Welten Institute PhD Guide

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Open University of the Netherlands
Faculty of Psychology and Educational Sciences
Welten Institute. Research centre for learning, teaching and technology.
Secretariat
P.O. Box 2960
6401 DL Heerlen
The Netherlands
☏ +31 45 5762915
+31 45 5762800

@ http://www.ou.nl/web/welten-institute

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1. Introduction

Working on a PhD, and thus being a PhD candidate, is very different from being a student or most other jobs at the university. The PhD-candidacy is a comprehensive four-year exercise on one single topic in collaboration and co-operation with different people and groups. The candidate is not a full-fledged staff member or researcher in that s/he still has a lot to learn, but this same candidate is also not a student who “undergoes” courses and examinations. Although s/he has to follow several courses, there are no formal examinations for these courses; only a great big examination at the end of the PhD trajectory when the thesis is presented for approval to a committee and followed by a public defence. A PhD candidate is expected to show a good amount of independence, and s/he has to demonstrate that s/he is able to devise and perform research activities in an appropriate way.

Since a PhD candidate holds a special position at the University, the *Research centre for learning, teaching and technology* (Welten Institute) of the Open University of the Netherlands (OU) has produced this PhD guide for present and future PhD candidates. It is written for those who recently started working as a PhD candidate at Welten Institute and for those who want to apply for a PhD candidate position at Welten Institute. Furthermore this guide may also be useful for external PhD candidates seeking to get their PhD from Welten Institute. These candidates are not Welten Institute employees but are supervised by a Welten Institute staff member (*promotor*). As the guide provides a comprehensive overview of rules, regulations, policies and pieces of well-intended advice for PhD candidates, their (daily) supervisors may also find it useful as a reference work

This PhD guide also offers information about Welten Institute and the OU, but it mainly focuses on the issues that PhD candidates encounter during their research trajectory.

Lots of luck!!

2. For whom this PhD Guide?

This PhD guide is intended for individuals who seek to apply for a PhD candidate position at the *Research centre for learning, teaching and technology* (Welten Institute) or have recently started as a PhD candidate. Note that while it focuses on regular, Open University of the Netherlands employed PhD candidates it is also useful for external PhD candidates seeking to get their PhD from Welten Institute. These candidates are not Welten Institute employees but are supervised by a Welten Institute staff member (*promotor*). As the guide provides a comprehensive overview of rules, regulations, policies and pieces of well-intended advice for PhD candidates, their (daily) supervisors may also find it useful as a reference work.

Most of those applying for or beginning on their PhD thesis work are 'only' used to 'being a student'. Working on a PhD, and thus being a PhD candidate is very different from this. The PhD-candidacy is a comprehensive four-year exercise on a single topic in collaboration and co-operation with different people and groups. The candidate is not a full-fledged staff member or researcher in that s/he still has a lot to learn. But this same candidate is also not a student. There are very few 'real' courses to be followed, there are no examinations, PhD candidates are expected to show a good amount of independence, and have to demonstrate to be able to devise and perform research activities in an appropriate way.

Since a PhD candidate holds a special position at the University, the Welten Institute has produced this guide for future and present PhD candidates. It offers information about Welten Institute, the Faculty of Psychology and Educational Sciences and the OU, but its main focus is on the issues PhD candidates will encounter during their research trajectory.

PhD candidates at Welten Institute generally have a four-year, full-time appointment, in which they primarily do the research necessary for completing their doctoral thesis. An often employed alternative variant is a five-year, 80% appointment. The word "primarily" means that maximally 20% of the work time (0.2 fte[1] for the four-year variant, 0.16 fte for those in the five-year variant) is spent on other Welten Institute activities and usually as junior instructor within the Master of Educational Sciences at the Faculty of Psychology and Educational Sciences.

The thesis is written in English and consists of a number of published or submitted journal articles (usually three or four) along with a theoretical framework as begin and a synthesis across the research as a conclusion/discussion. The usual format is:

- an introduction (i.e., why this research and a description of the structure of the thesis)
- a theoretical framework (often a published journal article)
- between two and three further studies (published, accepted or submitted journal articles)
- a concluding chapter (synthesis and evaluation of the work done), and
- a summary in both English and Dutch.

This set-up implies that the process of writing the dissertation starts very early in the PhD period. In principle, each year of your four year stint as PhD candidate you should publish one journal article. If your PhD project has an experimental nature, the articles that form the core of the dissertation describe the results of the experiments carried out. If it has a development character, these chapters describe the software developed, and the pilots, tests or simulations carried out with it; some of these tests resemble experiments.

However, there is more to being a PhD candidate at Welten Institute than writing a dissertation. Getting your PhD also involves taking courses, participating in other Welten Institute projects, and – last but not least – participating in a research community, not only at Welten Institute, but also on a national and international level in the form of workgroups, conferences, et cetera.

[1] Full time equivalent

3. The Organisation

3.1 The Open University of the Netherlands

The Open University of the Netherlands (OU) offers open, higher, distance education at both a Bachelor and Master degree level. It is divided into three faculties and two departments: Faculty of Humanities and Law, Faculty of Management, Science and Technology, Faculty of Psychology and Educational Sciences, Department of Support Services and the University Office. The central office is located in Heerlen, and there is a network of regional Study Centres in various parts of the country as well as in Belgium and in the Dutch Antilles, where students can obtain information about OU courses, make use of OU facilities and take examinations.

The OU provides *open* higher education because it is open to anyone aged 18 or over, regardless of prior education. This education is realised by using both the Internet along with an electronic learning environment in addition to other learning materials that students receive at home or can consult in the Study Centres: textbooks, workbooks, audio and video materials, CD-ROM, DVD. Each student has his or her own digital 'workspace' in the electronic environment and most courses have discussion groups that can be accessed via this environment. Most of the instruction is based on the principle of guided independent study, most study materials are 'self-instructing' to enable students to study without help from a teacher or mentor. If necessary, though, students can contact a mentor via telephone or e-mail. Exams are taken at the Study Centres (which is where occasional face-to-face meetings are held as well). Students can enrol either for full-length degree programmes or for separate courses. Students can combine their course credits to obtain a diploma or degree if they so choose.

The mission of the OU consists not only of 1) offering students an alternative form of higher education, but also of 2) encouraging and supporting innovation in higher education, and 3) contributing to the reduction of the shortage of teachers in primary and secondary education. The expertise required for innovating higher education is channelled through Welten Institute.

A good overview of the organisation including its mission, facts and figures, study methods, and objectives can be found in the brochure 'We've got to be open'.

3.2 The Faculty of Psychology and Educational Sciences

The Faculty of Psychology and Educational Sciences unites the teaching and research of two departments of the Open University of the Netherlands. It has about 7000 students in a Bachelor of Science programme in psychology, and two Master of Science programmes in psychology, and in educational sciences. It also has many "incidental" participants of their individual courses, ranging from educational science to clinical psychology. The faculty has two successful research programmes, one in psychology (*The Interaction between Implicit and Explicit Strategies for Behaviour*) and one in the Welten Institute. Both have PhD programmes associated with the research programmes. It employs some 200 fte, the majority of which are scientific staff associated with the psychology department or with the Welten Institute.

3.3 Welten Institute

The Welten Institute is a research centre of expertise with one research program in which there are three areas of interest clustered around one central focus: *Learning and teaching in technology enhanced environments*. The three areas of interest are:

- Fostering Effective, Efficient and Enjoyable Learning (FEEEL): focus is on the cognitive, affective and social characteristics of learners and their interaction with the learning environment (i.e., learning materials, other learners, teachers / instructors / tutors, tools for supporting and guiding learning) which guide and influence pedagogy, learning behaviour, and the strategies employed for effective, efficient and enjoyable learning.
- Technology enhanced learning environments for teaching and learning (TELE): the innovations in technologies in general and educational technologies in particular which influence and lead to changes in the practice of teaching/instruction and learning.
- Teaching and teacher professionalisation (T2P): the equipping of the student, teacher and educational organisation to deal with changing cognitive, motivational, and physical changes specifically relating to changes in the interactions amongst them (e.g., networks of learners, teacher networks, teacher professionalisation).

Welten Institute employs more than fifty fte professionals – scientific staff (full, associate, and assistant professors), employed PhD candidates, and research assistants - from nearly 20 different countries. It collaborates actively with scores of different professionals at universities and schools, at commercial, non-commercial and mixed companies and in governmental and private agencies around the world.

The management of the Welten Institute consist of a chair of the institute and three program leaders responsible of three areas of interest.

Welten Institute works in a project-based manner, which also holds for PhD activities. PhD projects will have a typical duration of four years. After the first year a formal evaluation takes place, which results in a go/no-go decision for the rest of the PhD trajectory (see under 'progress: first-year evaluation and subsequent yearly evaluations'). This schedule and the examples in this guide are based upon a full time appointment (1 fte).

Assigned time for an internal PhD project will be 4 days a week (80% of the full time appointment) while an external PhD candidate will generally work two days a week (minimum) on her/his research, often combining it with her/his regular paid work. Internal PhD candidates work their 'fifth day' (or for a part-time appointment, 20% of their time) on other non-research tasks within Welten Institute assigned to them by the management, for instance in the master Educational Sciences. Generally speaking, Welten Institute has its PhDs work in the Master of Educational Sciences so that they acquire teaching experience. During this period they also take part in a BKO training programme so that they can acquire

a Basic Qualification for Instruction when they end their PhD tenure. Alternatively, they may take part in project related work so that they can experience other facets of scientific work such as project acquisition and management.

All time spent in externally funded projects is logged systematically using the OU's OUpas system. This is a matter of importance as it allows Welten Institute to bill hours spent in these projects from that project's funds.

The research programme and its three areas of interest will now be discussed in some detail. For the latest information on them, as well as the organisation and management of Welten Institute (see http://www.ou.nl/web/welten-institute).

3.3.1 Learning and Teaching in Technology Enhanced Research Environments

The aim of this research program is to create a framework while at the same time set the boundaries for the research that will be carried out as part of the WI research programme. In other words, the goal is to help both determine which research projects / project topics do or do not fit within the programme as well as form the basis for determining what the boundary conditions are that the programme might cross towards in the period covered by this programme. The whole of the research projects within the WI-programme are meant to be coherent, build on a common set of related theoretical assumptions, and fit into areas of interest that are clearly interconnected. Such a coherent research programme makes it easier to produce and provide valuable output for both the practical field of education in the Netherlands, Europe and the rest of the world (via practical guidelines, tools, publications in professional journals, online master classes and an interactive web presence) and the national and international scientific community (via publications in high-quality SSCI journals, presentations at top-ranked conferences, invited keynotes, webinars within the OUNL and other educational programmes in the educational and learning sciences). This way, the program should also help to bridge the gap between educational research and educational practice. This will be established by the integration of perspectives to research complex, practice-relevant issues in the ecology of education. The research should deliver ecologically valid and high-quality results through an integrated approach to issues which draws upon theories of learning and cognition, technology, new media, networking, and the behaviour of teachers. The objective is improving the quality of education, improving the professionalism of teachers, and the growth of knowledge and expertise in education science and education technology.

Learning in effective, efficient and enjoyable environments
This area of interest focusses on learners in interaction with a learning environment (i.e., materials, teachers, tools) which guide and influence pedagogy, learning/teaching behaviour, and the strategies employed for effective, efficient and enjoyable learning and teaching. The premise underlying this area of interest is that in order to design, develop and implement innovative teaching and learning in technology-enriched educational environments we must understand how the learner learns. It scope entails research, design, development and implementation of evidence-informed learning situations/opportunities that support effective, efficient and enjoyable learning. To this end, the results of the research in this area of interest (i.e., practical and implementable theories, principles, guidelines, methods, models, instruments and technologies) will facilitate individual learners and groups of learners ranging from peers to collaborative teams to whole classes to MOOCs to acquire domain-specific skills, knowledge, and attitudes, and second order skills to transfer those skills to a variety of settings and to plan, regulate and maintain their own further learning. This is realised by uncovering the cognitive processes, the

behavioural determinants and the psychological determinants underlying learning and using the resulting knowledge to investigate guidelines to inform the design of effective, efficient and enjoyable learning environments. Projects may focus on the following themes:

1. Uncovering cognitive processes, behavioural determinants and psychological determinants for acquiring of domain-specific skills, knowledge and attitudes or second-order skills.
2. Design of effective, efficient and enjoyable technology enriched learning environments for acquiring of domain-specific skills, knowledge and attitudes or second-order skills.

Technology enhanced learning environments for teaching and learning
This area of interest offers a rich blend of research combined in a focus that address technology related aspects of learning design and practice. It seeks to combine research and expertise that has a strong technology agenda with a deep understanding of social learning practices. In order to advance both perspectives research in this group is multidisciplinary and collaborative by nature with a concentration on the following strands:

- New Learning Experiences: New technologies enable qualitative new forms of interaction and communication. This strand looks into the potential of new forms of interaction and their potential for human learning.
- Learning Analytics and Open Data: The main objective of this strand is to unveil so far hidden information out of the educational data to gain new insights and prepare those for the different educational stakeholders (learners, teachers, parents, and managers).
- Mobile and Seamless Learning: Technology Enhanced Learning more and more supports learning anywhere, anytime, and with any device. This strand aims at bridging gaps and connecting different learning situations and contexts.
- Social Media and Networks: Research in this strand focuses on the use of social media for teaching and learning. It addresses ways in which social media affords social learning and networking and how use of social media blends formal and informal learning practices.
- Open practices and networked learning: This strand addresses learning and professional development through participation in networks and communities.

Teaching and teacher professionalisation
Teachers are crucial not only to the quality of the education; they are also the people who, in effect, are responsible for the success or failure of the educational innovations. The central issue for this research focus is how to support teachers and other education professionals (like school leaders and distance-learning developers) in their professional activities.
There are innumerable ways to approach the issues in the field. One approach may involve strengthening both formal and informal learning practices, and ICT can certainly play a role in this. What makes teacher professionalization effective? More and more educational professionals are becoming involved due to the nature of these issues, and this area is developing a strong focus on demand-drive research and implementation in practice, also known as 'co-creation'. Co-creation is taking place not only in classic educational settings, but also in educational environments such as distance or workplace learning. Central issues include:

- The professional development of teachers is a persistent problem, and motivational issues are frequently a part of the problem. What are the various motivation profiles available and how can we improve problematic motivation orientations?

- There are also serious concerns around building teacher expertise. What are the key processes to developing expertise at different career stages? How do differences in expertise manifest themselves?
- At many schools, knowledge exchange as the driver of professionalization is problematic. How can social learning and, for example, the growth of learning networks and the distribution of leadership be enhanced?
- Formal and non-formal learning activities and professional development tracks are often disconnected. Joining the Dutch national teacher registry is purely a formality, and many question whether this contributes in any meaningful way to professional development. How can this be reinforced? Which macro, meso (for example, in human resource management, or for the characteristics of the school as a learning environment), and micro-level interventions are the most effective? For example, these may include interventions for transformational leadership and professional space.
- Teachers will increasingly become education developers, and they will need to be able to cope with extensive digital input like the data stream which will be collected from the learners in an electronic learning environment for learning analytics. How can teachers be supported in their new capacity as education developers?

4. PhD projects within Welten Institute

Welten Institute PhD projects are financed in one of three ways, corresponding to the way in which in the Netherlands research grants are provided. Some are paid for by the OU itself; this corresponds to the *eerste geldstroom* (direct university funding; first budget flow). Others are paid for by a public grant organisation for scientific research in the Netherlands (e.g., the national science foundation: Netherlands Organization for Scientific Research (NWO); Kennisnet, SURF, European Science Foundation (ESF), etc.) which provide grants through a variety of programmes. These are the *tweede geldstroom* (second budget flow; government grants). Finally, projects may be financed from a variety of other sources, most notably EU funds: *derde geldstroom* (third budget flow; public/private grants). In such cases, the grant includes contract research activities and reporting can also be part of the PhD candidate's work (of course under supervision of the responsible team members from Welten Institute).

All full-time internal PhD candidates receive the same salary; have the same collective labour agreement (CAO) from the Association of universities in the Netherlands (VSNU); have to live up to the same standards of quality and progress, etc. However, projects financed from the first and second budget flows typically receive their approval (and money) on the basis of an elaborate, extensively reviewed PhD project proposal. This means that for such projects, there is little leeway to (re-)define them after approval. Conversely, in the third budget flow, only the project as a whole acquires its funding on the basis of an extensive proposal and review thereof. The PhD projects that are undertaken within such projects have not been defined at the time of approval of the overall project. Hence, the description and review of the project proposal for these projects is done as part of the PhD project itself. Although this has the drawback of eating time out of the total time available for the PhD research, it has the benefit that it leaves more freedom to define a project. In addition, the project proposal that has to be made goes a long way towards writing the first article. A final

remark on quality: although the activities of a PhD candidate can differ depending on the type of budget and project the PhD work is positioned into, Welten Institute takes care that the quality of the PhD work is in all cases at high standards.

4.1 PhD Project Proposal Procedure

Externally funded PhD project proposals follow the guidelines and procedures for submission and review dictated by the funding body. All internally funded PhD project proposals follow the following procedure which is – for the most part - derived from the NWO procedure.

1. A proposal is always prepared after coordination with the programme director of the area of interest within which the project will be carried out. If applicable the director consults the Faculty Director of Operations to assure that adequate funding is available.
2. A proposal is submitted based upon the Welten Institute PhD project proposal form available on the Welten Institute-website. This proposal form requires the author (usually a professor or associate professor) to define and operationalise the following topics:
   - Title
   - Problem definition
   - Scientific framework
   - Design and methodology
   - Scientific and societal output
   - Importance
   - Originality
   - Feasibility
   - Staff and material budget
   - Relevance and importance (Scientific, Strategic, Practical, Societal)
   - Ethical review considerations[2]
3. The evaluation and approval procedure for university funded PhD proposals proceeds as follows:
   - The programme director of the area of interest carries full responsibility for the evaluation and approval process.
   - Based upon the expertise necessary for a proper scientific evaluation of the proposal or with the aid of an already installed professorial proposal evaluation committee, at least two external reviewers are asked to review the proposal.
   - The reviewers should be full professors, although if applicable and reasoned (e.g., specific expertise, scarcity), one associate professor may be asked to carry out the review.
   - The reviews are carried out based upon the Welten Institute Assessment Form for PhD projects available on the Welten Institute-website.
   - To receive approval, a proposal may not receive more than one “B” review (i.e., Not suitable for funding as is, but improvable). In other words, all other reviews must be “A” reviews (i.e., Suitable for funding). Under no circumstances can a proposal which has received a “C” review (i.e., Unsuitable for funding and not improvable) be approved.
   - Before the project can be carried out, the Dean must give formal permission.

[2] All studies using subjects/respondents must meet the criteria set out by an OU Ethics Review Board and must be approved by this board. This also means that respondents should fill in informed consent forms and minors need permission from their parents and/or guardians.

5. Stakeholders

The Welten Institute consists of full professors, senior staff members (associate professors; *Universitair Hoofddocenten),* other scientific staff members with a PhD degree (assistant professors; *Universitair Docenten)*, researchers working within specific projects and PhD candidates (regular[3], staff, and external). In addition, there are staff members who are employed temporarily for the period of a project only and spend their efforts on this project (e.g., post docs). Programme directors manage their areas of interest and are responsible for its quality, staffing, funding, co-ordination between projects and with other areas of interest, etc. They also participate in research projects and in synchronisation with the promotor of a PhD can supervise PhD candidates. Senior staff members are often responsible for topics within areas of interest. They then manage projects within a topic. Staff members may supervise PhD candidates on a daily basis provided they are a member of a nationally recognised and accredited (by the Royal Dutch Academy of Sciences; KNAW) research school i.e., ICO, SIKS.

5.1 Research Schools

Research schools are network organisations accredited by the Royal Netherlands Academy of Sciences (KNAW) through which staff members of different universities host their PhD projects. A research school provides a quality control mechanism for PhD projects, a community for PhD candidates together with scientific staff, and courses to PhD candidates. Research schools set particular qualifications for admission and membership. Qualified Welten Institute staff members and the PhD candidates they supervise participate either in the Interuniversity Centre for Educational Research (Interuniversitair Centrum voor Onderwijsonderzoek – ICO) or in the Dutch research school for Information and Knowledge Systems (SIKS). The nature of the research project determines what school.

5.2 OU Graduate School

The OU has its own local graduate school (since October 2010), the Open University Graduate School (OUGS) which is not an Academy approved research school. It functions as an umbrella organisation over all PhD-trajectories within the OU by coordinating and facilitating the PhD process. Its mission is to significantly increase the number of successfully completed PhD trajectories by optimising support of the PhD candidates, and guaranteeing optimal quality control. Because of its 'umbrella' function, the OUGS is well suited as a platform for exchanging ideas between the partners on best practices in effective and successful PhD-programmes and PhD supervision. Initiatives of the faculties including the Welten Institute are discussed within the OUGS to determine if and how they fit with the mission of the OUGS and whether certain initiatives can be exchanged between different units (i.e., exchanging good practices and standardising) or may even be adopted and funded by the OUGS.

[3] The term 'regular' refers to what is traditionally called an AiO (Assistant in Training). This is a PhD candidate whose trajectory is paid for by either the university or an external authority or body and who is, for the length of the PhD trajectory, an employee of the university.

5.3 People

In PhD projects, the following people are involved:

The PhD supervisor

The supervisor (*promotor*) assumes responsibility for the progress and quality of the project together with the daily supervisor. PhD candidates, together with the daily supervisor, have scheduled meetings with their supervisor at agreed-upon intervals of somewhere between every three to six weeks. The candidate submits an agenda for the meeting, as well as documents (e.g., articles, experimental designs) s/he wants to discuss, and makes a short memo containing the points and future actions agreed upon. Before submitting an article or conference contribution, the supervisor is always consulted. The nominal supervision charge is one hour per week.

The daily supervisor

The daily supervisor (*dagelijks begeleider*) is the *de facto* daily project leader of the PhD project, and is responsible for both the coaching of the candidate (process) and the progress of the project (product). The daily supervisor must be a researcher with proven research quality, evident by (1) having a PhD, and (2) being a full staff member of a KNAW acknowledged research school (e.g., ICO, SIKS).

Candidates usually have scheduled meetings with their daily supervisors once every week. The scheduled meetings are a way of reserving time in the full schedules of daily supervisors, but in general, candidates can drop in on their daily supervisors at any time. These meetings too should be well prepared and a text should have been handed to the daily supervisor. Obviously, candidate and daily supervisor may decide on their own modes of working. However, the candidate is strongly advised to keep a running log of his or her activities. The nominal supervision charge is two hours per week.

The programme director

Since the programme director bears overall responsibility of the projects within the area of interest his or her formal approval of the PhD project proposal is required. In addition, PhD students can always consult the programme director should the need arise.

The supervisory committee

Apart from a supervisor and daily supervisor, each PhD candidate has a supervisory committee (*begeleidingscommissie*). This committee consists of the supervisor, the daily supervisor and three or more researchers with relevant expertise. They can be researchers from within the OU, but also often come from outside of the OU at sister departments in other universities. These members are usually, though not exclusively, full professors. This committee has a scheduled meeting after approximately eight months in the first year (see the next section). However, if need be, its members can be consulted during the entire period of research. Used well, they form a resonance group for the candidate's ideas and products.

Project assistants

Some members of the Faculty of Psychology and Educational Sciences staff have specific technical or programming expertise, and can be called on to assist in PhD projects, when for example a special computer program has to be created, or when a logging tool has to be built or adjusted.

Peer Help for getting acquainted – Big brother or sister

In the first half-year of a PhD's research period, a more experienced PhD candidate is asked by the daily supervisor to assist the new candidate. This person acts as a kind of Peer-Help-Desk (PHD), helping out with all kinds of challenges a new candidate runs into, such as finding your way in the OU/Welten Institute organisation, getting a feel for the daily life of candidates, assessing the content of courses (ICO, SIKS, other ones), finding particular bits of information, dealing with supervisors, etc.

Confidant

There are two types of confidants (vertrouwenspersonen), to whom employees can turn with matters they want to discuss, but cannot or do not want to discuss with others in the organisation. This may include just about anything: personal problems, relationships with colleagues, issues regarding work context, etc. Everything discussed with the confidant is treated confidentially. The OU has a 'regular' confidant and Welten Institute has a confidant specifically for PhDs.

Academic Integrity/ Research and Ethical Conduct
A PhD candidate is on his or her way to becoming an independent academic researcher. The dissertation is the proof that one has achieved this status. It goes without saying that academics should behave 'appropriately' and that PhDs should be doing the same throughout their research. Although there is no formal code of conduct comparable to the Hippocratic Oath of physicians, there is a widely-held informal code nevertheless. It pertains to such issues as: not falsifying data, not plagiarising the work of others, and treating experimental subjects - human or not - respectfully. This last element deals with concerns about what is ethically permissible, consent / informed consent for participation in research projects, respondent anonymity, and so forth.

The VSNU (Association of Universities in the Netherlands) has drafted and published an explicit version of this informal code of conduct; it can be found at their website. The OU has adopted this code and - at the time of writing - has the intention to make it part of the labour contract with its academic employees. Article 1 is the code's mainstay, as it describes what academic misconduct amounts to in nine points. The other articles are of a procedural nature and describe how to draw attention to a possible instance of misconduct, the founding of a review board and its tasks, and the measures that are to be taken by the dean or, ultimately, the rector. A final article is about the role of the National Board for Scientific Integrity (LOWI), established by the Royal Netherlands Academy of Sciences (KNAW).

The American Educational Research Association also has a very well written document on ethical standards. These standards include:

- Responsibilities to the Field
- Research Populations, Educational Institutions, and the Public
- Intellectual Ownership
- Editing, Reviewing, and Appraising Research
- Sponsors, Policymakers, and Other Users of Research
- Students and Student Researchers

Finally, all information with respect to ethical approval of your study can be found at www.ou.nl/web/onderzoek/commissie-ethische-toetsing-onderzoek-c-eto1. The OU has raised its own university broad ethical committee (cETO) in 2013. On request the cETO reviews:
1. Whether human research of the OU falls under the Medical Research Involving Human Subjects Act (WMO).
2. Ethical allowability in case of research that does NOT fall under the WMO.
Further information can be found on www.ou.nl/web/onderzoek/commissie-ethische-toetsing-onderzoek-c-eto1.

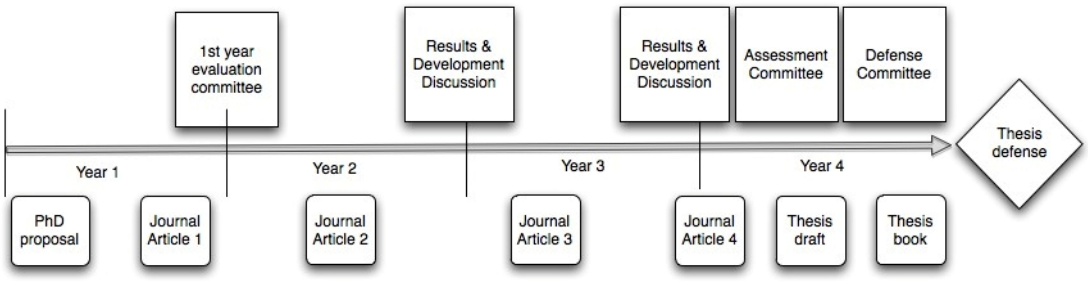
6. Getting your PhD: More than writing a thesis

PhD candidates at Welten Institute have (in general) a four-year appointment, in which their task is, among other activities, to work on a doctoral dissertation / thesis. This dissertation / thesis is written in English and consists of a number of published or submitted journal articles (usually three or four) along with a theoretical framework as begin and a synthesis across the research as a conclusion/discussion. The usual format is an introduction (i.e., why this research and a description of the structure of the thesis), a theoretical framework (often a published journal article), between two and three further studies (published, accepted or submitted journal articles), a concluding chapter (synthesis and evaluation of the work done), and a summary in both English and Dutch. This set-up implies that the process of writing the dissertation starts very early in the PhD period. In principle, each year of your four year stint as a PhD you should publish one journal article. If your PhD project has an experimental nature, the articles that form the core of the dissertation describe the results of the experiments carried out. If it has a development character, these chapters describe the software developed, and the pilots, tests or simulations carried out with it; some of these tests resemble experiments.

However, there is more to being a PhD candidate at Welten Institute than writing a dissertation. Getting your PhD also involves taking courses, participating in other Welten Institute projects, and – last but not least – participating in a research community, not only at Welten Institute, but also on a national and international level.

PhD candidates spend most of their time working on their own research projects. This work is based upon a project plan, which contains a detailed research proposal and provides the candidates with a clear goal. This project plan may be available in its entirety at the outset, or may have to be written as part of the project itself. See under the programme-specific sections for more details.

At Welten Institute, it is customary that publications in internationally acknowledged journals form the basis of the dissertation. A dissertation usually consists of an introductory and a concluding chapter, which sandwich the three to five (usually at least four) chapters that form the bread and butter of the thesis. These chapters in the middle are also published as articles. The dissertation is concluded with summaries in English and Dutch (and another language of choice if the candidate so wishes), and –optionally- some biographical notes. Research schools may have specific further demands, such as a list of all dissertations published so far by the school. Note that not every chapter in the dissertation has to be accepted for publication by international journals before one is admitted to the thesis defence. Although a candidate should strive for this, it often is a practical impossibility. As a rule, at least two chapters will have to have been either accepted for publication or published, whilst for the remaining one or two having submitted them suffices.



Although a PhD-project is above all a research project, PhD candidates are urged to publish articles about their work in non-scientific, professional journals or give presentations to non-scientific audiences. This will help their integration within the Dutch learning sciences and learning technologies community, but it will also help Welten Institute fulfil its valorisation duties. An example of a relevant journal would be for example *OnderwijsInnovatie* (which is published by the OU). A relevant conference would be for example the *Surf Onderwijsdagen*.

6.1 Progress: First-year evaluation and subsequent yearly evaluations

In many ways, the first year is especially important in any PhD research period. It has for instance been shown that projects that fail do so because no proper foundations were laid in the first year. Therefore, before the end of this year a formal decision is made on whether to continue the project or abandon it. After about 8 months, a (virtual) progress meeting is held with the candidate and her/his Supervisory Committee to evaluate whether the project is on schedule, whether the quality is acceptable and whether any changes need to be made in the project. If necessary, problems or bottlenecks can be tackled. The commission is asked to answer the following questions:

- What is your opinion on the scientific quality and clarity of the articles and proposal (whichever is appropriate) that have been delivered thus far?
- What is your opinion on the feasibility of the planning for the remaining period?
- What is your opinion on the quality of the plan made for the remaining period? (As the case may be, this refers to such things as the experimental design, the methods of analysis, the software development strategy and methods, etc.).
- Has there been enough progress in the first year of the project to be confident about its completion within the next three years?
- Do you have any suggestions and/or comments that can help the candidate, daily supervisor or supervisor in the future execution of this project?

The documents that are sent to the committee in advance by the supervisor should enable the members to answer these questions. They are:

- A covering letter (written by supervisor) inviting the members
- An agenda (written by supervisor) specifying the project, committee members, structure of the meeting, and evaluative questions
- An optional reflective report (written by candidate)
- The project proposal
- The Course (education) and Supervision plan
- A (draft of the) theoretical framework/article and/or other products thus far delivered

Based on this first-year evaluation a decision is made as to whether the candidate is allowed to continue his/her PhD project. Of course, this is also the moment that candidates themselves can decide whether *they* want to continue the project.

If indeed it has been decided to continue the project, yearly evaluations (*RenO-gesprek; R&O*) are added which are held with the daily supervisor. In special cases the supervisor may sit in on these meetings. In these evaluation meetings the progress of the project, the supervision, the courses, and the participation in secondary projects are discussed.

6.2 Courses and training (education)

Education and supervision plan
With the completion of the detailed research proposal, thus either at the beginning of the research project or sometime during its first year, an *Education and Supervision Plan* is drafted. Over the course of the four-year appointment, 1200 hours (150 days) are available for further education and training. These hours may be used to delve more deeply into particular topics and/or to broaden the PhD candidate's expertise. Obviously, courses should be relevant to the PhD project. PhD candidates are also encouraged to enrol in courses for the basic university teaching certificate. How exactly these hours are filled in is specified in the form of a course programme (i.e., curriculum). It also contains an agreement on the intensity (number of hours) and frequency (times per month) of the supervision. In accordance with the NWO-norm, the time allotted for project supervision and management in PhD projects is nominally two hours per week for the daily supervisors and one hour per week for the PhD supervisors. Once the plan has been completed, it is submitted to the programme chair of the relevant programme for approval. When approved, it is signed by the PhD candidate, the daily supervisor, and the supervisor. If necessary this plan can be revised, usually based upon the results of the yearly evaluations.

Research school ICO
As mentioned earlier, Welten Institute participates in the *Interuniversity Centre for Educational Research* (Interuniversitair Centrum voor Onderwijsonderzoek –ICO). ICO was established in 1988 and is acknowledged by the Royal Netherlands Academy of Sciences (KNAW). ICO offers high-quality courses spanning the main ICO themes for PhD candidates to educate them to be ICO-certified researchers. As a standard at Welten Institute, 600 hours of education are filled in by courses of ICO, in the following way: an introductory course (200 hours), three master classes, covering methodological and content subjects (100 hours each) and an international residential school (100 hours – one week). Exemption from ICO courses is possible, dependent on the initial qualifications and research experience, in case the PhD candidate has already participated in other courses of similar stature. Exemption is granted by the ICO director of education, based on a written request by the PhD candidate, in consultation with the course co-ordinator and the supervisor of the PhD candidate's research project. The other 600 hours can be invested elsewhere (this is a right, not an obligation), for example for specific training (e.g., Scientific writing in English, Scientific presentation in English, Writing a funding proposal) or courses at the OU, at other universities, or through other research schools such as SIKS, or EPOS.

Research School SIKS
As mentioned already, Welten Institute participates in a *Netherlands Research School for Information and Knowledge Systems* (SIKS). It was established in 1996 and is accredited by the Royal Netherlands Academy of Sciences. In 2008 a very favourable, mid-term review was carried out. SIKS is a network institute in which over 400 research fellows and PhD candidates from 11 different universities collaborate. SIKS wants to perform high-level fundamental and applied research in the field of information and computing science, more particularly in the field of information and knowledge systems. It also organises a high-quality four-year educational programme for its PhD students, employed at 11 different Universities in the Netherlands or at leading companies in the field of ICT. Finally, SIKS facilitates and stimulates co-operation and communication between the members (PhD students, research fellows, senior research fellows and associated members) and between the School and its stakeholders, including leading (industrial) companies in the field of ICT.

The SIKS' course programme consists of a basic course programme and advanced components. The basic courses *Research methods and methodology for SIKS* is organised each year and obligatory for all candidates. The other courses, ranging from for instance *Knowledge Modelling* via *Agent Technology* and *Learning and Reasoning* to *Information Retrieval* are organised every other year; each year four courses are offered. Candidates are expected to follow a total of six courses in the basic programme. In addition to this, *Advanced Courses* and *Advanced Component Activities* are offered. These cover specialised subjects, which may or may be relevant. Of the 168 weeks that SIKS PhD candidates are expected to have available in total over the four years of their project, they are expected to spend 25 weeks on course work (1000 hours). Consult the SIKS website for details.

6.3 The fifth day: Participation in other Welten Institute projects

Since the OU provides distance education the ordinary teaching obligations of PhD candidates are filled in differently than at other universities. PhD candidates at other universities are obliged to teach undergraduate students for a maximum of 20% of their time. Welten Institute PhD candidates can do the same in the context of the Master Programme Educational Sciences, or instead, participate in valorisation projects in one of the Welten Institute areas of interest, such as in European projects.

6.4 Formal meetings

At Welten Institute, various meetings are held regularly in which PhD candidates are expected to participate. These meetings are additional to the weekly meetings with the daily supervisor and the regular meetings with the supervisor. First, every 4 weeks a plenary Welten Institute meeting (*Welten Institute plenair*) is arranged, chaired by the Institute's Chair of Welten Institute. In this meeting general information regarding the department is communicated. News about each area of interest, the Faculty or the OU is communicated

and discussed. Second, project or theme meetings may be held in which the candidate is supposed to participate. If a candidate participates in a European project, his or her presence in such meetings may be required. Third, a Welten Institute-wide PhD candidate meeting, for candidates in each programme, is held twice per year. Fourth and finally, once a month a research colloquium is organised. Colloquia are open to all Welten Institute staff as well as to invitees from the rest of the OU. Since colloquia have the function of providing a forum to present research findings to both OU staff and guests, PhD candidates are expected to attend, as well as present their work in progress here. Suitable occasions would include being about to finalise an (adjusted) research proposal or to submit a paper to a conference or journal. The atmosphere at such meetings should be supportive and constructive, yet critical.

7. External PhD candidates

An External PhD Candidate (*buitenpromovendus*) at Welten Institute is a doctoral candidate not employed by the Open University of the Netherlands. In most cases an external PhD candidate is affiliated with another institution (often educational or in an allied sector), which agrees to support the candidate to invest in upgrading his/her career. However, it is also possible that an external PhD candidate chooses to carry out his/her PhD project independently, for example during a sabbatical leave or through the acquisition of a scholarship, and so forth.

Requirements
In order to become an external PhD candidate at Welten Institute, you should have:

- a Master's degree in the domain of the educational sciences and/or educational technology or an allied field such as cognitive psychology, human computer interaction, media studies, et cetera;
- mastery of the English language to the extent that the candidate can fluently read and write in English, since English is the Lingua Franca within the educational research community;
- room to invest on average between 16 and 24 hours a week to carry out the research;
- access to a research context (i.e., an environment where you experiments can be conducted)
- a good background in methodology and statistics;
- an approved research proposal.

This research proposal should be approved by the PhD supervisor, the programme director of the Welten Institute area of interest in which it will be carried out, and an internal and/or external expert commission. The actual PhD trajectory begins only after formal approval. This trajectory is not without obligations on both sides. Therefore the candidate and Welten Institute draft an individual Education and Supervision Plan and a PhD contract that both will sign. If applicable the employer and daily supervisor will also sign this contract.

What can the candidate expect from Welten Institute?
A PhD trajectory usually takes about four years. In these four years the candidate can expect:

- to be admitted to / participate in the research group and the research meetings of Welten Institute (the candidate can become a member of the research team);
- expert scientific supervision by the PhD supervisor - a professor at Welten Institute;
- collaboration with a daily supervisor, a co-PhD supervisor, whose expertise is close to the research topic; this person will come from the Welten Institute or the candidate's own working environment;
- admittance to / participation in courses and workshops on specific academic research skills that Welten Institute or the Open University of the Netherlands organises for their PhDs; as agreed upon beforehand in the individual Education and Supervision Plan;
- participation in courses of the interuniversity research schools ICO and/or SIKS; as agreed beforehand in the individual Education and Supervision Plan;
- admittance to digital/online library facilities; and
- other possible facilities such as: an OU internet account, admittance to the OU campus/study centres, some form of support by the printing of your thesis, etc. All these facilities are agreed upon beforehand and are included in the PhD contract.

PhD contract
The contract can contain agreements on for example:

- goals of the research, the PhD supervisor (s), the duration of the trajectory, the milestones, and the moments and method of midterm evaluation;
- amount of time that you, as external PhD, will invest in your research project in the coming years;
- amount of time your supervisors will invest in your guidance and supervision in the coming years;

- facilities that the Open University of the Netherlands will make available to you;
- obligations of the Open University of the Netherlands, the PhD candidate and if relevant his/her employer;
- fee the PhD candidate has to pay for the (obligatory) courses, workshops etc;
- agreements on intellectual property;
- agreements on confidentiality;
- et cetera.

The contract will be signed by the external PhD candidate, the PhD supervisor and the Board of the Open University of the Netherlands or a representative thereof. If relevant the candidate's employer will be asked to co-sign the contract. This is relevant, for example, if the candidate wishes or plans to carry out the research (partly) at the workplace, or if the employer allows carrying out the research (partly) during working hours. This way the candidate and Welten Institute will have a guarantee that the research can be carried out and completed.

8. The final phase and the Big Day

About a year before the project ends, a final, detailed planning has to be made for 'the big day' of the thesis defence. Usually, the defence date is planned ten months in advance, and fairly close to the date that the project is due to end. During the final phase several administrative steps have to be taken involving several forms and committees. When planning the defence date, it has to be taken into account that the evaluating committee – the committee that judges whether the dissertation is defendable (*beoordelingscommissie*) – needs at least four weeks to read and judge the dissertation. In addition, the printer usually needs about 20 workdays to print the manuscript, and three weeks before the thesis defence, thirty copies of the dissertation have to be sent to the Board of the University for academic distribution. To plan the defence date, the candidate has to contact the registrar (*pedel*) who can provide more information on which dates are still available for the thesis defence and can help with filling out the different forms.

These forms can be found on the intranet. Form 1 is the official registration as a doctoral degree candidate. This form is signed by the promoter, the daily supervisor and the candidate and can be sent to the secretariat of the Doctorate Board together with the appendices (certified copy of diploma, original PhD-agreement 2, research plan and training and guidance plan) The candidate can contact the beadle of the Doctorate Board (pedel@ou.nl) for a defence date. With form 2 the promoter, the daily supervisor and the Dean of the Faculty officially accept the thesis draft and the members of the assessment committee. With form 3 the members of the assessment committee declare that on the basis of the thesis the candidate has demonstrated his/her competence to be permitted to defend the thesis. After the promotor has received all three forms, s/he can send form 4 (approval thesis by assessment committee) to the Doctorate Board. This form has to be signed by the promotor and the Dean of the Faculty. Usually the doctoral degree committee members also form the assessment committee that consists of at least four members. A further requirement for composing the assessment committee is that three members are professors (hoogleraren) of which at least one is not from the Open University of the Netherlands. Form 5 can be used if a member should be added to the doctoral degree committee. Finally, the thesis defence takes place on a Friday at 1:30 PM or 4:00 PM. More information about the promotion regulations can also be found here (http://www.intranet.ou.nl/eCache/INT/52/399.html).

For planning the final phase of the PhD project some milestones are important. The dissertation has to be finished in draft form (the manuscript) at least four months before the defence date. This draft is sent to the supervisor , the daily supervisor and the Dean of the Faculty for their approval. Three months before the day of the thesis defence - at the latest – the manuscript has to be sent to the assessment committee. The assessment committee needs at least four weeks to read the dissertation and arrive at a judgement. The only question that they are asked to answer is: Will the candidate be allowed to defend this thesis? In these four weeks, the Ph.D. candidate has time to design the cover, make an appointment with the printer, write the statements that accompany the thesis (stellingen), which have to be approved by the supervisor as well, but not by the committee), and choose the 'seconds' (paranimfen – two persons who accompany and assist the candidate at the defence). If and when the committee gives its approval, the dissertation has to be printed. Before sending the thesis to the printer, the cover and the title page have to be sent to the Doctorate Board for approval. A camera-ready version of the thesis has to be delivered to the printer approximately two months before the date of the defence (printing takes approximately a month and you want to distribute copies about a month in advance). Some printers (e.g., Datawyse (www.datawyse.nl)) give workshops in which the candidate is taught how to transform the manuscript in a camera-ready version. This workshop might save the candidate a lot of time when preparing the final version of the dissertation. A to do- list that can be used when finalizing the dissertation and working towards the Big Day can be found here.

Additionally, the research schools may have wishes with respect to the numbers to be printed, the incorporation of boiler-plate sentences, the incorporation of a list of previous dissertations, etc. Please consult their website for these regulations.

9. Tips and tricks from former Welten Institute PhD candidates

- Make choices; don't try to study everything.
- Don’t compare your progress and products with other PhD candidates; every PhD trajectory is unique.
- Make your expectations towards your supervisors explicit.
- Find out what your supervisors expect from you.
- Do not wait too long before carrying out your first experiment. An experiment often gives you insight and direction.
- Do not despair when your participants don't show up. It happens all the time and persistence does pay off.
- Do not work all alone but discuss your research with colleagues. This keeps you from thinking in circles.
- Use the Internet to find relevant statistical methods to analyse your data.
- Remember, no significant results are also results.
- Make use of the strengths of your supervisors and do not get annoyed at their weaknesses (they’re only human).
- Take up some additional functions but do not forget that the dissertation has to be ready in four years. This is your main goal.
- Make a detailed 'to do' list about a year before your thesis defence.
- Make use of the experience of former PhD candidates to help you through the last year.
- Plan the thesis defence date with the *College of Promotions* about a year before the PhD contract ends.
- Keep track of the formal processes with regard to the thesis defence. Make sure that every form reaches its destination and verify every formal step with the secretary of the *College of Promotions*.
- Rehearse your thesis defence with colleagues. Formulate possible questions and answers.
- You may not realise it yet, but despite difficulties you may encounter, as a PhD candidate you’ve got a great job with many degrees of freedom, which is quite unique, so enjoy your position!

10. Useful information sources and addresses

• Open University of the Netherlands	http://www.ou.nl/
• Welten Institute:	http://www.ou.nl/web/welten-institute http://dspace.ou.nl (literature, software, specifications produced by the programme)
• ICO research school	http://www.psy.vu.nl/nl/onderzoek/onderzoekscholen/ico-interuniversitair-centrum-voor-onderwijswetenschappen/index.asp
• SIKS research school	http://www.siks.nl
• Association of Universities in the Netherlands (Vereniging van Samenwerkende Nederlandse) Universiteiten – VSNU)	http://www.vsnu.nl
• Netherlands Educational Research Association (NERA; Vereniging voor OnderwijsResearch – VOR)	http://www.vorsite.nl
• NERA SIG for PhD candidates (VOR Promovendi Overleg – VPO)	http://www.vorsite.nl/nl/vor_promovendi_overleg/
• PhD network Netherland (Promovendi Netwerk Nederland – PNN)	http://www.hetpnn.nl/
• Netherlands Organisation for Scientific Research (Nederlandse Organisatie voor Wetenschappelijk Onderwijs -NWO):	http://www.nwo.nl/nwohome.nsf/pages/index
• European Association for Research on Learning and Instruction (EARLI)	http://www.earli.org/
• Junior Researchers of EARLI (JURE)	http://www.earli.org/Junior_Researchers_(JURE)
• American Educational Research Association (AERA)	http://www.aera.net
• Association for Educational Communications and Technology (AECT)	http://www.aect.org
• OU catalogue (part of the larger Maastricht University)	http://bibliotheek.ou.nl