase at the University of Twente

but also the vertical growth (Figure 2) of PhD candidates is required. In order to be effective it is essential that these activities are part of a personal development plan of the graduate student, drafted and reviewed/adjusted by the candidate and his/her supervisor. The end product of a PhD trajectory is not a dissertation in itself, but a person (with the thesis and it's publications as the prime proof of level). Learning should not only be in a discipline, but include skills to become a researcher capable of designing and executing innovative research lines, and work on the interface of disciplines with an open mindset. Therefore both broadening and deepening ("T-shaped skills") should be included, both formal and informal learning, on the job training and self-study can be included. The demand for transferrable skills in doctoral education is also stimulated by employers outside academia, where an increasing number of graduates (up to 80%) is employed (Kehm and Alesi, 2011).

Implementation

The ProDoc doctoral monitoring system as highlighted above (see Figure 1) is not implemented as a checklist or universal set of obligatory courses. The supervisor and the candidate should remain in charge of the development. They discuss and identify the most relevant fields of personal and disciplinary development, and draft a T&SP at the start of the PhD trajectory that is (at least) annually revised and updated to take account of the completed items and newly discovered gaps. EC's (in principle 30) can be acquired with formal learning, both in-house as well as outside courses on offer (incl. workshops and summer schools organised by other universities, research schools and scientific societies), including informal learning, on the job training, or a combination with formal methods.

The agreements in the T&SP, and updates thereof, as well as the assessments at the qualifier and subsequent annual appraisals are put on record in ProDoc as track-record of the progress and in order to be able to make transparent decisions on the continuation of the PhD trajectory. At the heart of the process should be the building of confidence and mutual commitment between supervisors and PhD candidate. Flexibility is also a keyword for mid- or end-career (external) PhD candidates who will have acquired a

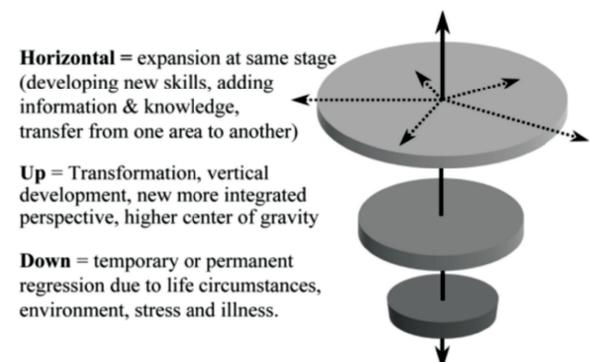


Figure 2: Lateral or horizontal growth and vertical transformation

level of personal development that allows for exemptions. The system maintains confidentiality of the candidate-supervisor relationship, while at the same time enabling quality assurance during reviews, as well as the extraction of management information.

Conclusion

The 3rd academic cycle or doctoral phase is not only about doing research and writing a thesis, but rather about personal development of the PhD candidate as an adaptive, innovative, creative, smart and competent researcher who can perform well both within and outside academia. The PhD thesis, (judged by an international review committee, and usually containing a number of ISI publications) remains the proof of the fact that the PhD has met the end qualifications of the 3rd phase.



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